

Country Name	Project of Teacher Training Improvement in Science and Mathematics at Primary Level Phase II (Projet d'Appui a la Formation Continue des Enseignants en Matiere de Sciences et de Mathematiques a l'Ecole Primaire Phase 2)
Burkina Faso	

I. Project Outline

Background	<p>In Burkina Faso, since basic education became compulsory and free of charge (for the age from 6 to 16) in 2007, the gross enrollment rate of primary education significantly increased from 45.9% in 2001/02 to 72.4% in 2008/09. On the other hand, the completion rate was limited to 41.7% in 2008/09. Also, according to the survey (the Program of the Analysis of Education Systems: PASEC) in 2009, the achievement level of mathematics lowered compared to the one 10 years back, and capacity development of teachers was analyzed to be essential. In fact, a large number of teachers practiced one-way approach for students based on memorization without considering students' understanding level in their classes. Furthermore, teacher training courses in the country were shortened from the two-year program to the one-year program in 2012, and it was pointed out that capacity development of teachers was not sufficient. Also, In-Service Education Training (INSET) for enhancement of teachers' abilities was not established well. Therefore, it was an urgent issue to establish INSET to foster teachers who are able to provide learner-centered classes considering students' understanding level.</p>														
Objectives of the Project	<p>Through continuous teacher training on the learner-centered approach, the project aimed at improving teachers' pedagogical practices of the learner-centered approach in science and mathematics, thereby contributing to improvement of student's learning in science and mathematics classes in all public primary schools in Burkina Faso.</p> <ol style="list-style-type: none"> Overall Goal: Student's learning in science and mathematics classes is improved in all public primary schools in Burkina Faso. Project Purpose: Teachers' pedagogical practices of the learner-centered approach in science and mathematics are improved through continuous teacher training. 														
Activities of the Project	<ol style="list-style-type: none"> Project Site: Burkina Faso nationwide (45 provinces in 13 regions) Main activities: 1) Development and distribution of lessons plans in science and mathematics, 2) Revision of the monitoring/evaluation tool and the training modules, 3) Trainings on the learner-centered approach to inspectors/pedagogical advisors, school directors and teachers, 4) Collection and analysis of good practices on the learner-centered approach, 5) Production of lesson films, good practices and teacher guides, etc. Inputs (to carry out above activities) <table border="0" style="width: 100%;"> <tr> <td style="width: 50%;">Japanese Side</td> <td style="width: 50%;">Burkina Faso Side</td> </tr> <tr> <td>1) Experts: 7 persons</td> <td>1. Staff Allocated: 25 persons</td> </tr> <tr> <td>2) Trainees Received: 23 persons</td> <td>2. Land and facilities: a project office in Ministry of National Education and Literacy</td> </tr> <tr> <td>3) Training in the third country: 10 persons (Kenya)</td> <td>3. Local expenses: utility cost for the project office, cost for project activities, etc.</td> </tr> <tr> <td>4) Equipment: vehicle, photocopier, PCs, etc.</td> <td></td> </tr> <tr> <td>5) Local expenses: cost for project activities</td> <td></td> </tr> </table> 			Japanese Side	Burkina Faso Side	1) Experts: 7 persons	1. Staff Allocated: 25 persons	2) Trainees Received: 23 persons	2. Land and facilities: a project office in Ministry of National Education and Literacy	3) Training in the third country: 10 persons (Kenya)	3. Local expenses: utility cost for the project office, cost for project activities, etc.	4) Equipment: vehicle, photocopier, PCs, etc.		5) Local expenses: cost for project activities	
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Project Period	December 2011 – September 2015	Project Cost	(ex-ante) 260 million yen, (actual) 257 million yen												
Implementing Agency	Ministry of National Education and Literacy (MENA)														
Cooperation Agency in Japan	None														

II. Result of the Evaluation

<Constraints on Evaluation>

- Due to the security reasons in the country, this ex-post evaluation attempted to verify the Continuation Status of Project Effects and the Overall Goal based on the data and information from only two regions out of the total 13 regions in the country, the Central region and the Central-Sud region.

1 Relevance

<Consistency with the Development Policy of Burkina Faso at the Time of Ex-Ante Evaluation and Project Completion>

The project was consistent with Burkina Faso's development policies of the "Ten-Year Plan for Basic Education Development Phase 2" (2008-2010) prioritizing improvement of quality of education and indicating reinforcement of INSET as one of the goals at the time of ex-ante evaluation and the "Program for Strategic Development of Basic Education" (2012-2021) setting improvement in the quality of formal basic education as one of the prioritized programs at the time of project completion.

<Consistency with the Development Needs of Burkina Faso at the Time of Ex-Ante Evaluation and Project Completion >

The project was consistent with Burkina Faso's development needs of establishment of INSET to foster teachers who are able to provide learner-centered classes considering students' understanding level.

<Consistency with Japan's ODA Policy at the Time of Ex-Ante Evaluation>

The project was consistent with Japan's ODA policy for Burkina Faso (2011)¹ setting Basic Human Needs including basic education as one of the prioritized goals.

<Evaluation Result>

In light of the above, the relevance of the project is high.

2 Effectiveness/Impact

¹ Ministry of Foreign Affairs, "Japan's ODA Data by Country" (2011)

<Status of Achievement of the Project Purpose at the time of Project Completion>

The Project Purpose was achieved by the time of project completion. Thanks to the project, teachers in the schools where the lesson plans were distributed in advance started to provide classes based on the learner-centered approach and the lesson plans. However, as the distribution of the lesson plans to all schools by MENA was delayed, it was not possible to confirm at a country level what percentage of teachers actually practiced the learner-centered classes according to the plans (Indicator 1). According to the end-line survey conducted in March 2015, 85% of teachers in mathematics and 86% of teachers in science obtained the score of 3 or 4 concerning the item number 7.4² in the monitoring/evaluation tool (Indicator 2). Also, the survey revealed that 65% of teachers in mathematics and 74% of teachers in science obtained the score of 3 or 4 concerning the item number 3.3³ in the monitoring/evaluation tool (Indicator 3).

<Continuation Status of Project Effects at the time of Ex-post Evaluation>

The project effects have been partially continued since the project completion. According to the inspectors/pedagogical advisors interviewed and the teachers in the schools (10 schools) visited for the ex-post evaluation, the lesson plans for the 1st quarter and 2nd quarters were distributed to schools nationwide after the project completion. On the other hand, the principals and teachers in the schools reported that the plan for the 3rd quarter has yet to be distributed and there are more or less some schools which have not received even the plans for the 1st quarter and 2nd quarter. They also said that all the teachers have practiced the learner-centered classes based on the plans during the 1st and 2nd quarters. According to the above-mentioned inspectors/pedagogical advisors and the principals, although inspectors/pedagogical supervisors have monitored schools even after the project completion, as the monitoring tool developed by the project has not been used by the inspectors/pedagogical supervisors and the principals due to its complexity, this ex-post evaluation could not verify whether students perform their learning activities according to teachers' instructions (Indicator 3).

<Status of Achievement for Overall Goal at the time of Ex-post Evaluation>

The Overall Goal has been partially achieved at the time of ex-post evaluation. As mentioned above, it was confirmed that the learner-centered approach introduced by the project has been disseminated to more or less the two regions targeted by the field survey of the ex-post evaluation. Yet, the Overall Goal aimed to disseminate the approach and produce its effects at a national level, and its achievement status could not be verified at such a level with the quite limited coverage of the field survey of two regions. However, 80% of the principals interviewed for the ex-post evaluation have recognized that students' comprehension and expression ability have improved (Indicator 1 and 3), and 60% of them (more than 80% of the target value) does that students' logical thinking ability has improved (Indicator 2). Considering that the lesson plans for the 1st quarter and 2nd quarter were distributed to almost of all schools across the country even though the one for the 3rd quarter was not, it is difficult to rigorously verify the achievement status for each of the indicators set in the Overall Goal, but it can be considered that the Overall Goal as a whole has been achieved to some extent.

<Other Impacts at the time of Ex-post Evaluation>

Two positive impacts of the project were confirmed at the time of ex-post evaluation. Firstly, empowerment of female students was achieved. For example, as the right to speak is granted to all students in the learner-centered approach introduced by the project, female students became able to express themselves during classes and also take responsible positions in group-works. Secondly, support to teachers by communities have become more active. For instance, where there is a lack of materials (for example, a slate) necessary for science and mathematics lessons, teachers can ask communities to manufacture them or provide financial supports to purchase them. No other positive or negative impacts were confirmed.

<Evaluation Result>

Therefore, the effectiveness/impact of the project is fair.

Achievement of Project Purpose and Overall Goal

Aim	Indicators	Results
(Project Purpose) Teachers' pedagogical practices of the learner-centered approach in science and mathematics are improved through continuous teacher training.	1. In science and mathematics lessons in 13 trained provinces, more than 90% of teachers practice the learner-centered approach according to the lessons plans.	Status of the Achievement: Not Achieved (Partially Achieved) (Project Completion) • As the distribution of the lesson plans to all schools by MENA was delayed, it was not possible to confirm what percentage of teachers actually practiced the learner-centered classes according to the plans. However, teachers in the schools where the plans were distributed in advance practiced the classes in science and mathematics according to the plans. (Ex-post Evaluation) • According to the inspectors/pedagogical advisors interviewed and the teachers in the schools (10 schools) visited for the ex-post evaluation, the lesson plans for the 1st quarter and 2nd quarters were distributed to schools nationwide. On the other hand, the principals and teachers in the schools reported that the plan for the 3rd quarter has yet to be distributed and there are more or less some schools which have not received even the plans for the 1st quarter and 2nd quarter. • According to the above-mentioned teachers and principals, all the teachers have practiced the learner-centered classes on the basis of the plans.
	2. In science and mathematics lessons in 13 trained provinces, more than 70% of teachers obtain the score of 3 or 4	Status of the Achievement: Achieved (Not verified) (Project Completion) • 85% of teachers in mathematics and 86% of teachers in science obtained

² Item number 7.4 shows what percentage of teachers conduct lessons according to the lesson plan prepared by the project, and its scale is from 1 to 4 (4 is the highest).

³ Item number 3.3 shows what percentage of students perform learning activities according to the teacher's instruction, and its scale is from 1 to 4 (4 is the highest).

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	3. In science and mathematics lessons in 13 trained provinces, more than 70% of teachers obtain the score of 3 or 4 concerning the item number 3.3 (for students) in the monitoring/evaluation tool.	Status of the Achievement: Achieved (Not verified) (Project Completion) • 65% of teachers in mathematics and 74% of teachers in science obtained the score of 3 or 4 concerning the item number 3.3 in the monitoring/evaluation tool according to the end-line survey conducted in March 2015. (Ex-post Evaluation) • As the monitoring tool developed by the project has not been used by inspectors/pedagogical advisors and principals due to its complexity, the indicator could not be verified.																
(Overall Goal) Student's learning in science and mathematics classes is improved in all public primary schools in Burkina Faso.	1. More than 70% of teachers recognize that students' comprehension has improved.	(Ex-post Evaluation) Unverified • The indicator was unverified. However, even though the coverage of the field survey is quite limited, 80% of the principles interviewed for the ex-post evaluation recognize that students' comprehension has improved. [Rate of principles recognizing that students' comprehension has improved]																
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2. More than 70% of teachers recognize that students' logical thinking ability has improved.	(Ex-post Evaluation) Unverified • The indicator was unverified. However, even though the coverage of the field survey is quite limited, 60% of the principles interviewed for the ex-post evaluation recognize that students' logical thinking ability has improved. [Rate of principals recognizing that students' logical thinking ability has improved]																	
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Source : Terminal Evaluation Report, Project Completion Report, Interview and questionnaire to inspectors/pedagogical advisors (21) and principals and teachers in 10 schools

3 Efficiency

The project cost and period were within the plan (ratio against the plan: 99% and 100%, respectively). The outputs were produced as planned. Therefore, the efficiency of the project is high.

4 Sustainability

<Policy Aspect>

The "Program for Strategic Development of Basic Education" (2012-2021) sets improvement in the quality of formal basic education as one of the prioritized programs and promotes the provision of initial and INSET for formal basic education staff. As the project aimed to improve teachers' pedagogical practices of the learner-centered approach in science and mathematics, it has been backed up by the national

policy.

<Institutional Aspect>

There were changes in the organizational setting to sustain the learner-centered approach introduced by the project, but the organizational changes have not negatively influenced the sustainability of the project effects.

[General Directorate of Research and Education of Innovation Pedagogy (DGREIP)]

DGREIP has played a role in developing and updating the curriculum based on integrative pedagogical approach (API) including the learner-centered approach introduced by the project. 97 staff members are allocated there, and according to the organization, the number of the staff has been sufficient, and there have not been any major problems from a perspective of staffing by the time of ex-post evaluation.

[General Directorate of Pedagogical Guidance and Initial and Continuing Training (DGEPPIC)]

DGEPPIC has been responsible for monitoring the application of curriculum and teaching methods including the learner-centered approach in schools as well as providing initial and in-service trainings to stakeholders (teachers and inspectors/pedagogical advisors). 112 staff members have been deployed there, and according to the organization, the number of the staff has been enough, and there have not been any major problems from a perspective of staffing by the time of ex-post evaluation.

[General Directorate of Formal Education (DGEF)]

DGEF has been in charge of ensuring the implementation of education programs and teaching including the learner-centered approach and of educational reforms in schools. 107 staff members have been assigned there, and according to the organization, the number of the staff has been sufficient, and there have not been any major problems from a perspective of staffing by the time of ex-post evaluation.

[Basic Education District (CEB)]

CEB has played a role in monitoring the application of curriculum contents and programs in schools and organizing teacher trainings. At least three inspector/pedagogical supervisors are allocated to each CEB, and according to the organization, the number of the staff has been sufficient, and there have not been any major problems from a perspective of staffing by the time of ex-post evaluation.

<Technical Aspect>

[DGREIP and DGEFG]

The staff of DGREIP and DGEFG has sustained the knowledge and skills necessary to fulfill their responsibilities given. According to the organizations, no formal and regular trainings have been provided due to the lack of its budget at the time of ex-post evaluation. However, they also mentioned that as the API will be fundamentals of the curriculum, the knowledge and skills are highly likely to be sustained thereafter.

[DGEPPIC]

The staff of DGEPPIC has sustained the knowledge and skills necessary to fulfill their responsibilities given. This is because the staff acquired the knowledge and skills by joining the Pedagogical Supervisors' Conference held in September 2015 and the Teachers and Teachers Pedagogical Conference held in September and October 2019 and receiving some trainings provided by the JICA technical cooperation project, "Project for Strengthening Practical Education in the Training Centers for Teacher-students" (2016-2018). As mentioned above, no formal and regular trainings have been provided at the time of ex-post evaluation, and as the API will be fundamentals of the curriculum, the knowledge and skills are highly likely to be sustained thereafter.

[Basic Education District (CEB)]

The staff of CEB has sustained the knowledge and skills necessary to fulfill their responsibilities given through self-trainings. As with DGREIP, DGEFG and DGEPPIC, no formal and regular trainings have been provided at the time of ex-post evaluation, and as the API will be fundamentals of the curriculum, the knowledge and skills are highly likely to be sustained thereafter.

[Training modules and monitoring/evaluation tools]

While training modules developed by the project have continued to be used by teachers and inspectors/pedagogical supervisors for their self-study, the monitoring/evaluation tools have not as they are too complex for the relatives.

<Financial Aspect>

[DGREIP, DGEPPIC and DGEFG]

According to the staff of DGREIP, DGEPPIC and DGEFG, as the learner-centered approach introduced by the project was generalized, the budget to implement the approach started to be appreciated into the general account, not into the specific budget. Also, it was reported the budget has been in short. However, considering that the project effects have been partially achieved, the overall goal has been achieved and the sufficient number of staff has been allocated, a certain amount of budget for the approach is considered to have been secured even though the budget for trainings has been insufficient. The situation is expected to be continued.

[CEB]

2.5 million CFA Fran has been allocated to CEB each year since 2017 to monitor teachers' activities and support teachers in mastering pedagogical approaches including the learner-centered approach. Even though the budget for trainings has been shortage, as the activities the organization is responsible for have been undertaken, a certain amount of budget for the approach is considered to have been secured. The situation is expected to be continued.

<Evaluation Result>

In light of the above, slight problems have been observed in terms of the technical and financial aspects of the implementing agencies. Therefore, the sustainability of the effects through the project is fair.

5 Summary of the Evaluation

The project achieved the Project Purpose aiming at improving teachers' pedagogical practices of the learner-centered approach in science and mathematics through continuous teacher training and partially achieved the Overall Goal aiming at improving student's learning in science and mathematics classes in all public primary schools in Burkina Faso. As for the sustainability, no formal and regular trainings have been provided due to the lack of the budget, the sufficient number of staff has been drafted in to each organization and the organizations have fulfilled their responsibilities given.

Considering all of the above points, this project is evaluated to be satisfactory.

III. Recommendations & Lessons Learned

Recommendations for Implementing Agency:

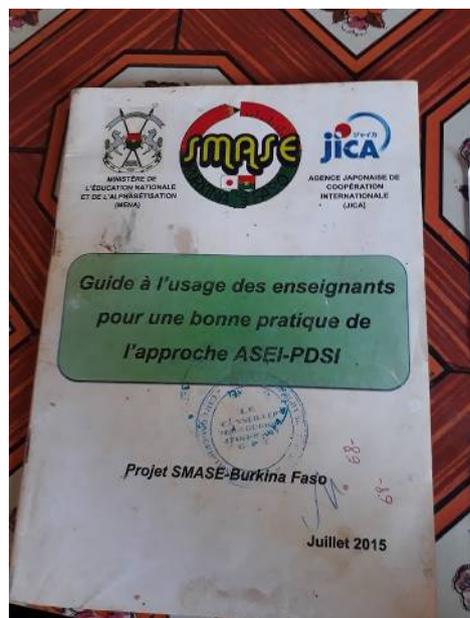
- It was confirmed that the lesson plan for the 3rd quarter developed by the project has yet to be distributed to all schools. In order to maximize the project effects, MENA should distribute the lesson plan to all schools.
- It was confirmed that any formal and regular trainings are not provided to teachers and inspectors/pedagogical supervisors. In order to sustain their knowledge and skills related to the learner-centered approach introduced by the project, DGEPPIC should set up and provide the trainings.

Lessons Learned for JICA:

- It was confirmed that it is easier and cheaper to introduce a new approach in the education system through an initial training system. In future technical cooperation projects, where the new approach is introduced into the education system, the best way would be to go through the initial training system.
- The project developed and introduced the monitoring/evaluation tools to monitor schools. However, due to the complexity, at the time of ex-post evaluation, the monitoring tools have not been used. This prevented from verifying the continuous status of the project effects. Therefore, in order to appropriately monitor and sustain project effects, it is recommended to develop and introduce user-oriented monitoring tools at the time of project planning and implementation.



Lesson sheet collection utilized by a teacher of Manga Sector II Primary School



Teacher's Guide utilized by a teacher of Béré A Primary School