Evaluating Educational Reform Projects in Developing Countries:

A Case Study of Teacher Educational Reform in Egypt

Abstract

The importance of developing local capacity to evaluate the impact of interventions has been highlighted as a new solution to an old problem in educational reform in developing countries. Due to "aid fatigue" experienced by the international community in the 1990s, international aid agencies have recognised that development interventions can not materialize educational outcomes successfully, without enhancing the local capacity and ownership in developing countries. One of the issues with "aid fatigue" was the limited attention given to monitoring and evaluation activities, particularly by the local stakeholders. Against the above concern, evaluation processes need to be devised to determine the impact of educational interventions in developing countries and, simultaneously, enhance local capacity development in this field. This study examined evaluation for a teacher education reform project in Egypt, namely by Japan International Cooperation Agency (JICA), which implements Japan's official development assistance at a governmental level. The data were collected from various layers of participants of the project through archival documents, interviews and questionnaire survey. The archival documents indicate that the evaluation process was designed and conducted by JICA mainly for their internal compliance requirement and focused on educational intervention. In contrast, however, the empirical data suggested that the local capacity development as well as the educational interventions should be evaluated jointly and not just by the donor agencies but also by the local stakeholders.

Key words: Evaluation, Capacity Development, International Cooperation, Educational Reform, Teacher Education, Developing Country

Introduction

The project reported in this paper intends to seek a sustainable evaluation framework for teacher education reform projects in developing countries. This will be of particular interest to those considering changing the current approach to evaluation and monitoring processes in international development work. This paper examines an Egyptian teacher education reform project funded by Japan International Cooperation Agency (JICA).

Literature Review

Changing Modalities in International Development

The international community has been tackling a range of global issues such as reducing poverty, increasing equity and access to basic education and improving efficiency in the education sector. A significantly large proportion of these initiative targets the basic education sub-sector with education. This seems to be a response to the global agenda set up as the Millennium Development Goals (MDGs), which are an internationally-agreed set of time-binding goals that reaffirmed commitment by the international community to the global challenges (United Nations Development Program [UNDP], 2006). However, wealth disparity exists widely in the world (Saito, 2005). Notwithstanding the significant efforts and investment made by the international community over the years, “aid fatigue” was experienced by aid agencies in the 1990s, since expected results were not produced (Takachiho, 2005) and difficulties associated with providing continued financial assistance among the donors emerged (Mabuchi & Kuwajima, 2004).

One of the main reasons for the seemingly ineffectiveness of aid is associated with the strong donor-led capital investments and initiatives, which lack ownership by the recipient (Horigane, 2006; Mabuchi & Kuwajima, 2004). Consequently, technical cooperation between the donor agency and the recipient

country in many development projects has had neither widespread impact nor ongoing sustainability beyond the project's termination date (Horigane, 2006). As a result of the lack of significant impact of development projects, donor agencies introduced Results-Based Management (RBM) to seek more effective design development and implementation of aid projects (Mabuchi & Kuwajima, 2004).

RBM is "an approach to improve programme and management effectiveness, efficiency and accountability, and is oriented towards achieving results" (United Nations Population Fund [UNFPA], 2006, p. 1). Since RBM results are based on a cause and effect relationship (UNFPA, 2006), both measuring changes and identifying the causality as the logical basis for managing change are crucial (Canadian International Development Agency [CIDA], 2000). Thus, programme process as the cause has been highlighted to produce a better result (UNICEF, 2003), since the process involves local stakeholders (CIDA, 2000; Nagao, 2003). Concurrent with the RBM approach, the international community is now subscribing to develop a consensus on the importance of local ownership and capacity development as "new solutions to the old problems" (Fukuda-Parr, Lopes, & Malik, 2002, p.vi).

Regarding the local ownership, Smith (2005) claims that stakeholders are required to participate in decision-making at all levels, which can lead to strong and substantial commitment to initiate and sustain the change. In order to implement a RBM approach, capacity development of all stakeholders is noted as the other "solution" to equip international assistance with "the ability to perform functions, solve problems, and set and achieve the objectives" (Fukuda-Parr, Lopes, & Malik, 2002, p. 8). Capacity development of stakeholders is envisioned as empowering them in the knowledge and skills to engage in a participatory, long-term process of interdependence between the multi-layers of individuals, organizations, institutionalization and society (Browne, 2002; Mabuchi & Kuwajima, 2004). The Department for International Development (DFID), the

UK bilateral aid agency, also maintains that local stakeholder capacity building needs to take account of the institutional and organizational contexts since both are equally important to facilitate successful technical cooperation (DFID, 2003), particularly for sustainability. The new modalities of technical cooperation based around local stakeholder capacity development argue that much of the knowledge of innovations embedded in development projects should reside within the developing countries and not with international donor partners. Furthermore, just as in developed countries, the capacity development should involve individuals (end users and local experts) and also institutional entities. It is also commonly presumed that local capacity development can only occur through learning by doing (Fukuda-Parr et al., 2002). Given these changes discussed above, both international aid agencies and recipient countries need to redress their conventional technical cooperation practices so as to meet meaningful capacity development challenges that can be beneficial to both parties, but more to the recipient country (Hilderbrand, 2002; Mabuchi & Kuwajima, 2004).

Process Evaluation for Educational Reform Projects

In the wake of "aid fatigue," international aid agencies are now required to conform to strict project monitoring and evaluation reporting in order to satisfy a variety of stakeholders (Crawford & Bryce, 2003). For this reason, evaluation in international development is also becoming more attentive to broad issues such as examining programme processes (DAC Network on Development Evaluation, 2004). This is reflected in evaluation policies of international aid agencies and related literature. For example, the World Bank underscores that "the monitoring and evaluation (M & E) policy and evaluation plan should give serious consideration to participatory methodologies" in project design and implementations (Independent Evaluation Group, 2007, p. 9). Similarly, UNICEF (2005) also urges wide participation in the process of project evaluation, involving participants from different levels. Participatory evaluation's primary focus is on achieving a shared understanding of the evaluation processes and

thereby giving voice to the intended project participants, who are often underrepresented, in the identification, design and management of the project (Bamberger, 2000; Holte-McKenzie, Forde, & Theobald, 2006). In this framework, participants are supposed to collect, analyse, and interpret data for the project's enhancement (Holte-McKenzie et al., 2006). Hence, the process evaluation allows the participants to strengthen their evaluation capacity (Independent Evaluation Group, 2007; Minamoto & Nagao, 2006). This process may also allow the project to track the causal chain between inputs, processes, outputs, and outcomes. Consequently, this can lead to enhancing ownership of the project (Minamoto & Nagao, 2006). Moreover, a high degree of participation tends to facilitate the likelihood of subsequent evaluation being undertaken after the project's termination (ibid.). As a result, the impact of the project can be sustainable inasmuch as utilisation of the evaluation can be enhanced (Minamoto & Nagao, 2006). This is a shift from evaluating a project or a programme through produced outcomes only, to including examination of the process of the project or programme. The shift is also underpinned by current literature on programme evaluation theory. Chen (2005) contends that "how a program achieves its goals is as important as whether it achieves them" (p. 10). In a similar vein, Hong and Boden (2003) argue that the definition of programme evaluation should be broader than determining the merit and worth of a programme and should also include the processes of evaluation, such as programme activity processes and unanticipated consequences apart from expected outcomes.

Despite the various strengths and characteristics of process evaluation, it should be noted that a sound process evaluation by project participants can be carried out only by assigning a process evaluator to provide ongoing review, feedback and documentation (Stufflebeam & Shinkfield, 2007). Along with the above-mentioned argument over evaluating international development, international aid agencies have been recognizing that intervention regarding educational development cannot in itself materialize educational outcomes successfully

without simultaneous enhancement of the local capacity and ownership in developing countries (Hirosato, 2001; Mabuchi & Yokozeki, 2004; Minamoto & Nagao, 2006; Riddell, 1999). The importance of involving local participants to develop national evaluation capacity is becoming a prevailing acknowledgement among the aid agencies (Minamoto & Nagao, 2006; Riddell, 1999). Therefore, there is a need to design projects where evaluation for educational reform in the developing countries ensure the interventions fit the emerging modalities and include key stakeholder involvement (Courtney, 2007; International Development Center of Japan & Koei Research Center Co., 2004; Mabuchi & Yokozeki, 2004; Minamoto & Nagao, 2006; Nagao, 2003; Riddell, 1999). With this task in mind this paper is to develop an evaluation framework for teacher education reform projects in developing countries, examining a case study of a JICA project in Egypt.

A Case Study of the JICA Mathematics and Science Project in Primary Education in Egypt

In spite of the significant and continuous investment in the education sector by donor agencies, developing countries are struggling with both quantitative and qualitative aspects of quality enhancement in education (UNESCO, 2004). However, Egypt, the case study for this research, has succeeded in its expansion of education during the 1990s by increasing students' enrolment numbers in pre-university education from 12.8 million in 1990/91 to 15.6 million in 2000/2001 (UNICEF Egypt Country Office, 2002). Despite significant improvement in the quantitative aspects of its education since 1990s , Egypt still has not yet resolved many of the qualitative aspects of its education system (Ministry of Education in Egypt, 2001; World Bank, 1996, 2002). At school level, for example, dominant teaching methods are teacher-centred and a combination of chalk and talk with question and answer elicitation (Johnson, Monk, & Swain, 2000). The Egyptian education system is mindful of the above issues and is keen to modernize its education. Improving the quality of education is one of the national priorities to

prepare Egyptians to enter the competitive international world (JICA, 2003). Given the Government of Egypt's wish to improve the quality of its education services JICA agreed to support a second phase of a project to enhance the teacher education of science and mathematics in Egypt's primary education system. The project was implemented in collaboration with the National Center for Educational Research and Development (NCERD), an affiliated educational research institute of the Egyptian Ministry of Education. The duration of the project was from 2003 to 2006. One of the main activities of the project was to introduce child-centred teaching methods to Egyptian teachers, including the pilot teachers.

Approach

In light of a need to limit the study to a teacher education reform project, the research employed a case-study research design which allowed the above focus to be "a bounded system" (Stake, 1997). A case study is also suited to "represent a process consisting of a series of steps that form a sequence of activities" (Creswell, 2002, p. 485). A case study is convenient for the research to illuminate the contextually embedded evaluation process by using multiple data sources. Three data collection techniques were used to collect the data from three data sources to triangulate one against another: archival documents (the JICA project evaluation reports in 2003, 2005 and 2006), a survey questionnaire and interviews. Questions for the interviewees and the questionnaire focused on three evaluation approaches - evaluators, timing of evaluation, reasons for evaluation. Sample questions included:

(i) who should be involved in the evaluation process?;

(ii) when should the evaluation be conducted?; and

(iii) why should the evaluation be conducted?.

These aspects were also applied to the archival documents to illuminate the process of evaluation adopted by the JICA maths and science project in Egypt.

This can lead to devising an evaluation framework for teacher education reform projects in developing countries.

Four different stakeholders involved in the JICA project were invited to participate for a purposeful sampling. These stakeholders included JICA experts and staff members who had designed and implemented the project, high officials from the Egyptian Ministry of Education and a regional education office, NCERD researchers who played a central role in implementing the project with the JICA experts as an Egyptian counterpart, and teachers and a principal who were working for one of the project experimental schools. Data collection from the key stakeholders aimed to seek viewpoints on teacher education reform at a primary education level. As these different stakeholders of educational reform projects may own different perspectives, collectively they can better effect a change (Riddell, 1999). Table 1 shows the categories and number of project stakeholders involved in this research. There were 24 survey responses collected and a total of 18 interviewees.

Table 1

Outline of Data Collection and the Number of Respondents

Participants	Survey Respondents	Number and types of Interviews
JICA experts and staff member	*n=4*	1 x individual face to face 2 x individual telephone
Officials in the Ministry of Education in Egypt	*n=4*	1 x focus group with 3 participants 1 x focus group with 2 participants
NCERD Researchers	*n=11*	1x individual face to face 1x focus group with 4 participants
Teachers	*n=5*	1x individual face to face 1x focus group with 4 participants

The project had three different groups of nationalities involved, hence the research used English, Arabic and Japanese languages to access the participants. The surveys were developed in English and translated into Arabic. The interviewing was undertaken in Arabic using two interpreters, and the Japanese and English languages with which the researcher is conversant. Regarding the interpretation between Arabic and English languages, two bilingual researchers of NCERD assisted the Japanese researcher in conducting these interviews and cross-checked the English interpretations to ensure the accuracy. The researcher sought and obtained ethics approval from all the interviewees and survey respondents for participating in this research.

Key Findings

The archival documents from the JICA maths and science project in Egypt revealed how the teacher education reform project was evaluated during the project while the empirical data from the survey and interviews indicated how the project should have been evaluated during the project implementation or should be evaluated in a similar project in the future. A summary of the findings, including the key themes and responses, is presented in Table 2. This summary is organised according to the three aspects of the evaluation approaches, namely the evaluators, timing of evaluation, and reasons for evaluation. However, only the main themes and responses are displayed in Table 2.

Table 2

Three Data Sources on Evaluating Teacher Education

	Questionnaire Survey*		Interview Data **	
Evaluators	Educational institutes	96%	Teachers	4
	School	91%	Teacher trainers	4
	JICA	82%	Inspectors	3
	Teachers	77%	Peer teachers	2
			Principal	1
			MOE	1
			JICA	1
Timing of Evaluation	Regular ongoing evaluation even after the project	96%	Follow-up evaluation after teacher training.	5
	From the beginning of the project to the end	91%	Three times evaluation (before, at the end of and after the training)	3
			Before training	1
			The end of the training	1
Reasons for Evaluation	Identifying and solve a problem	100%	Assessing the effectiveness of teacher training.	2
	Enabling participants to conduct self-evaluation	96%	Assessing the needs of teachers	2
	Assessing the project's progress	96%	Utilising the results of evaluation for teacher education improvement	1
	Providing feedback for teacher quality improvement	96%		
	Utilizing evaluation results	95%		
	Finding weaknesses and strengths in the project	95%		

*Average percentage of all participants who agreed and strongly agreed (*n*=24)

** The number of citations by interviewees

Evaluator

A review of the archival documents of the project showed that JICA periodical evaluation teams from Tokyo and JICA experts, based in Egypt, were the main evaluators in the JICA maths and science project in Egypt (JICA, 2003, 2005, 2006). JICA headquarters in Tokyo deployed its project design team several times for ex-ante evaluation, and mid-term and terminal evaluation. The objective of these evaluations was to verify the progress and effectiveness of the project interventions (ibid.). The assumption underpinning the project design was that the JICA project experts would transfer knowledge and skills about new teaching methods to NCERD researchers, who in turn would pass on the knowledge and skills to classroom teachers (JICA, 2003). The evaluation teams were composed of the consultants from a Japanese university and the private sector, and the co-opted JICA staff from its headquarters in Tokyo and its Egypt office. They jointly evaluated the progress and effectiveness of teacher training which was one of the project's outcomes (JICA, 2003, 2005, 2006). The process used for evaluation of teacher effectiveness was interviewing people involved in teacher education, such as the pilot teachers, and observing classes conducted by the pilot teachers (JICA, 2006). The project supported several types of teacher training courses during the life of the project. Reviewing archival documents also indicated that JICA experts devised tools to measure each activity and the subsequent project outputs, and conducted evaluation of the teacher training in collaboration with NCERD (JICA, 2003, 2005, 2006). The other local Egyptian stakeholders such as Egyptian Ministry authorities were periodically involved in the process of evaluation as informants or discussants but not as analysts or decision makers. Thus, JICA was always the prime evaluator for the teacher education conducted in the JICA maths and science project in Egypt.

In contrast with the evaluation practices used by the JICA maths and science project in Egypt, the survey data in Table 2 suggests that other project stakeholders' involvement in the evaluation was considered as significantly important. The data indicated that respondents' preferences for evaluators of the

project included local educational institutes (96%), school authorities (91%) and teachers (77%). The respondents (82%) recognised that JICA, as the donor agency, should also be an evaluator. The interview data, as noted in Table 2, concurs with the questionnaire survey data and the respondents prefer the following stakeholders to be evaluators: teachers, teacher trainers, and a school inspector from a regional education office. Moreover, the interview data revealed other potential evaluators such as peer teachers. One of the interviewees claimed the importance of evaluation by teachers themselves, asserting, "I think the evaluator must be the teachers. Teacher training should be beneficial and useful for teachers, but for nobody else" (JICA staff member). Seeking the view of the end-users in development projects is critical.

Timing of Evaluation

Archival documents from the JICA project in Egypt disclosed that JICA had engaged evaluation teams from Tokyo and conducted the following periodical evaluation to assess the entire project including the teacher education intervention: three ex-ante evaluations before the beginning of the project; one mid-term evaluation; and one final evaluation at the end of the project (JICA, 2003, 2005, 2006). JICA experts based in Egypt undertook evaluating teacher training jointly with NCERD researchers during the life of the project (ibid.). The changes in the teaching practices of the pilot teachers were monitored and assessed during the project. Whilst JICA experts and NCERD researchers evaluated the teacher training courses, such as the joint training courses with the Cairo Educational office, the evaluation was conducted at the end of each training course and there was no follow up to evaluate the impact of the training on teachers' classroom practices (JICA, 2006).

The empirical data (Table 2) on the timing of evaluation of teacher quality improvement intervention suggested that continuous evaluation should start with obtaining baseline data at the start of a project. Ideally, the evaluation process should be institutionalised as on-going process involving a mix of self-evaluation

by the project participants and external evaluation. Such an institutionalised approach will ensure the evaluations can occur even after the completion of the project. The above view was supported by 96% of survey respondents. Five interviewees stated the importance of a follow-up evaluation after each teacher training course to seek any impact in daily classroom practices. One interviewee stated, “we need to follow up trained teachers in their schools because we need to find if teachers are using the new strategies and to determine any problems and difficulties teachers may be facing” (JICA NCERD researcher group 2). Another interviewee emphasised the importance of broader stakeholder participation during the project design to provide feasibility so that continuous evaluation feedback can be used to improve subsequent activities by saying, “we should pay attention to how teacher training interventions try to improve the status-quo in the project and to be specific in the themes or goals of the training” (JICA expert 2). Another interviewee raised the importance of post-evaluation, citing “we should evaluate how effective the training was for participants at the end of the training” (JICA central Ministry of Education group 2-1).

Reason for Evaluation

A review of the JICA project evaluation documents revealed the reasons (objectives) of the three-time periodical evaluations as follows. For each of the three ex-ante evaluations the main reason was to discuss the project plan, design and procedures with the Egyptian authorities to ensure the project addressed the support requested by the Egyptian Government (JICA, 2003). The mid-term evaluation was set to assess the progress and achievement of the intervention to date and to discuss any modification to the original project plan and activities that may be necessary (JICA, 2005). The final evaluation was conducted to assess the project comprehensively and to discuss future cooperation considering the project’s effectiveness, the Egyptian education policy and the JICA’s aid policy in the Egyptian education sector (JICA, 2006). Since teacher education was one of the major activities in the project, the JICA ex-ante evaluation report showed the teacher education should be monitored and evaluated by checking if the project

was being implemented as planned, evaluate the entire project at the mid-term and final stages of the project, and modify the plan if necessary (JICA, 2003). Most of the evaluations were concerned with the efficiency and effectiveness of the overall project with very limited focus on specific activities and the impact at the end-user level. For instance, with regard to teacher quality improvement the evaluation of daily classroom practice was very limited.

On the contrary, a summary of the survey data in Table 2 indicates that the purposes of evaluation should be aimed at not only assessing the activities of the project but also improving the national evaluation capacity by involving participants in the process evaluation and utilizing evaluation results. Evaluating teacher quality improvement projects should be conducted for the various reasons, as shown in Table 2, that were strongly supported by 95% or more of respondents. The interview data also showed similar responses to that of the survey. For example, two interviewees mentioned that evaluation needs to measure the effectiveness of teacher training programmes. One interviewee said,

> As for the evaluation of teacher training, it is done to examine if the training is effective … if the quality of the training meets a certain standard. The important thing is to see what happens beyond the project. We should look at how students have changed in the long-term as a result of the teacher training, otherwise teacher training is meaningless if the training has no effect on students.(JICA expert 1)

Two interviewees stated that assessing the needs of teacher training may assist in developing a teacher education programme more specific to the teachers' needs - hence the need to invite input from experienced local teachers. One interviewee claimed that by utilising the results of evaluation for enhancing teaching practices, "evaluation can help teachers review how they have performed in class room settings. So, they can perform better by evaluating their performances" (JICA Central Ministry of Education group 1).

Discussions

The findings suggested some discord between the JICA evaluation of its maths and science project in Egypt and the empirical data from both the survey and interviews. The JICA evaluation teams and experts were noted as the main evaluators, whereas the empirical data suggested a need to include other stakeholders. Furthermore, the findings indicated that it should include a mix of external and self-evaluation by teachers. Contemporary evaluation theory also cautions against a single entity conducting all aspects of evaluation because the evaluation needs of participants are diverse (Fitzpatrik, Sanders, & Worthen, 2004). Engaging a range of stakeholders through a participatory approach can enable participants to acquire skills and knowledge on evaluation, understand a programme better, bring their support and participation to the programme, and strengthen organizational capacity (Stufflebeam, 2000). Subsequently, this can lead to enhancing national evaluation capacity towards a long-term impact. Local stakeholders may then act upon the findings from other evaluation studies (Patton, 1997). The "timing of evaluation" is also an important aspect to be considered. The JICA evaluation process and empirical findings both found that the process evaluation stretching from the beginning of a project to the end was critical. This process is more likely to enable participants to follow plausible relations between a project intervention and effects (Minamoto & Nagao, 2006), which is closely associated with the RBM model adopted by many international development agencies. There were three main discrepancies between the JICA evaluation practice for maths and science projects in Egypt and the empirical data. First, the empirical data found the importance of institutionalisation of a locally embedded evaluation system for sustaining the project's impact, particularly when tangible changes in education practices take a long time to be evident. Secondly, findings suggested that specific timings for evaluation should consider a continuos process that lasts even after the termination of a project. Thirdly, the empirical data highlighted that it should consider specific characteristics, such as classroom practice and teacher quality improvement, rather than evaluating the effectiveness

only at the end of teacher training. In terms of the “reasons for evaluation”, the evaluation for the JICA project was set to focus only on evaluating project issues. On the contrary, the empirical data revealed that improving a project by utilising both the results and processes of evaluation were well recognised by the respondents. The emphasis was to enable project participants to acquire skills and knowledge in the evaluation process, which can possibly result in empowering participants and allowing them to take ownership of the project.

Conclusions

The new modalities in international development such as RBM and capacity development have emerged as a solution since the international aid agencies experienced “aid fatigue”. Both the findings of the research and current literature indicated that the emerging modalities require international donor agencies to shift from outcome evaluation for their intervention activities to process evaluation conducted largely by local participants. Process evaluation involves different layers of participants in the evaluation processes, so that they can acquire and improve evaluation skills on a learning-by-doing basis. This practice is likely to lead to improving national evaluation capacity as a whole, and being locally institutionalised as a result. The process focus in evaluating a project or programme is also supported by current programme evaluation theory. Despite more time and a skilled evaluator being required, this research concludes that teacher education reform projects in developing countries should adopt process evaluation as this can bring about synergetic effects to sustain the project’s impact. Future research may examine the sustainability and impact of a similar project that has already adopted process evaluation. If greater impact and comparative advantages from the project can be identified, process evaluation may become a preferred tool in this field.

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