

The Evaluation of an International Training Program on Early Childhood Education in Central and West Africa

Yuko NONOYAMA-TARUMI
Ochanomizu University

Takashi HAMANO
Ochanomizu University

Abstract

Beginning in 2006, a three-week Japan International Cooperation Agency (JICA) training program entitled "Early Childhood Education for West and Central African Countries" has been conducted every year by Ochanomizu University, Tokyo, Japan. This study measures the outcome, whether or not the training program has reached its objective. The study assesses participants' level of knowledge of each module (ECD, child-centered care, inequity, teacher development and training, and evaluation) and their attitudes towards applying their obtained knowledge to their individual countries. The participants in the 2009 program, which include 12 participants from five countries, were asked to fill in questionnaires at the end of the program. The study finds that the level of understanding, as well as the attitudes towards application, was in general high, with the highest score for child-centered care and the lowest score for the evaluation module. The study also indicates that although participants expect difficulty in applying their learned knowledge in their native countries, participants believe strongly in the importance of applying the knowledge of each module.

Key words: Impact evaluation, International training program, Early childhood education, West and Central Africa

Introduction

In recent years, commitment to early childhood education has been on the increase. In developing countries, on average, fewer than one out of ten children were enrolled in pre-primary institutions in 1975, whereas in 2004, one out of three children were enrolled (UNESCO, 2006). However, the rapid expansion of early childhood education may have led to a focus on quantity that neglects quality. Programs for young children need to integrate educational activities with health, nutrition, and social services in order to assure holistic development, and pedagogy must be adapted to the needs of young children. Rapid expansion without a consideration of quality bears with it the risk of building "primary schools for younger children" with excessive focus on academic goals, rather than a broader, holistic approach that incorporates welfare, health, and care.

In this context, the Japan International Agency Cooperation (JICA) recognized the need to build the capacity of experts engaged in early childhood education, especially in West and Central African countries, where gross enrollment in pre-primary education remains as low as 2% to 21% (UNESCO, 2008). In 2005, JICA began a three-week technical training program entitled "Early Childhood Education for West and Central African

Countries." The training was financed and organized by JICA, and designed and implemented by Ochanomizu University. Between 2005 and 2009, the training was conducted four times, and included one to three participants from the following countries each year: Burkina Faso, Cameroon, Mali, Niger, and Senegal.

The need and importance of the training program is recognized by JICA and Ochanomizu University, based on the informal reactions of participants seen in daily lectures and visits during the training, along with formal reactions gleaned through JICA questionnaires at the end of the training, and requests from respective governments at the end of the year. However, no systematic evaluation of the participants' acquisition of knowledge or their change in attitudes as a result of the training program has been conducted until now. Such evaluation is essential in assessing whether or not the training accomplished the desired objectives. This study investigates the following questions with the goal of evaluating the outcomes of the training program: (1) What is the participants' perceived level of knowledge after the training program? (2) What is the participants' attitude towards applying and disseminating the knowledge they gained through the training program? (3) What are some changes in participants' commitment to their work after the training program?

Prior research

Types of evaluation

Evaluations can be generally categorized into (1) impact evaluations, (2) process evaluations, (3) summative evaluations, and (4) formative evaluations. Margoluis et al. (2009) summarize each as follows. Impact evaluation measures project results in terms of outcomes and impact; process evaluation measures the extent to which planned activities have been carried out; summative evaluation is generally undertaken for accountability purposes or external decision-making about the fate of a project; formative evaluation is conducted for the ongoing improvement of a project. As Margoluis et al. (2009) point out, there are overlaps between these categories. For example, there may be a summative impact evaluation or a formative impact evaluation. This study could be considered as an impact evaluation, as it measures whether or not the training reached its objective. However, at this point, we cannot measure the impact of the training or whether it reached its goal, as the evaluation was conducted at the end of the training. We plan to follow the trainees in the future in order to assess the impact. Our study is also a formative evaluation with the purpose of providing insights on how to improve future training programs.

Evaluation of training programs

Training programs can be evaluated at different levels. Hamblin's (1974) five levels of training effects, building on the works of Kirkpatrick (1967), are useful for thinking through the cause and effect chain of training (Stiernborg, 1996). Training leads to (1) *reaction*, which leads to (2) *learning*, which leads to (3) *changes in behavior*, which leads to (4) *changes in organization*, which leads to (5) *changes in achievement of ultimate goals*. These different levels of evaluations can be summarized as follows: Level 1 (evaluation of reaction effects) measures the level of participant *satisfaction* in order to assess whether the training is achieving its objective, and if not, how to adjust. It may be implemented continuously during the training or at the end of the training program. Level 2 (evaluation of learning effects) is used to measure acquired *knowledge, attitudes and skills*. Level 3 (evaluation of changes in behavior) is used to assess *behavioral changes*, which should result in the trainee applying the acquired knowledge, attitudes and skills to his or her job. Level 4 (evaluation of changes in the organization) assesses the impact of training on *organizational effectiveness*. Finally, Level 5 (evaluation of changes in the achievement of ultimate goals) assesses *overall improvement*, considering non-training factors as well (Stiernborg, 1996).

This study assesses Level 2 of Hamblin's model,

learning effects, but also assesses trainees' beliefs and attitudes towards applying their acquired knowledge. It is argued that, even if the trainee absorbed and internalized the knowledge extensively, if he or she perceived that it is impossible to apply such knowledge in one's country, or that the government would not buy into such knowledge, or if he or she simply believed that the knowledge is for one's own self-development and did not feel committed to applying the knowledge in one's society, what was learned during the training (Level 2) would not result in changes in behavior or concrete actions (Level 3). Thus, in this study, we evaluate the extent of belief and attitudes towards applying their knowledge, with the assumption that, in addition to the evaluation of learning effects (Level 2), these are key ingredients leading to behavioral change (Level 3). By assessing beliefs and attitudes before the return to one's native country, we are able to distinguish these beliefs and attitudes (which may be considered as an effect of the training) from various obstacles they may face in their countries such as budgetary constraints (which may be considered as external factors of the training).

The Context of West and Central Africa

Demographic and economic characteristics

The five participating countries, Burkina Faso, Cameroon, Mali, Niger and Senegal, were chosen by JICA. Table 1 summarizes the demographic characteristics of these five participating countries as well as the host country of Japan. All five countries, except for Cameroon, are categorized as least developed countries (LDC). The countries are similar in their population size (between 12 million to 19 million), and rank severely low on the Human Development Index (HDI). Adult literacy rates vary across countries, with two-thirds of the population being literate in Cameroon, less than one-third of the population being literate in Burkina Faso, Mali and Niger, and Senegal falling between the two groups. The table also highlights the striking differences with the host country of Japan in terms of economic and educational levels.

In terms of young children, the difference between Japan and the five countries is also salient. Whereas in Japan, only one out of 20 people is a very young child in Japan, one out of five people is a young child in Niger. Whereas Japanese mothers, on the average, give birth to one child, mothers in Niger give birth to seven. These differences are likely to be reflected in differences in child rearing environment and practices, and thus need to be taken into consideration when implementing training programs. Although some variation exists across the five countries, child survival and well-being indicators are severely low (or high in percentage).

Table 1 Demographic Characteristics of Participating and Host Countries

Country	GDP per capita ¹ (PPP US \$) 2007	HDI rank ² 2007	Population ³ (000) 2007	Adult Literacy Rate 15 and over ⁴ (%) 2007
Burkina Faso	1,124	177	14,784	28.7
Cameroon	2,128	153	18,549	68.0
Mali	1,083	178	12,337	26.2
Niger	627	182	14,226	28.7
Senegal	1,666	166	12,379	41.9
Japan	33,632	10	127,953	93.5

Sources:

^{1,2} Human Development Report 2009

^{3,4} UNESCO Institute for Statistics

Table 2 Demographic Characteristics of Young Children of Participating and Host Countries

Country	Population aged 0-4 ¹ (%) 2005	Total fertility rate ² (births per woman) 2006	Infant mortality rate ³ (%) 2006	Children under age 5 suffering from stunting ⁴ (%) 2000-2006
Burkina Faso	18.3	6.1	122	35
Cameroon	15.8	4.4	87	30
Mali	17.3	6.6	119	38
Niger	20.3	7.0	148	50
Senegal	16.8	5.3	60	16
Japan	4.40	1.3	3	-

Sources:

¹ World Population Prospects

^{2,3} UNESCO Institute for Statistics

⁴ EFA Global Monitoring Report 2007

Education

Table 3 summarizes the educational situations of the participating countries. It is important to highlight that pre-primary education coverage is extremely low in Sub-Saharan Africa, despite its recent increase in developing countries. Furthermore, the gross enrollment ratios (GER)

of all participating countries except Cameroon are lower than the average of Sub-Saharan Africa, which is 14% (UNESCO, 2008). Repetition rates and drop-out rates vary across countries. This may be due to differences in promotion policy, as countries with high drop-out rates have low repetition rates (Niger and Senegal), whereas countries with low drop-out rates have relatively high

Table 3 Education of Participating and Host Countries

Country	Pre-Primary Education		Primary Education			Secondary Education		Education Budget ⁶ (%) 2007	
	Gross Enrolment Rate ¹ (%) 2007	Gross Enrolment Rate ² (%) 2007	Repetition Rate ³ Grade 1 (%) 2005	Drop-out Rate ⁴ Grade 1 (%) 2005	Gross Enrolment Rate ⁵ (%) 2007				
					2007	2007			
Burkina Faso	3	67	6.4	9.5	16			23.3	
Cameroon	21	110	32.9 ^a	10.2	24 ^b			17	
Mali	4	88	12.2	2.9	31			16.8	
Niger	2	53	0.2	16.1	10			17.6	
Senegal	9	83	5.3	17.4	27			26.3	
Japan	86	102	-	-	101			9.5	

Sources:

^{1,2} UNESCO Institute for Statistics

^{3,4} EFA Global Monitoring Report 2009

^{5,6} UNESCO Institute for Statistics

Notes:

^a 2003 data

^b 2006 data

repetition rates (Mali and Cameroon). The low GER of primary and secondary education suggest the challenges faced by countries in allocating resources to pre-primary education. However, the high rate of either repetition or drop-out in the first grade of primary school may be partially due to young children having difficulties in transitioning into the schools, which implies the significant need for quality early childhood education programs.

JICA training program

Purpose

The goal of the JICA training program is to spread the specialized knowledge of early childhood education and development in participants' countries. The objective of the training is for the participants to gain an increased understanding in the following areas: (1) Concept, content, and trends of Early Childhood Development (ECD); (2) Inequity in early childhood education and measures to rectify inequity; (3) Concepts and methodologies of child-centered care; (4) Teacher development and training in early childhood education; (5) Evaluation in early childhood education. As the prevalence of pre-primary education is significantly low in these countries, the training program is designed to be comprehensive. The training addresses both system wide (macro) and pedagogical (micro) issues.

Participants

The training program targets government officials who hold a managing position in early childhood education or early childhood development, and who have more than five years of experience in the field. After the third year of the program, JICA narrowed and specified the participants to early childhood education inspectors or administrators in the central or local government, or professors in teachers college, on the assumption that they would have more power and status necessary to disseminate the knowledge obtained through the training than would kindergarten principals or teachers.

Content of Early Childhood Education in Central and West Africa Training Programme

The three-week training program consists of lectures, visits (observations) and workshops. Approximately 50% of the training time is allocated to lectures, 30% to visits (observations), and 20% to workshops, including presentations. As a holistic approach to early childhood education has been increasingly emphasized, the lectures include a variety of topics from multiple disciplines: developmental psychology, education, and health care. Examples include "Early childhood education

methodologies according to the child's developmental growth," "Evaluation of early childhood education: Quality of Life (QOL) of young children," "Early childhood education teacher development and training in Japan," "Development of young children and primary health care and hygiene management," etc. International trends and cases in early childhood are also highlighted through lectures such as "UNICEF's ECD support: Overcoming inequality," "NGO support to early childhood education: From the case of Vietnam," and "Experiences and lessons learnt from ECD support to West Africa." There are visits to numerous facilities, such as university affiliated kindergarten and primary schools, private kindergartens, nursery schools in rural areas, special-needs schools, and the Ministry of Education. Workshops include hands-on activities such as making toys and teaching materials, and discussions and presentations on the early childhood education system in participants' respective countries. The variety of topics and activities make the three-week training a comprehensive early childhood education and development program.

Methods

Instrument

At the end of the program in Japan, we asked participants to complete a questionnaire that consisted of both multiple choice (40 questions) and open-ended questions (15 questions). Participants took approximately 40 to 60 minutes to fill in the questionnaires, and were asked to provide their names, as a future study to assess changes in behavior is planned. However, in order to solicit the most candid opinions possible, it was emphasized both verbally and on the cover sheet that the analysis would be done anonymously, and that the content would not be reported back to their countries or used for future participant selection.

Sample

For this study, the questionnaire was distributed to training program participants in the fall of 2009. Participants' median age was 42, with a range of 35 to 54 years of age. The median number of years of experience in early childhood education was 14 years, with a range of 8 to 30 years. Seven participants were inspectors, two participants were administrators in the ministry, and two participants were professors at teacher training colleges.

Due to the small sample size of this study, we did not conduct any statistical tests. We define our population as the 2009 participants, and do not attempt to generalize our findings to any larger population, such as all participants of this training program (from 2006), or to participants of other international training programs.

Measures

Our study focuses on level 2 of Hablin's evaluation model, namely, the evaluation of learning and attitudes.

Learning As the training program is quite comprehensive, a test would only capture a limited aspect of what the participants learned. Thus, we used self-assessment questions related to the subjects' level of knowledge. We assessed the knowledge of overall early childhood education and development as well as the knowledge of individual five modules (ECD, child-centered care, inequity, teacher development and training, and evaluation) both at the beginning of the training and at the end of the training. For example, the questions "What was/is your level of understanding towards the concept of ECD at the beginning of the training/at the end of the training?" were asked with a choice of four response categories (Very knowledgeable, somewhat knowledgeable, somewhat unknowledgeable, and unknowledgeable). Open-ended questions such as "How would you briefly explain the concept of ECD to your colleagues" were asked to triangulate the above question.

Attitude As this study was conducted at the end of the training, we were not able to assess whether or not participants applied their knowledge. Rather, this study assesses the trainees' attitudes towards applying and disseminating what they have learnt. For example, we asked the question, "Do you think it is difficult to apply what you learned about child-centered care to your country?" and offered four response categories (Very difficult, somewhat difficult, somewhat easy, and easy). Open-ended questions such as "Considering you had a sufficient budget, what would be the difficulties in spreading child-centered care in your country" were used to triangulate the above question.

Commitment Our study also assesses trainees' commitment and satisfaction towards their work. Although these factors were not direct objectives of the training program, it could be that the experience of seeing how Japanese early childhood care specialists work or having the privileged opportunity to go abroad may affect participants' commitment to their work.

Miller and Bogatova (2009) frame the three elements, knowledge and skills, attitudes and orientation, and

satisfaction as key outcomes of T.E.A.C.H. Early Childhood Project, a professional development program of early childhood educators.

Findings

Table 4 shows the average score for self-report of knowledge at the beginning and the end of the training. All of the variables in the analyses are on a scale from 1 to 4, with 4 being the highest score. Focusing on the score at the end of the training, the level of increase in general knowledge in early childhood education was high, with an average of 3.25. 11 out of 12 participants thought that their general knowledge increased extensively throughout the training. When examining each module separately, the level of understanding was highest for child-centered care (3.75) and lowest for evaluation (3.27). This was also found when participants were asked about their ability to explain concepts or to propose strategies to improve the system (3.82 for child-centered care and 3.00 for evaluation, not shown). In the qualitative responses to "How would you briefly describe the concept of child-centered care to your colleagues," participants tended to write extensively, and there was little variation across participants in content. In contrast, in the responses to the open-ended question, "What are the two key differences between your country and Japan in early childhood education evaluation methods?" participants' responses were shorter, and great variation was seen in terms of content. For example, some referred to children's developmental assessment, some referred to the evaluation of classrooms at preschools, and some referred to the participation of communities.

Comparing the changes in levels of understanding (by subtracting the beginning score from the end score) across modules, the change was found to be largest for child-centered care. Although the understanding level of the concept of ECD scored second at the end of the training, its level was also high at the beginning of the training, resulting in the lowest change. We may interpret from these findings that participants are more familiar with the concept of ECD, a holistic and multi-disciplinary approach to early childhood education, due to increasing training and advocacy by various international organizations, whereas the concept and methodologies of

Table 4 Mean Scores of Learning

(n=12)

	Mean	S.D.		Mean	S.D.
End of the training			Beginning of the training		
Increase of general knowledge	3.25	0.622	ECD	2.83	0.577
ECD	3.67	0.492	Child-centered care	2.50	0.522
Child-centered care	3.75	0.452	Inequity	2.67	0.492
Inequity	3.50	0.522	Teacher development and training	1.83	1.030
Teacher development and training	3.33	0.651	Evaluation	2.09	0.701
Evaluation	3.27	0.647			

child-centered care may be rather unique to JICA training.

Table 5 summarizes participants' attitudes towards the application of their obtained knowledge. Great variation was found in the responses to questions regarding the level of difficulty of applying what they learned in the training to their native country. Three perceived it to be somewhat difficult, whereas two participants perceived it to be very easy. Across modules, participants felt it hardest to apply evaluation (2.25), and least difficult to apply child-centered care (3.08). Whereas only two participants perceived difficulty in applying child-centered care, nine participants perceived difficulty in applying their knowledge of evaluation. When asked about the importance of applying the knowledge of each module (not shown), there were no negative responses (somewhat unimportant or not important). Regardless of the variation in the level of understanding and difficulty of applying knowledge across the modules, participants believed that all modules are important for the improvement of early childhood education in their countries. However, when asked why participants think it is important to spread the knowledge of each module, again, there was great variation in the responses for the evaluation module. This may point to the fact that the evaluation module was not clearly defined and designed in the training, and requires further improvement.

Participants' confidence in their engagement in

dissemination activities was high; eight participants perceived themselves to be much more capable of implementing training activities after the training (3.58), and nine participants felt themselves to be much more capable of being involved in national activities such as the development of guidelines (3.67).

When asked about the different levels of audience to which participants would disseminate their knowledge, participants felt most capable of sharing their knowledge with their own organization (3.92), less capable with kindergarten principals and teachers (3.83), and least capable with policy makers (3.33). As most participants are inspectors and teacher training college professors, this finding highlights that they are in a good position to spread their knowledge widely among principals and teachers.

Finally, we turn to whether or not the training program led to any changes in general attitudes towards further learning and work (Table 6). Participants perceived that their commitment to current work strongly increased as a result of the training (3.67). The training also lead to changes in broader motivation, such as learning more about early childhood education systems in other countries (3.50) and commitment to improving early childhood education (3.50).

Although in the evaluation of international training programs, the evaluator's primary interests are in assessing changes in understanding, the extent to which

Table 5 Mean Scores of Attitude towards Application of Knowledge
(n=12)

	Mean	S.D.
Ease of application		
Learning in general	2.92	0.669
ECD	2.83	0.577
Child-centered care	3.08	0.669
Inequity	2.75	0.622
Teacher development and training	2.42	0.793
Evaluation	2.25	0.452
Capacity of dissemination		
Training activities	3.58	0.669
National activities	3.67	0.651
Target audience of dissemination		
Policy makers	3.33	0.778
Own organization	3.92	0.289
Kindergarten principals and teachers	3.83	0.389

Table 6 Mean Scores of Commitment to Work
(n=12)

	Mean	S.D.
Interest in learning	3.50	0.522
Commitment to current work	3.67	0.492
Commitment to improve early child education	3.50	0.522
Satisfaction with current work	3.50	0.522

learned knowledge is applied in their countries, and, in particular, which part (module) of the training is most useful to that end, training in a foreign context has immense impact on participants' morale and their commitment to their work. By observing how Japanese early childhood specialists engage in their work outside of their official hours, and how they engage passionately with children and parents, participants may acquire a new lens through which to view their own work. This may be one of the largest unexpected effects of international training programs organized in foreign countries. Participants may learn about the Japanese work ethic through experts or volunteers sent to their country, but such value becomes most tangible when seen on-site, in, for example, teamwork among Japanese kindergarten teachers. Such values are illustrated less effectively through lectures by foreign experts.

Conclusions

Summary of Findings

This evaluation study focused on participants' level of understanding and attitudes towards the application of the knowledge they acquired during the training program. The level of understanding was generally high, and varied according to modules, with the child-centered care module scoring highest and evaluation module lowest. The training program was most effective in transmitting child-centered care knowledge. Participants' capacity to disseminate knowledge through means such as training activities and national activities increased. Although participants expected difficulty in applying their learned knowledge in their native countries, the most difficult areas being evaluation and teacher training and development, participants believed strongly in the importance of applying the knowledge of each module. Finally, the training also resulted in changes in participants' commitment to their work, both their current work and their broader definition of work. This kind of change in morale should not be neglected in future evaluations of training programs organized in foreign countries.

Implications for future evaluation studies

Our study found that participants' learning and attitudes towards applying their knowledge was generally high. However, it is important to follow-up with the participants to evaluate to what extent they were indeed able to share and spread their knowledge. As the beginning of our article shows, the economic, social,

demographic and educational characteristics of five countries vary extensively from those of Japan. As the participants anticipate, they are likely to have difficulties in applying their knowledge. It is emphasized throughout the training program that participants not only absorb knowledge, but think of ways to adapt and modify the knowledge to their own context. Unless the training is able to foster the skills and attitudes necessary to enable them to overcome these difficulties, the program will not achieve its goal. This issue needs to be evaluated further in future studies.

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Author Note

Yuko NONOYAMA-TARUMI

Assistant Professor, Research Center of Human Development and Education, Ochanomizu University

Email: tarumi.yuko@ocha.ac.jp

Takashi HAMANO

Associate Professor, Graduate School of Humanities and Sciences, Ochanomizu University

E-mail: hamano.takashi@ocha.ac.jp