

The People's Republic of Bangladesh

**Preparatory Survey on BOP business on
Improving Quality of Education through
Partnership with NGOs**

**FINAL REPORT
SUMMARY**

March 2017

Japan International Cooperation Agency (JICA)

**Kumon Institute of Education Co., Ltd.
KRI International Corp.**

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1. Background of the Study, Objectives, and Alignment with the Local Development Issues

1.1. Background

The Kumon Group, led by Kumon Institute of Education Co., Ltd., is committed to contributing to the development of education in 49 countries and regions with the following mission and long-term vision:

Mission	By discovering the potential of each individual and developing his or her ability to the maximum, we aim to foster sound, capable people and thus contribute to the global community.
Long-Term Vision	We wish that all people in all countries and regions in the world will have the opportunity to learn with the Kumon Method, and that each individual in the world will be enthusiastically self-learning and making efforts towards realising his or her goals and dreams.

While the Kumon Method has spread globally, majority of the beneficiaries consist of financially privileged individuals mainly belonging to middle income groups and above. There still remains an issue in KUMON's capability of reaching out to the poor, particularly those living in developing countries. In the past, KUMON had conducted several studies, internally, on how to approach people in poverty stricken areas. However, the company had come into the conclusion that due to the high cost required for implementing its existing business model, which involves a franchise agreement between the company and the centers for the provision of its learning materials and know-how, expansion in poverty stricken areas is not feasible, particularly if done independently.

For two years starting in 2014, in collaboration with KRI International Corp, KUMON once again took on that challenge by exploring the possibility developing a BOP business in Bangladesh by partnering up with BRAC¹, one of the largest NGOs in the world. In recent years, although Bangladesh is seen to be a favorable market to invest in due to its fairly healthy and stable economy, having a population of 150 million and maintaining over 6% of real economic growth rate for the last 5 years, the developing country is still faced with numerous challenges. Its GDP per capita is as low as 766 dollars and 30% or more of the households are in poverty. With regards to education, there are evident improvements in terms of school attendance and access in the primary level, with the net enrolment having gone up to 95%. However, the quality of education still remains a significant issue. Due to the poor quality in education many students find themselves unable to cope up with the demands in the higher levels of education, thus resulting to a high rate in dropouts in the secondary level. Moreover, there are many students who are unable to advance to the higher levels, as the (5-year) primary school completion rate would not go beyond 50.7%. Many women in the country are illiterate which accounts for the low adult literacy rate of 56.8%. Such issues call for quality education from human rights perspective, as well as in terms of developing human resources capable of supporting country's development. United Nations' Millennium Development Goals (MDGs) call for the 'achievement of primary education' for every child regardless of the gender by 2015. As an answer to the UN-led initiative, BRAC's non-formal education model, which aims to provide underprivileged children with access and opportunities to quality education, has garnered attention worldwide².

In May 2013, Akio Tsunoda, President of KUMON at the time, had an opportunity to sit down and discuss with Sir Fazle Hasan Abed regarding the possibility of partnership, when the founder and chairman of BRAC visited Japan. Having a shared idea of contributing to the development of as many countries and regions all over the world by providing individuals, particularly underprivileged children, an opportunity to learn with the Kumon Method, this meeting led to both parties coming into a decision to launch a joint pilot project in Bangladesh. Through this project, both parties hope to address various development issues, focusing on improving the country's human resource, which both believe is the foundation of everything. They believe that this can be achieved by implementing the Kumon Method. It is also worth mentioning that this joint project with BRAC is already incorporated in KUMON's mid-term policy plan, and can be viewed as a new phase in its overseas expansion. Successful partnership with BRAC would pave the way for KUMON to expand its program in other developing countries.

1.2. Objective

In partnership with BRAC, the Kumon Method is piloted for 8 months in 17 BRAC non-formal primary schools catering to children belonging to the BOP society. The program is administered to about a total of 500 students belonging to the 3rd and 4th grade. Using a randomized control trial design, impacts of the Kumon Method on the students are analyzed. Taking advantage of BRAC's resources including its infrastructure and human resource a structure for implementing the program in the schools is established.

¹ BRAC is an NGO established in Bangladesh in 1972. Presently, the BRAC is seen to be the world largest NGO. Its activities are not only limited in Bangladesh but also in African nations and Afghanistan in a variety of fields including community development, agriculture, health, education, gender, micro financing, environment, disaster control. BRAC has many social business entities the business profits of which secure its finance.

² UN Millennium Project 2005. Toward Universal Primary Education: Investments, Incentives, and Institutions. Task Force on Education and Gender Equality.

A market survey is also conducted to explore the feasibility of franchising Kumon Centers as a means to provide the program to the general public, while at the same time, generate a sustainable model for the future expansion of the program to cater to more children and individuals in the BOP sector.

1.3. Alignment with Local Development Issues

In June 2012, Japan issued its Country Assistance Program for Bangladesh, with “accelerating sustainable economic growth with equity and bringing people out of poverty towards becoming a middle-income country”, as its basic principle(major objective) and “overcoming social vulnerability” as one of its priority areas(medium objectives). This was a declaration by the Japanese Government of its commitment to contribute Bangladesh’s efforts in achieving the United Nations’ Millennium Development Goals (MDGs) in areas including poverty reduction, primary education, and supply of safe potable water. The aid policy specified that “regarding education, particularly in the area of primary education, Japan will contribute to increasing primary education completion rate by improving the quality of primary education” (MOFA, 2012). In compliance with the aid policy, JICA is currently implementing “Strengthening Primary Teachers Training on Science and Mathematics under PEDP-II. In addition to this, the organization has also been dispatching volunteers from Japan in the field of education, mainly consisting of science and mathematics teachers and primary school teachers.

The BOP business, proposed in this paper, aims to improve the quality of education by implementing the Kumon Method in BRAC’s non-formal primary school program which has been around since 1985, and the like, which caters to children who don’t have access to education. This fits very well with Japan’s ODA policy. If the students can solidly acquire strong basic academic skills through the Kumon Method, the program will have a significant impact on the overall improvement of the quality of education in Bangladesh. Such improvements would be evident in the increased rate of completion and advancement to the higher educational levels, as well as, reduced rate of drop-outs and attrition, which we expect to result from this project. Furthermore, in the long run, this partnership aims to expand its reach by providing the Kumon Method, not only to more BRAC Primary School students, but also to a wide variety of individuals including pre-primary school aged children, formal education sector (public schools, etc.), students in the secondary level and above, and illiterate adults. A substantial impact on the quality of education in the country can be expected.

1.4. Impact of the Kumon Method on the Development Issues

In partnership with BRAC, an international development NGO, the project aims to enable children to acquire “strong basic academic skills” as well as, nurture their “self-learning skills” through the provision of the Kumon Method of Learning. In this context, the following four features of the Kumon Method should be effective solutions to the country’s major problem of low quality of education as well as the high dropout and attrition rate that result from it.

1. **Individualized Instruction - The “Just-right” Level of Study**
2. **Self-Learning**
3. **Progress in Small Steps**
4. **The Role of the Instructor**

Kumon (Program) is implemented in 49 countries and regions, including neighboring countries such as India, Vietnam and Indonesia. One significant factor which makes it possible to translate across borders is the method’s versatile nature. The learning materials are intended for strengthening students’ ‘basic academic skills’ while nurturing their ‘self-learning skills’ and not necessarily oriented at helping students acquire only the skills needed for passing exams. KUMON’s know-how and experience accumulated through years of expansion to 49 countries and regions may also prove beneficial for achieving success in this project.

One challenge when entering the Bangladesh market is producing the worksheets and other learning materials. This would not be a major issue with Kumon Math Worksheets, due to its universality, as production would simply require translating the materials to Bengali. On other hand, localization of Kumon English Worksheets as well as creation of materials for learning the native language, Bengali, would require ample amount as this may involve development of new materials.

1.5. Contribution to the Solution for Development Issues

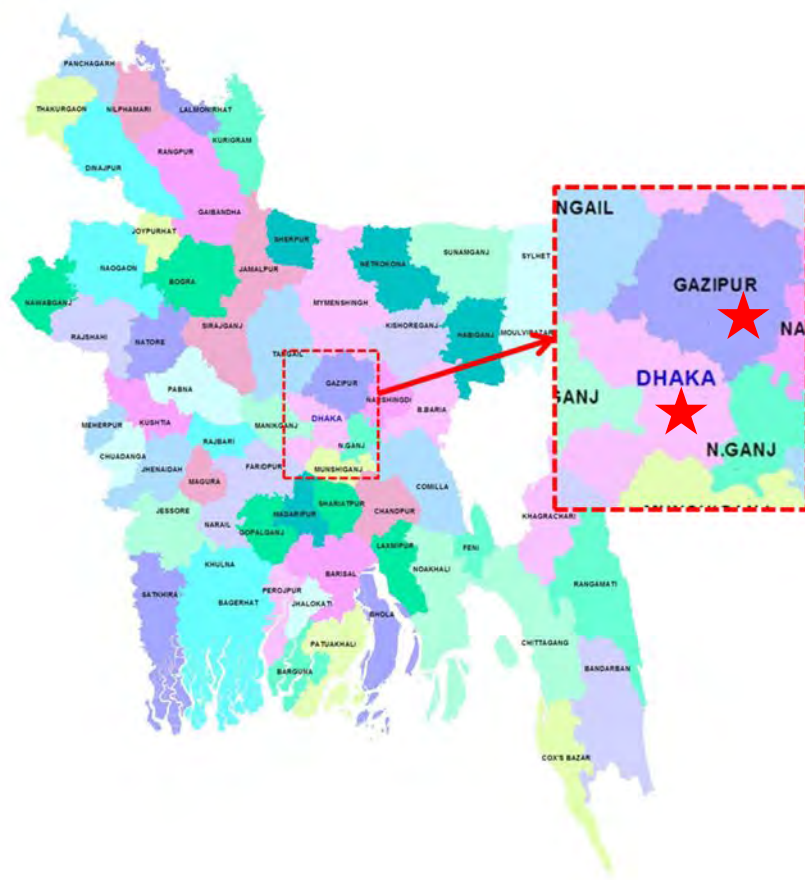
The study aims to examine the effectiveness of the Kumon Method on the following development issues, with the respective expected results:

1. Strengthening children’s basic academic skills by providing the Kumon Method, can contribute improving the attrition rate and drop-out rate, which are major issues in school education in the country.
2. Improvement of BRAC school teachers’ academic ability and instructional/teaching ability, which are expected results from their training on how to implement the Kumon Method, can contribute to the improvement of quality of education. In turn this can also contribute to the improvement of students’ academic ability.
3. Recruiting women as Marking Assistants (MA) to aid teachers in the program can lead to the expansion of job opportunities for women living in the community.

1.6. Study Area

The study was conducted in 3 areas located in the urban city of Dhaka and in areas in the rural province of Gazipur.

Figure 2: Map of Bangladesh(Study Area)



Source: Ministry of Local Government, Rural Developments and Cooperatives: Accessed from: <http://www.lged.gov.bd/ViewMap.aspx> on March 2, 2015

1.7. Method, Target and Period of Study

1) Data Gathering and Market Survey

The study was conducted jointly by Kumon Institute of Education Co., Ltd. and KRI International Corp. Primary and secondary data were collected examining the following themes: “Current development issues of the target area and expected positive effects of the BOP business” and “Current development issues related to the basic education in Bangladesh.” Methods applied include: (1) Literature Review; (2) Interviews [3] Questionnaire surveys.

BRAC maintains a good, solid relationship with the Bangladesh government bodies. This was particularly beneficial for the study when requesting cooperation and collaboration from the relevant government bodies when studying the government’s educational policies and other related issues.

2) Development of Business Model and Plan

A pilot project was carried out to verify the effectiveness of the Kumon Method in Bangladesh. Using results of the

study, and based on the existing proposal, the business model will be finalized upon discussions between KUMON and BRAC. Moreover, possible areas of cooperation with JICA was also be explored during the period. These were conducted simultaneously with the above mentioned “Market Survey”.

3) Pilot Project

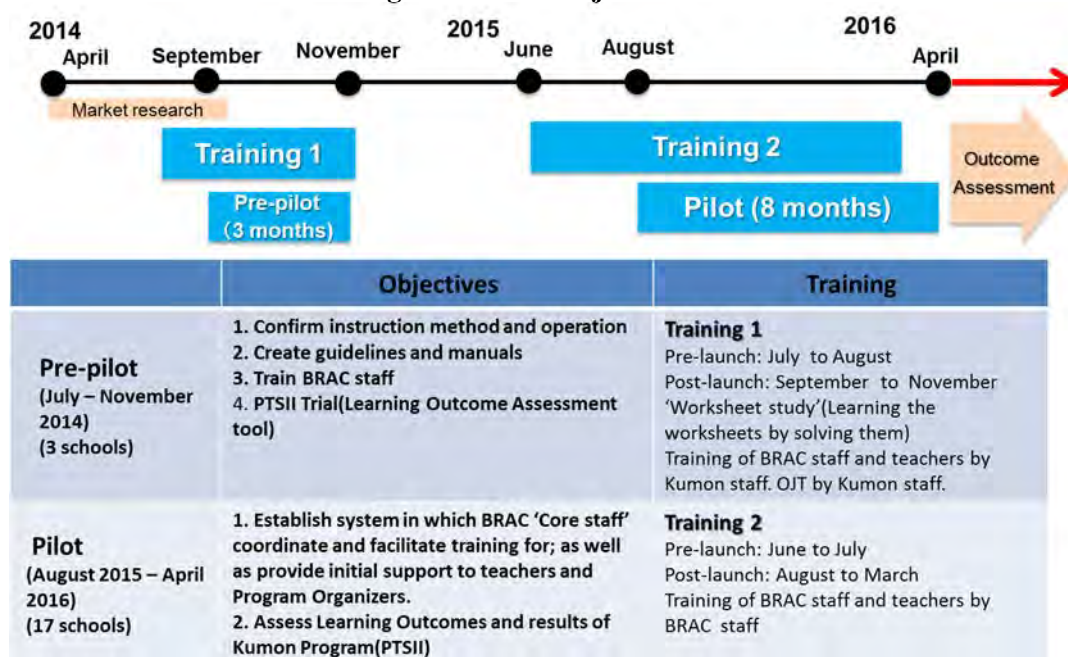
A trial was initially conducted in 3 BPS for 3 months. During the trial, KUMON staff trained BRAC field staff and BPS teachers participating in the trial. After the trial was initiated, KUMON staff conducted periodic follow-up training sessions. Following the successful trial, the pilot was carried out in 17 BPS. Headed by core BRAC staff (with the support of KUMON staff) the training was administered to participating field staff and BPS teachers. Periodical follow up training sessions were given by KUMON staff which served as an OJT for core BRAC staff, with the objective of improving BRAC staff’s understanding and knowledge of the Kumon Method as well as develop their skills in implementing the method. Through this process, the foundation for expanding the Kumon Method within BRAC was established. At the same time, whether a training system can be established within BRAC to develop more BPS teachers and staff in the future was also examined.

(Method of Implementation)

Students report to school 30 minutes before regular classes to study Kumon Math. Students are given a set of 5-10 worksheets (depending on the level) everyday, which when completed are submitted for marking. Students are to obtain a perfect score of 100 to complete their set for the day (Students who are not able to complete their work within the allotted 30 min, are to complete them in the next session the following day, before starting their set for that day.) In each school, two women living in the community are recruited as marking assistants. This helps reduce the burden on BPS teachers when administering the program, improving efficiency and effectiveness of the program.

1.8. Study Period and Target

Figure 3: Pilot Project Schedule



(※Due to political instability in the country at the beginning of 2015, the launch of the pilot which had been initially scheduled for Feb 2015 had been postponed to August 2016)

1.9. Study Results

1.9.1. Market Survey Results

i. Current development issues of the target area and expected positive effects of the BOP business Current development issues related to the basic education in Bangladesh

The education system of Bangladesh includes 5-year primary education and 7-year secondary education which is farther divided into 3-year junior secondary, 2-year secondary, and 2-year higher secondary education. Bangladeshi schools can also be categorized by three streams mainly according to their adopted curriculum, including national curriculum schools, English medium schools adopting a foreign curriculum, and *madrasa* schools giving importance on the religious education of Islam. In addition, outside the formal education system, non-formal education is provided for those who have no opportunities of formal schooling.

With regard to the enrollment in primary education, the gross enrollment rate was 107.6% and the net enrollment rate was 98.1% in 2012, which virtually shows Bangladeshi children's full access to the primary education. Meanwhile, low "internal efficiency" of education caused by frequent repetitions and dropouts of students is a current issue; approximately one student out of ten cannot promote to the next grade every year, and only three fourth of the new entrants may complete their study in a primary school. As a solution to the problem of dropout, a research shows the importance of mitigating the risk of repetition through the successful mastery of learning contents.

In an interview with a high official of the Ministry of Primary and Mass Education, the current issues related to mathematics education includes insufficient teachers possessing adequate subject matter knowledge, excessive use of private tutoring because of the low capacity of school teachers, too much focus on the success in examinations rather than acquisition of knowledge and skills, and so forth. Therefore, the Third Primary Education Development Program (PEDP3) urges the improvement of the quality of education and JICA's technical assistance involves one of the principal measures of the Government of Bangladesh to confront the issue.

i. Business and Investment Environment

Political and economic situation in Bangladesh

In Bangladesh, economic growth has been firmly continuing with the average annual GDP growth rate of 6.1% since 2003. Principal international financial institutions consider its economy as a promising investment destination. Government statistics indicate 1.5 times increase of the average monthly household income between 2005 and 2010 (from 7,203 BDT to 11,480 BDT) and double increase of household expenditure in the same period (from 6,134 BDT to 11,200 BDT). Attracted by abundant and cheap labor, a number of foreign firms extend their business to Bangladesh so that employment opportunities are relatively well afforded.

Meanwhile, political instability and deterioration of security is considered as restricting conditions for business and investment. Violent general strikes have been repeated since the general election of January 2014 and the terror attack took 20 lives, including those of 7 Japanese, in Dhaka in September 2016.

Policies, laws, and regulations related to the foreign investment

In Bangladesh, according to the National Industrial Policy of 2010, foreign companies can in principle be 100% owned, except for in the "reserved industries" and the "controlled industries". A number of institutions are established to promote foreign and domestic investment, including the Board of Investment Bangladesh (BOI), Bangladesh Economic Zones Authority (BEZA), etc.

Despite favorable business environment for foreign investors, the following issues, among others, were identified during this study as potential risks on a new business in the field of education:

-
- The effects of the court's suspension of the establishment of a new company providing paid educational services are uncertain. In some other industries suspended in the same manner, a Japanese company was allowed to commence business and another was not allowed.
- No formal permission is required to establish an educational institution, such as a tutoring center, apart from the private schools. Meanwhile, the government tends to see tutoring centers in a negative manner.
- No limitation exists upon the amount of tutoring fees. However, while making the financial plans, a due consideration is needed in terms of the partial loss in collecting the service fees from the customers.
- The import registration certificate is required to import learning materials produced in Japan. The last 4 digits of HS code will be determined by the Bangladesh Customs so that careful attention should be given to avoid unfavorable conditions.
- Procedures for the copyright registration are determined. However, legal remedy in this domain is limited in practice.

ii. Current state of the targeted BOP population

According to a research carried out in 2012 by the Dhaka University, the high income group (earning monthly household income of 40,000 BDT or more) accounts for 2.7% of the total population, the middle income group (between 20,000 BDT and 39,999 BDT) accounts for 31.3% and the low income group (less than 20,000 BDT) accounts for 66.0%. It is also suggested that the proportion of the middle income group is increasing.

The present study investigated the people's probable tendency of attitude towards the Kumon Method according to their general perspective on education. Interviewees were students' parents of eight selected schools. Considering the presumed business model that was to be examined through the study, four target schools were selected from the residential areas of relatively high income population. In addition, since there is a tendency that different income groups' people send their children to different types of schools (e.g., government school, English medium schools, kindergarten schools, etc.) and use private tutoring services in different manners, various types of schools were

selected for the purpose of comparison. Furthermore, two selected schools were located in a rural area and two others were BRAC schools in a district for the pilot study. Therefore, the study could analyze the characteristics of the perspective on education according to the income groups. The result of the analysis suggests that Kumon Method would be better accepted by parents of the high income group because they are familiar with educational theories giving importance to children’s capacity of self-learning. Characteristics of each group are summarized as follows:

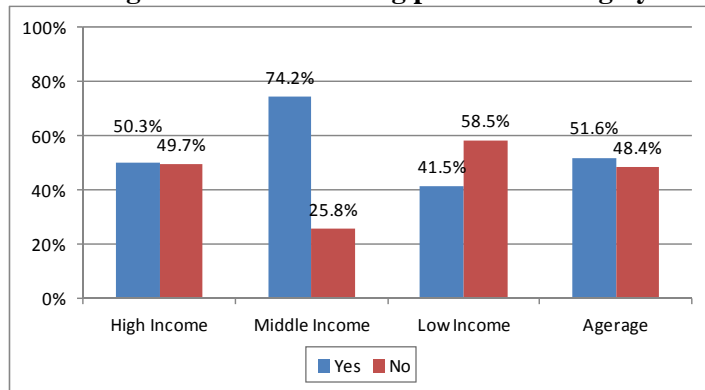
- High income group Parents received high level of education and seek good education for their children. Their strong wish to make their children acquire additional knowledge and skills motivates them to use private tutoring. Many parents in this group send their children to an English Medium School implementing a foreign curriculum including the British one. Many of those schools adopt (or try to adopt) internationally up-to-date teaching methodologies and contents which also give influence on the way of thinking of the students’ parents. For instance, it would be true that they are acquainted with relatively new perspective on education in Bangladesh, such as importance of individual children’s learning (active learning to develop children’s capacity of self-learning and their potential.)
- Middle income group The majority of the parents in this group completed secondary education while not a small number of them (approximately 40% of fathers and 20% of mothers) received higher education. Many of them send their children to a government school or a private school called “Kindergarten School” which follows the national curriculum and uses Bengali as medium of instruction. It is often pointed out that undue importance given to the knowledge transfer during the lesson is one of the problems in government schools. Therefore, the parents’ educational perspective is familiar with conventional ways of teaching, such as importance of the acquisition of knowledge and skills taught at school. Their level of motivation to use private tutoring for children’s high marks in examinations is situated between that of the high income group and the low income group. The same tendency is observed with regard to the motivation level for children’s acquisition of additional knowledge and skills.
- Low income group A large number of parents never went to school and more than half of them completed barely primary education or less. They wish their children to get out from the current underprivileged life and find a good job by means of education. Meanwhile, they do not have a lot of information about new educational methods so that many of them have a conventional perspective, such as importance of memorization of the taught knowledge. Therefore, the percentage of using private tutoring for children’s better marks in examinations is the highest in this group.

iii. Market for Education Business

In order to understand the current market for the education business and to analyze the potentially appropriate price for KUMON’s educational service, the present study carried out a questionnaire research with parents.

According to the result of the research, 51.6% of the interviewed households use private tutoring services, including tutoring centers, private tutoring, additional paid lessons at school, etc (see Figure 4).

Figure 4: Percentage of households using private tutoring by income group



Monthly expenses for education of the interviewed households were also investigated. According to the result, the average monthly expenses for one dependent child’s education is about 10,000 BDT in the high income group and 700 BDT in the low income group (see Table 1).

Table 1: Average monthly expenses for education of a household and that of one dependent child

Income Group	Max.	Min.	Average	Number of dependent child	Expenses for one dependent child
High Income	500,000	500	19,724	2.0	9,862
Middle Income	30,000	200	6,292	2.1	2,996
Low income	16,000	0	1,972	2.8	704
50,000 or more	500,000	3,000	23,337	2.1	11,113
40,000 - 49,9999	25,000	500	9,677	2.0	4,839
30,000 - 39,9999	30,000	1,000	8,576	2.0	4,288
20,000 - 29,9999	15,000	200	5,010	2.1	2,386
10,000~19,9999	16,000	0	2,726	2.4	1,136
Less than 10,000	12,000	0	1,060	2.6	408
Total	500,000	0	7,933	2.3	3,449

A price sensitivity measurement (PSM) was carried out to search the most reasonable price for the service which could be provided by a Kumon Center. As a result, approximately, the service fees should be from 1,000 to 2,000 BDT if targeting the high income group, and from 500 to 1,000 BDT to consider the middle income group as main target (see Table 2).

Table 2: Price sensitivity of the potential consumers for KUMON's educational service by income group

Income Group	Point of Marginal Inexpensiveness	Optimal Pricing Point	Indifference Pricing Point	Point of Marginal Expensiveness
High Income	933	979	1,472	1,929
Middle Income	400	473	566	766
Higher Middle (30,000-39,999)	475	491	779	970
Lower Middle (20,000-29,999)	300	400-450	495	650
Low Income	187	282	282	382

Very positive answer was given by the interviewees with regard to their possibility to purchase KUMON's educational service if the price range falls between their perceived "expensive" price and "inexpensive" price. 31.1% of them answered that they are "very likely" to purchase it and 40.1% of them are "likely" to do so.

1.9.2. Pilot Project Results

KUMON teamed up with Prof. Yasuyuki Sawada, Faculty of Economics, University of Tokyo, and his team of researchers, to conduct a study on the effectiveness of the Kumon Method in improving cognitive and non-cognitive abilities of underprivileged children studying at BRAC Non-Formal Primary schools(BPS).

i. Research Design

Employing a Randomized Control Trial design, and applying 'Difference in Differences' approach, the impact of the Kumon Method after 8 months of implementation on 17 BPS was measured.

- 34 schools were randomly selected out of 179 schools in 4 branches of BEP with grade specific strata.
- Randomized Control Trial (RCT); 'Difference in Differences':17 treatment group schools(500 students, 17 teachers) & 17 control group schools(500 students, 17 teachers) in the 3rd and 4th grades.
- 8 months tracking data

ii. Results of the Study

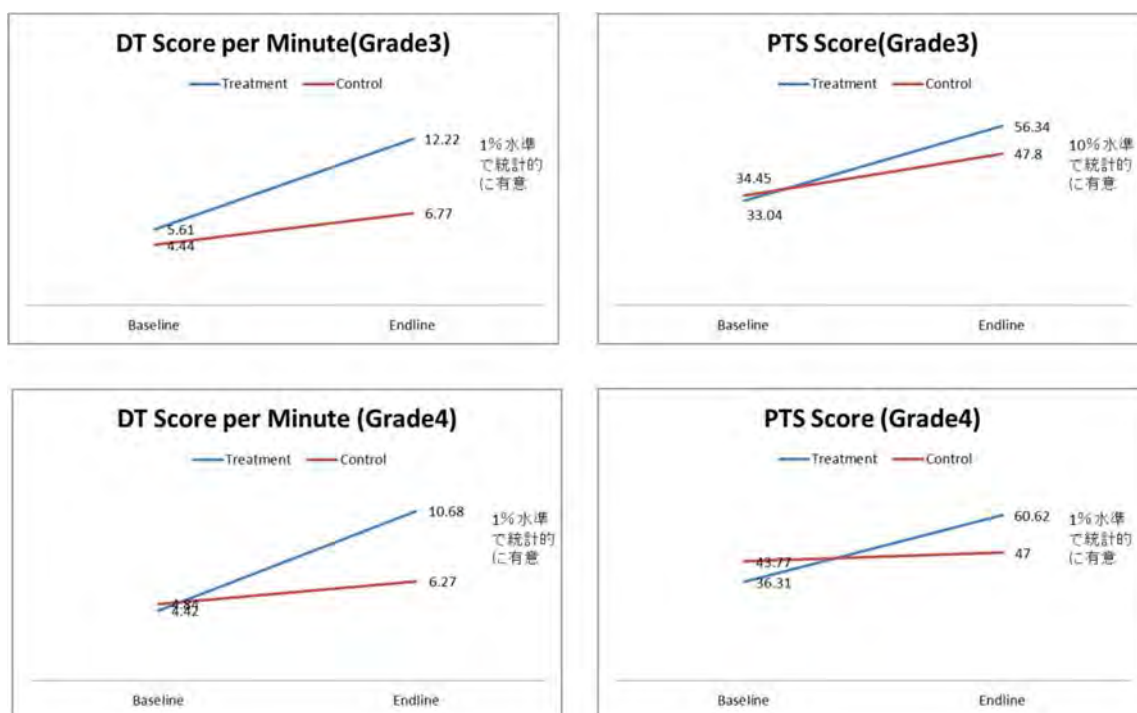
Results from “Individualized Self-learning Program to Improve Primary Education: Evidence from a Randomized Field Experiment in Bangladesh (Sawada, et al, 2017)”

Based on rigorous evaluation of Kumon Method’s impacts on BRAC Primary School children, the following are results worth noting:

1. Children’s cognitive abilities improved after intervention.
2. Improvements were not limited to cognitive abilities, as improvements in non-cognitive skills were evident in children, particularly in those who had low non-cognitive skills prior to the intervention.
3. Improvements in cognitive skills were particularly apparent in children who had high non-cognitive skills prior to intervention.
4. Through the intervention, BRAC Primary School teachers became better at predicting/evaluating students’ performance.

The effectiveness of the KUMON Method was verified using the Diagnostic Test(DT), used to determine the starting point in Kumon based on Speed(Time) and Accuracy(Score), and Proficiency Test of Self-Learning II (PTSII), an assessment tool developed by KUMON for measuring skills/abilities needed for ‘self learning’. Graph ** shows the baseline and endline results of DT and PTSII comparing the treatment and control schools, in their respective grade levels. The results suggest an evident improvement in treatment schools in both measurement tools.

Figure 4: DT and PTSII Results



© Yasuyuki Sawada, An Le, Minhaj Mahmud, Mai Seki, and Hikaru Kawarazaki (2017). “Individualized Self-learning Program to Improve Primary Education: Evidence from a Randomized Field Experiment in Bangladesh” mimeographed, Tokyo, Japan, February 2017.

The latter section of PTSII consists of 27 survey questions which aim to measure non-cognitive abilities. The 27 survey questions that KUMON has prepared, contain 10 questions which are consistent with Children’s Perceived Competence Scale; CPCS (Harter, 1979), 8 of them with Rosenberg Self-Esteem Scale; RSES (Rosenberg, 1965); and Grit Scale. The rest are more specific to the Kumon Method of learning original with 3 Bangladesh specific questions. The results show improvements not only in cognitive abilities but in non-cognitive abilities as well (particularly children who had low non-cognitive abilities during the baseline test) (as shown in Figure 5)

Figure 5: PTSII Results: Significant Impact on Non-Cognitive Abilities
Significant Impacts on Non-Cognitive Abilities
(DID, heterogeneous effects)

Impacts of KUMON Program on Students' Outcomes						
Dep. Var	Grade 3			Grade 4		
	Improve in Rosenberg	Improve in CPCS	Improve in GRIT	Improve in Rosenberg	Improve in CPCS	Improve in GRIT
Treatment	5.586*** (1.085)	7.767*** (1.279)	2.078** (0.807)	2.234 (1.646)	2.281 (1.832)	-0.365 (0.374)
Treatment*Male	-0.679 (1.084)	-1.785 (1.351)	0.0271 (0.517)	-1.271 (1.292)	-0.949 (1.713)	-0.540** (0.209)
Treatment*Initial_Cog	1.739** (0.594)	1.900** (0.715)	0.537 (0.450)	-0.0739 (1.073)	0.267 (1.163)	0.288 (0.293)
Treatment*Initial_Noncog	-5.559*** (0.816)	-8.188*** (1.201)	-3.203*** (0.729)	-2.242** (0.914)	-3.271*** (1.013)	-1.735*** (0.291)
Treatment*Wealth_Index	-0.252 (0.385)	-0.116 (0.389)	0.00520 (0.248)	-0.650 (0.671)	-0.929 (0.774)	-0.260 (0.286)
Constant	21.34*** (5.977)	25.11*** (7.114)	-0.241 (3.964)	8.718 (7.091)	12.64 (9.887)	2.341 (2.293)
Other Control Variables	Yes	Yes	Yes	Yes	Yes	Yes
Num of Obs.	261	261	263	221	221	202
R-squared	0.233	0.266	0.271	0.255	0.272	0.335

School level Cluster Standard Error *** p<0.01, ** p<0.05, * p<0.1

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Moreover, the results suggest that the higher non-cognitive abilities prior to intervention the higher the cognitive abilities become after the 8 month intervention.

Figure 6: PTSII Results: Relation between cognitive and non-cognitive abilities
Significant Impacts on Cognitive Abilities
(DID, heterogeneous effects)

Impacts of KUMON Program on Students' Outcomes				
Dep. Var	Grade 3		Grade 4	
	Improve in DT Score	Improve in PTS Score	Improve in DT Score	Improve in PTS Score
Treatment	5.266*** (1.194)	11.03** (4.341)	4.147*** (0.890)	18.76*** (3.065)
Treatment*Male	0.816 (0.937)	-0.133 (2.470)	1.418 (1.221)	2.685 (1.915)
Treatment*Initial_Cog	-2.340** (1.085)	-2.692 (2.667)	-0.211 (1.825)	-0.852 (2.277)
Treatment*Initial_Noncog	0.779* (0.433)	-6.209 (3.928)	2.786** (0.978)	5.231*** (1.392)
Treatment*Wealth_Index	0.127 (0.224)	-2.017** (0.945)	1.817** (0.650)	2.371 (2.077)
Constant	5.240 (6.020)	-4.535 (11.02)	8.030** (3.659)	-3.066 (12.65)
Other Control Variables	Yes	Yes	Yes	Yes
Num of Obs.	311	309	204	224
R-squared	0.364	0.335	0.236	0.349

School level Cluster Standard Error *** p<0.01, ** p<0.05, * p<0.1

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A questionnaire survey was administered to BPS Teachers in both the treatment schools and control schools before and after the 8-month intervention. The questionnaire included a section in which teachers evaluate (on a 5 degree scale) the performance and abilities of every one of their students. The graph below shows the correlation between how teachers perceive the performance of their students and the students' performance based on the DT and PTSII results. The data suggest improvement in teachers' ability to observe students' performance after the intervention.

Figure 7: BPS Teacher’s Assessment Abilities of Students

Impacts on Teacher’s Assessment Abilities

Correlation Values			
Dep. Var	All Sample	Grade 3 Students	Grade 4 Students
DT Score			
Teacher_evaluation*(1-Treatment)*(1-Endline)	0.689*** (0.117)	0.771*** (0.162)	0.575*** (0.155)
Teacher_evaluation*Treatment*(1-Endline)	0.280* (0.155)	0.177 (0.132)	0.747** (0.285)
Teacher_evaluation*(1-Treatment)*Endline	1.051*** (0.174)	1.328*** (0.182)	0.462*** (0.154)
Teacher_evaluation*Treatment*Endline	1.818*** (0.510)	1.344 (0.778)	2.220*** (0.583)
F-test	3.43*	0.46	6.24**
Num of Obs.	1,342	790	552
R-squared	0.830	0.840	0.820
PTS Score			
Teacher_evaluation*(1-Treatment)*(1-Endline)	2.348 (2.176)	-0.325 (3.256)	4.862*** (1.163)
Teacher_evaluation*Treatment*(1-Endline)	2.469* (1.295)	2.101 (1.633)	3.792*** (1.191)
Teacher_evaluation*(1-Treatment)*Endline	3.907*** (0.525)	4.258*** (0.753)	3.608*** (0.481)
Teacher_evaluation*Treatment*Endline	6.065*** (0.877)	6.849*** (1.381)	7.900*** (0.946)
F-test	1.14	0.00	17.93***
Num of Obs.	1,429	820	609
R-squared	0.927	0.924	0.943

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Results from interviews conducted by KUMON

After the 8 month-pilot, BPS teachers, field staff, as well as selected students were interviewed on the changes they experienced (on children) resulting from the intervention. Below are some of their responses which indicated changes in students’ academic skills as well as in their behavior in regular classes.

a. Academic Skills

- Students became quicker in calculation.
- Students came to be more able to cope up with their math classes.
- Students came to enjoy math classes more.

b. Behavior and Attitude in School

- Students who had disliked math became enthusiastic to participate in their classes
- Students developed a positive attitude not only towards their mathematics classroom lessons but also towards their other classroom lessons. (For instance, students who used to be too shy to express themselves started to actively participate in the classroom lessons. Students who used to be silent began to speak up.)
- Students who benefitted from the Kumon Method became more disciplined compared to those in other schools that did not study Kumon. The pupils come to school in time.
- The rate of school attendance improved. Pupils who used to be reluctant to go to school are now eager to come to school.

Summary of Pilot Project Results related to Development Issues

1.) Strengthening children’s basic academic skills by providing the Kumon Method, can contribute improving the attrition rate and drop-out rate, which are major issues in school education in the country.

Through the 8 month pilot project, the Diagnostic Test and PTSII results evidently showed improvements in students, not only in their cognitive but also in their non-cognitive abilities. This was particularly evident among those who had low non-cognitive abilities at the beginning. On the other hand, those who had high non-cognitive abilities in the beginning had more dramatic improvement in their cognitive abilities. According to feedback from teachers and BRAC staff, students exhibit more enthusiasm and are more motivated toward their studies in regular classes. They also described students as having more positive attitude about coming to school, which is also evident in the improved attendance, and punctuality of students.

In 2015, the Sustainable Development Goals (SDGs) was adopted by the UN nations and organization as the successor to the Millennium Development Goals (MDGs) for the next 15 years, in their continuous efforts to achieve global development. Both initiatives highlight education as a goal for development, with the latter placing a strong emphasis on “inclusiveness” and “quality education”.

“Learning crisis” in basic education, resulting from the poor quality of education, will be highlighted as the major issue in the World Development Report (WDR) to be released by the World Bank in 2018. The World Bank is seeking for interventions that are effective in improving students’ learning outcomes. This creates an even an even bigger demand, or rather, a more crucial role for the Kumon Method.

2.) Improvement of BRAC school teachers’ academic ability and instructional/teaching ability, which are expected results from their training on how to implement the Kumon Method, can contribute to the improvement of quality of education. In turn this can also contribute to the improvement of students’ academic ability.

The study conducted by Professor Sawada showed an improvement in teachers’ ability to assess students’ academic abilities and performance, also eliminating stereotyping when evaluating students. Interviews with staff revealed that through the daily operation and implementation of the Kumon Method, the teachers in their regular classes tend to praise students more. This may suggest that teachers became more observant and attentive to each individual student.

Mandatory to the training program, teachers were required to solve worksheets to gain more firsthand and more practical understanding of the method and the materials. As a result, similar to the trial, we received feedback that the teachers themselves experienced improvement in their calculation skills, particularly in terms of speed.

3.) Recruiting women as Marking Assistants (MA) to aid teachers in the program can lead to the expansion of job opportunities for women living in the community.

Employing women as marking assistants for the program, created new employment opportunities for women living in communities where the schools are located. This implies that the program in BPS can contribute to the expansion of employment opportunities for women living in poverty.

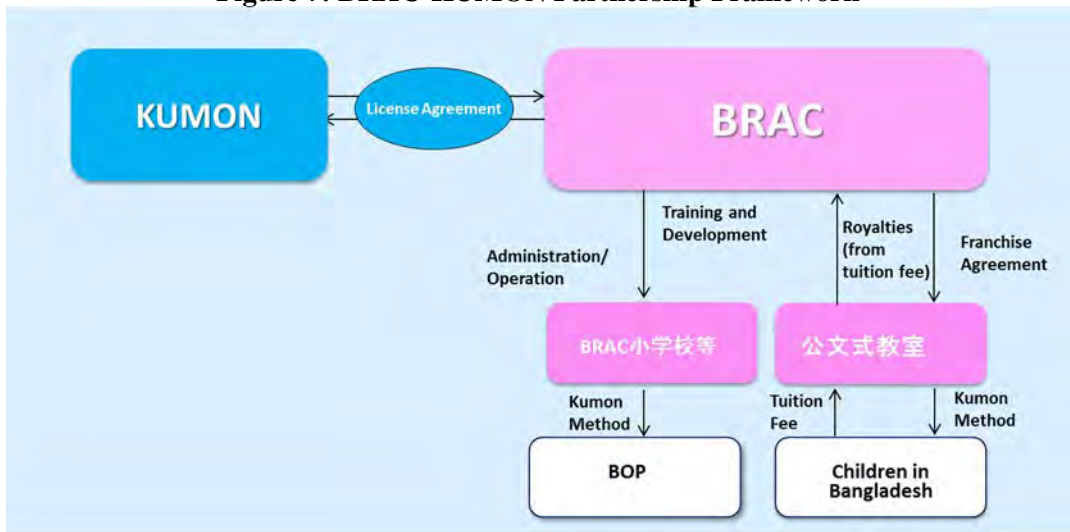
The possibility of employing former BRAC school teachers, women living in poor communities, as future instructors at Kumon Centers, which would cater to middle-income class households and above, was also explored. However, it was discovered through the study that this may be farfetched, basing on current teachers’ capability and capacity, as well as feedback from BRAC staff.

1.10. Commercialization and Future Partnership

The joint pilot project with BRAC established that it is indeed possible to administer the Kumon Method in BRAC Primary Schools. Moreover, it was verified that the method was effective on children belonging to the BOP as reflected in the improvements in their cognitive and non-cognitive abilities of BPS students. The pilot also showed evidence of improvement in teachers’ ability to assess students.

With such promising outcomes, both parties agreed to continue their partnership and explore ways of expanding their reach to all children in Bangladesh as an effort to contribute to the improvement of the overall quality of education in the country.

Figure 7: BRAC-KUMON Partnership Framework



A new department/program will be organized within BRAC which will be responsible for all Kumon-related activities in Bangladesh. This department will handle the expansion of the Kumon Method in the country through: (1) Franchising of Kumon Centers (targeted at middle income class groups and above) and (2) Administering and

expanding the method in BRAC Primary schools and/or other programs catering to the poor.

The findings from the market study conducted on the general public during the period of the pilot were also favorable. Such include: a large population of the target age group, a general high interest and concern for education by the society as well as its tendency to utilize (paid) educational services (which is also reflected by presence of competitors such as ALOHA), and favorable attitude towards the Kumon Method. This signifies a potential market and demand for the Kumon Method. A more in-depth market study conducted jointly by BRAC and KUMON is already in progress, in preparation for the Franchise expansion.

Both parties decided to pilot 2 Kumon Centers in 2017 with its main objectives being: to verify the compatibility and compliance between the Kumon Method and the general educational needs of children in Bangladesh; to examine the feasibility of franchising Kumon Centers in Bangladesh; and; to establish the system and structure required to operate Kumon as well as develop local human resource. 2 areas in the Dhaka City will be selected as locations for the centers which will be piloted for the period of 2 years.

1.11. Conclusion, Objectives, Remaining Issues and Planned Actions

Table 3: Conclusion, Objectives, Remaining Issues and Planned Actions

Themes	Conclusion	Objectives achieved through the study	Remaining Issues and Planned Actions
Partnership	BRAC and KUMON agreed to establish partnership	<ul style="list-style-type: none"> BRAC, pleased with the philosophy, concepts, and most especially the learning outcomes of the Kumon Method agreed to help expand the method in Bangladesh. Verified that BRAC's existing infrastructure, human resource, as well as various structures/systems may be utilized/applied for implementing the program. 	None
Business Scheme	(As shown in Figure 7) BRAC and KUMON will work together in providing the Kumon Method to all children in Bangladesh, regardless of income class, with the major objective of improving the quality of education in the country.	Verified that the Kumon Method be implemented in programs such as BPS which caters to individuals in the BOP. Moreover, the pilot acquired evidence for the effectiveness of the Kumon Method in the Non-formal education context, which implies that it can contribute to Bangladesh's effort in improving its overall quality of education.	The feasibility of providing the Kumon Method to the general public (outside the BOP sector) needs further more in depth examination. With that in mind, Kumon Centers will be piloted for 2 years, which will target children mainly belonging to middle and higher in-come class groups.
Reception and Need for the Kumon Method	There is a need/demand for the Kumon method in the BOP society as BPS teachers and students expressed a strong desire to continue the program.	<ul style="list-style-type: none"> Verified that the Kumon Method is effective for improving basic academic skills ,behavior, attitude and motivation toward learning in BOP children. With regards to the general public (outside the BOP sector), the large population of the target age group, a general high interest and concern for education by the society as well as its tendency to utilize (paid) educational services suggest that there is a market for the Kumon Method. Results from the questionnaire survey suggest a general positive reception for the Kumon Method. Such findings along with those mentioned above imply a sizeable number of potential clients. 	<ul style="list-style-type: none"> Although the results of the study show a sizeable market for the Kumon Method in Bangladesh, a more in depth analysis of the market particularly regarding how much people are willing to pay for the services needs to be done. As previously mentioned, a joint market study between KUMON and BRAC is already underway. Based on the results the price for the tuition fee will be decided by August 2017.

Human Resource Development	BRAC staff are now able to take the primary role in training teachers and staff in future expansion in the BPS program.	37 BRAC Staff, consisting of head office staff (core staff), and field staff and 20 BPS teachers were trained to implement the Kumon Method for the pilot project. (They have acquired know-how and skills on the Kumon Method of instruction as well as those required for operating the program (including training)	<ul style="list-style-type: none"> • Higher quality of service, know-how, capacity and capability is required of instructors to operate and manage Kumon Centers. • Moreover, a system for maintaining the quality of service, as well as improve the sustainability of operations are also crucial.
Materials Development	Bengali version of Kumon Math Worksheets (4A to F) was produced.	Bengali version of Kumon Math Worksheets was produced for the pilot without sacrificing quality in terms of learning outcomes. Verified that local printing is possible.	<ul style="list-style-type: none"> • Discussions regarding the possibility of producing Bengali version of Kumon English Worksheets will commence once the feasibility of the FC operations is verified. • There are currently no plans to develop Kumon Bengali (Native Language) Worksheets
Commercialization	Both parties decided to proceed with concrete discussions regarding commercialization of the Kumon Method in Bangladesh and address all remaining issues.	<ul style="list-style-type: none"> • (*As mentioned in the above themes) • A shared goal for improving the quality of improving the quality of education provided, not only to BOP children, but to all children in Bangladesh had been established. 	<ul style="list-style-type: none"> • The feasibility of franchising Kumon Centers in Bangladesh will be examined. • A system for developing human resource development system will be establish for the purpose of maintaining and further improving the quality of service and operations(which includes printing, distribution, training etc) • Commercialization of the program in the BOP sector including the Kumon in BPS will commence once all the issues mentioned above are cleared

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