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THIRD ANNUAL REPORT  
OF THE  
STUDY OF USAID CONTRIBUTIONS TO THE  
EGYPTIAN BASIC EDUCATION PROGRAM

(Contract No. 263-0139-C-00-3009-00)

SUMMARY  
OF  
SIGNIFICANT FINDINGS

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CREATIVE ASSOCIATES, INC.  
WASHINGTON, D.C.

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CREATIVE ASSOCIATES, INC.  
SUMMARY OF SIGNIFICANT FINDINGS

The study of USAID contributions to the Egyptian Basic Education Program evaluates the impact of project-financed construction, commodities, and technical assistance on the access to and efficiency of primary education in Egypt. Specifically, the study assesses whether project-financed contributions:

- increased the enrollment and persistence of children in Basic Education, particularly the targeted group of educationally disadvantaged rural and female children;
- increased student achievement and the acquisition of skills; and
- established an empirical base for decision making or help develop programs that increased the relevance, efficiency, and effectiveness of education.

The goals of the study are threefold:

- to evaluate impact;
- to determine what factors affect the desired outcomes of increased enrollment, persistence, and achievement, thereby accelerating or lessening the impact of project interventions; and
- to provide basic information about education in Egypt that is useful in policy decisions and future project design.

The four-part study compared quantitative data from the new schools and existing, control schools ("extensive study"); gathered and analyzed qualitative information on educational participation from a sample of households and new schools ("intensive study"); assessed the impact of equipment provided by the project; and considered the results of technical assistance provided.

The Third Annual Report expands on the two previous annual reports by reporting new findings and increasing the evidence for earlier findings. This section summarizes the significant findings. The section following presents recommendations.

## I. IMPACTS ON ENROLLMENT

### A. Project construction has had a significant impact on increasing enrollment.

- In the first year after new schools opened, grade one enrollments increased an average of 15 percent for boys and 29 percent for girls in the areas where the new

schools are located. Project impact on enrollments was considerably higher, therefore, in the first year alone than the 9 percent increase projected as a result of project construction.

- In the second year after school opening, the impact was less than in the first year, but still significant: 10 percent increase for boys and 17 percent for girls in the catchment area.
- The corresponding figures for grade one enrollment increases at the control sites are 3 percent for boys and 8 percent for girls in the first year; 1 percent and 3 percent, respectively, in the second year.
- Overall, for the two years period, total enrollment, grades one through six, increased 25 percent for boys and 46 percent for girls.

Comment. Recent increases in enrollment rates in the catchment areas of new schools and in the control sites, independent of the project, attest to the general eagerness of parents to educate their children. Enrollment remained low, however, in the new school villages until the new schools opened. The new schools permitted more children to join the rush for education. The impacts on enrollment represent children who would not have gone to school without the new facilities. Some are from the new school village itself; some are children newly enrolled in related schools because places were left vacant there by children going to the new schools.

Grade one enrollments in schools of the catchment area rose dramatically in the first year of new school opening, but rose less dramatically in the second year. In the first year, new schools often accepted backlogs of 7-year-olds, all 6-year-olds, and sometimes 5-year-olds. By the second year, therefore, the pool of eligible children was considerably reduced. Since most of the eligible-age cohort were enrolling in grade one from the first year of opening, a similar increase in the rates the following year could not occur.

B. Impact on enrollment of project construction was greatest for the target disadvantaged groups.

- Impacts on initial enrollment were greater in rural than urban villages.
- Girls' rates of increase were greater than boys'.
- Since the opening of new schools in the remote rural villages of the intensive sample, 74 percent of girls and 78 percent of economically disadvantaged children have enrolled, an increase from 69 percent and 60 percent, respectively, from two years preceding the construction of new schools.
- The remaining unenrolled girls in the intensive sample come from families with a history of resistance to educating girls.

C. A number of factors affect enrollment of children in grade one and therefore affect the extent of project impact.

- Distance. Historically, schools located close to children's homes have resulted in high ratios of grade one enrollment. In the younger generation of the intensive sample, when a school was located within one kilometer of the children's homes, 94 percent of males and 72 percent of females enrolled.
- Crowding. The new schools that showed crowding in the first year showed less impact on enrollment the second year than schools without crowding in the first year. In the new schools of the extensive sample, in urban and rural areas, half of the grade one classes evidenced crowding (45 or more pupils per class) in the first year and two-thirds were crowded after the second year.
- Economic level of household. The economic level of the household bears a strong relationship to rates of children's enrollments, with the strongest impact on girls' enrollments. Rates of enrollment increase dramatically as economic levels of households rise and rates of completing grade 9 increase modestly.

II. IMPACTS ON PERSISTENCE IN GRADES TWO THROUGH SIX

A. Project construction has significantly increased the persistence of children in grades two through six (using dropout as a proxy measure).

- A reduction in dropout rates attributable to project construction occurred over and above the decline in dropout rates that has been occurring independent of project interventions (an increase in persistence in the control sites over the six-year period between 1980/81 and 1985/86 was 14 percent for boys and 45 percent for girls).
- In the first year alone after new schools' opening, a decline in the dropout rate of 6 percent for boys and 12 percent for girls can be attributed to the construction. In the second year, the decline in rate of dropping out attributable to new school construction was an additional 6 percent for boys and 17 percent for girls.
- Thus, for the first two years after new schools' opening, the increase in persistence was 12 percent for boys and 29 percent for girls.

Over 90 percent of present 13-years-olds in the intensive sample who enrolled at one time have achieved the grade five level assumed to be the functional level of literacy.

Comment. Though project construction has had statistically significant effect on the dropout rate, the fact of already high levels of persistence to the higher grades of the primary level suggests that greater emphasis be placed on recruitment to grade one rather than on programs to reduce dropout. Both community and school intensive studies showed lower dropout rates than World Bank studies conducted in the late 1970s. Trends in the extensive study also suggest that children are staying in school longer.

B. Project construction has had an impact on the persistence of target disadvantaged groups.

- Impact on persistence ratios was higher for girls than for boys, in the extensive sample.
- Since the opening of new schools, of once-enrolled 9- to 12-year-olds in the intensive sample, 98 percent of boys, 90 percent of girls, 94 percent of children in remote rural villages, and 86 percent of economically disadvantaged children persisted to higher grades. These compare to persistence rates, in the two years preceding construction of new schools, of 91 percent of boys, 82 percent of girls, 91 percent of children in remote rural villages, and 82 percent of economically disadvantaged children.

C. A number of factors affect the dropout rate of children, not addressed by project interventions.

- Academic failure. Males dropout primarily because of academic failure.
- Sex-role related factors. Females dropout primarily as a result of sex-role related factors. However, once-enrolled girls dropout at roughly the same rates as boys although they tend to dropout at an earlier age.
- Grade repetition. Dropouts repeat grades more often than other students. Over one-half the dropouts of the intensive sample repeated at least one year before dropping out; only a third of those who completed grade nine repeated a grade.
- Distance. Dropout increases with the distance between school and home.
- Economic level of the household. Dropout decreases for boys and increases for girls with increases in the economic level of the household.

### III. IMPACTS ON EFFICIENCY

A. Project construction has had a significant impact on decreasing the wastage caused by dropout, particularly for the target disadvantaged groups.

- See the figures cited in IIA and IIB, above.

B. Current state.

- Of the 15- to 25-year-olds in the intensive sample (the cohort that was most recently of Basic Education age), 38 percent never enrolled and are illiterate (323); 14 percent are preliterate, having dropped out of school before grade five (116); and 49 percent are functionally literate, having completed grade five (or higher) (420).
- Out of 4,291 years of schooling purchased for this group, 6 percent (244 years) were wasted by repetition; eleven percent (478) were wasted by children dropping out before achieving functional literacy.
- Males in this group wasted higher than their share of educational resources. Although they only completed 17 percent of the successful school years (leading to functional literacy), they used 31 percent of years wasted by repetition.

Comment. Half of the 15- to 25-year-olds in the intensive sample are not functionally literate. With schools now available, most of their younger siblings enroll. Of those who enroll, however, a proportion will still dropout before achieving functional literacy. This proportion could be helped by enriching the first four years of schooling, thereby reducing dropout and repetition rates.

- Of the cohort entering grade one in 1985/86 (in the intensive sample), 75.4 percent will complete grade six in six years, assuming the current dropout and repetition rates remain constant.
- The cumulative dropout rate for the six grades of the primary level of the school sample was 10.1 percent.
- In school year 1985/86, of the 42,037 school years purchased for the intensive school sample, 1.3 percent were wasted by students dropping out before completing the functional literacy level of grade five (538) and 1 percent from grade repetition (321).

Comment. Although this wastage rate is low, it nevertheless represents a loss of resources for the GOE. If our figures reflect the situation in all Egypt and if remedial programs could reduce the inefficiencies by 50 percent, the savings would be the equivalent of adding 242 six-classroom schools operating at current efficiency levels.

#### IV. IMPACT ON EFFECTIVENESS

##### A. There is no significant difference between the achievement of literacy and numeracy in the new and comparison schools.

- In the first year after opening, sixth grade exam results did not differ significantly from matched comparison schools in either the extensive sample or the intensive school sample.

Comment. This is a positive finding, showing that the problems associated with organizing and operating a new school with new staff were not disruptive of children's learning. Since no changes in academic program were introduced in the new schools, one could not expect exam results to be higher in new schools compared with old, nor could one expect that one year in a new school would offset the effects of five years in the old schools, even if the program were better.

##### B. There is no significant difference between practical skills achievement in the new and comparison schools.

- Carpentry. Students in the new schools performed as well as did those in the comparison schools. Students scored on the average approximately 65 percent on the practical test.

Comment. The team believes the relatively low scores can be attributed to the scarcity of materials and the lack of teacher training.

- Electricity. So few new schools include electricity courses in their program that conclusive comparisons could not be made between new and comparison or urban schools. Students in schools where electricity courses existed, however, averaged 60 percent on the practical tests.

Comment. The team believes scores are low in electricity courses because teachers emphasize theoretical aspects of the subjects and give students little opportunity for practical experience. In any case, the provision of new buildings is unlikely to measurably impact on the learning of practical skills.

##### C. Three factors in the school environment are related positively to academic achievement.

- The amount of homework given in science, Arabic, and mathematics.
- Teachers and headmasters come from the local area.
- The number of years of teaching experience the headmaster has.

Comment. Based on school visits and interviews, the team concluded that the headmaster is an important influence on academic achievement. Those headmasters from the local community who exert strong leadership, run a well-organized school, and have a program to improve learning appear to have a positive effect on student achievement.

D. Several factors in the school environment do not appear to be related to students' academic achievement.

- School size
- Whether the school is in an urban or rural location
- New or older established school
- Single or double shifts
- Male or female school headmasters

E. USAID-funded equipment has shown no measurable impact on student literacy and numeracy achievement.

Comment. Sixth-grade examination results are not sensitive to equipment use. USAID equipment was furnished only in two academic subjects, science and social studies. The presence or absence of equipment has little effect on the teaching and memorization of theory, upon which the examination results depend.

F. USAID-funded equipment has shown a measurable impact on student practical skill achievement if it is assumed that a base zero existed before the provision of equipment.

- In the majority of schools where practical skills tests were administered, 50 percent or more of the students passed the tests.

G. The impact of equipment on student learning of practical skills was limited by the following factors.

- Inadequate material budgets
- Lack of teacher training
- Tendency to teach theory rather than practice
- Equipment distribution problems
- Inadequate work and equipment storage areas
- Lack of equipment maintenance and repair funds

Comment. The fact that some schools made excellent use of the equipment and demonstrated high student achievement in practical skills shows that the potential exists for better results from the provision of equipment. Because the scores of practical courses are not included in student rankings, their significance is reduced for students, teachers, and parents.

#### V. IMPACT OF TECHNICAL ASSISTANCE

A. There has been no noticeable effect of Technical Assistance as yet on procedures, policies, programs, or operations of the MOE or its governorate offices or in the schools.

- Of the four completed work efforts, only one, School Designs for Basic Education, is in the first stages of implementation. Another is serving as a source of recommendations for future work.
- The remaining six work orders are not yet complete and their effects, while potentially high, are not yet measurable.

## RECOMMENDATIONS

This section synthesizes and summarizes the most important recommendations of the Third Annual Report.

Recommendations are organized around the outcomes the project was intended to achieve: increased initial enrollment and persistence and an increase in the effectiveness of educational programs. In addition, sections suggest how to use resources more effectively, how to increase the impact of equipment use on practical-skills learning, and how to organize and improve the design for future technical assistance efforts. The recommendations specify the parties who would be responsible for implementing actions.

The recommendations are stated in order of the importance of the issue they address. The team feels the first concern of USAID and the MOE should be the question of access, i.e., to ensure that children who lack educational opportunities are provided with easily accessible facilities in which to learn. Once educational opportunities are available, the second concern of the MOE and USAID should be to effectively provide a quality education that permits children to achieve mastery over the basic skills required to function in the adult world.

Finally, comes the question of how to utilize current resources more efficiently through reductions in dropout and grade repetition. This is third not because efficiency lacks importance, but because programs to improve the quality and effectiveness of schooling, emphasizing student attainment of basic skills, would not only increase effectiveness but also contribute to efficiency. Half the dropouts, for example, do so for school-related reasons--most because of exam and learning failure.

### 1. To increase initial enrollments and persistence.

General Recommendation. To increase the access of Egyptian children to educational opportunities and make it possible for them to continue in school longer, USAID and the MOE should continue to construct schools in areas where facilities are inaccessible or more than 1.5 kilometers from population concentrations. This will ensure high initial enrollments and high persistence rates in the area.

- Because grade one crowding constrains enrollments at that level, the MOE and USAID should give serious consideration to how new school construction and design can anticipate future as well as current needs for space. In high population density areas where crowding in the new schools immediately can be anticipated, MOE planners should see that schools are overbuilt to provide excess capacity. In such cases they should also seriously consider expanding the new school to include grades seven through nine, especially when it is clear that there will be serious pressures on that level from increasing numbers of primary school graduates.

- To achieve universal enrollment in grade one, the MOE will eventually have to resort to special recruitment efforts and/or enforcement of compulsory education laws to bring the last children of resistant families into the system.

2. To increase the effectiveness of educational programs.

General recommendation. To increase the effectiveness of student learning, the MOE with support from USAID should mount a sustained program to improve the schools' instructional system. Such an instructional system should be based on the establishment of specific measurable learning objectives for each subject and grade, the selection of curriculum materials designed to accomplish these objectives, the use of teaching methods that foster mastery of the objectives by the student, and frequent review and diagnostic testing using criterion-referenced tests as a means of assessing students' attainment of the objectives and redirecting instruction appropriately. Such a system would stress the early identification and remediation of learning problems, thereby measurably increasing the schools' effectiveness.

- The MOE should develop diagnostic tests based on measurable instructional objectives and develop remedial programs for children who are diagnosed as not having mastered desired skills in grade one through four in all schools.
- The MOE should develop a program to identify and provide special help for schools where children's academic performance is low.
- The MOE should develop training courses for headmasters in outcome-based instructional systems.
- The MOE should continue present efforts to recruit headmasters and teachers from local areas.
- The MOE should review the outcomes in student learning of practical skills and consider whether Basic Education courses as currently designed and taught meet the goals intended for them. If not, practical skills courses need to be redesigned to produce the desired outcomes.
- USAID should provide technical assistance to support the above.

3. To increase the cost-effectiveness of educational programs.

General recommendation. To reduce the costs of education, the MOE can further decrease the levels of repetition and dropout in the educational system. This could be accomplished by the learning system already described, focused on student learning of specified objectives and providing continuous remediation as problems in mastering skills are diagnosed.

- o The MOE should focus its resources on the early grades of the primary system to ensure that children develop functional literacy and numeracy skills.
- o For reasons of cost-effectiveness and to provide more resources for improving the program in the primary years, the MOE may want to consider relaxing compulsory attendance rules after the primary level, so that children who are not benefiting from continuing in the regular system can find suitable alternatives.

4. To increase the effectiveness of USAID-funded equipment.

General recommendation. Before any more equipment is provided, the MOE and USAID should agree on plans for improving the support systems that will allow for more effective use of the equipment. These might include:

- o in-service training of teachers in the use of equipment in practical courses, emphasizing hands-on use;
- o review of lists of equipment and their specifications to ensure that they fit the curriculum;
- o consideration of other subject areas where equipment might be useful;
- o improvements in the systems of distribution, repair, maintenance, and storage, and budgets to support these changes;
- o consideration of how low-cost alternative equipment could be produced in Egypt;
- o provision of adequate materials budgets; and
- o review of student evaluation procedures and the basic goals of practical learning to ensure that the objectives for which the courses were designed are being met.

5. To improve technical assistance.

General recommendation. USAID should design future technical assistance efforts with the following changes.

- o Work efforts should concentrate on fewer areas of higher priority and should contain a system for the institutionalization of agreed-upon changes.

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- A channel should be provided for USAID to voice its needs, concerns, and issues as part of the normal operation of the technical assistance effort and a system should be included for regular, formal, internal review and progress checks, with a formative evaluation component designed to provide feedback to all interested parties: the MOE, USAID/Cairo, and the contractor.

A continuing need exists for:

- a unit for formative evaluation to be set up in the MOE under the supervision of the next technical assistance contractor;
- an external evaluation making use of formative evaluation data to monitor the mid-course and evaluate the end-of-contract impacts;
- decisions worked out between the MOE and USAID/Cairo on the work efforts that should be implemented without further support, the work efforts that should be shelved or abandoned, the work efforts that should be provided follow-on technical assistance for development or implementation;
- the identification of new areas for technical assistance; and
- a design for a new technical assistance process with better laid-out decision-making structures, formal reviews, and evaluation procedures. The design should include provision for greater USAID/Cairo involvement.