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IMPROVED EFFICIENCY

OF

LEARNING PROJECT

EVALUATION OF 1982-1983 ACTIVITIES

APRIL 23, 1983

A

EXECUTIVE SUMMARY

This evaluation is the fourth since October 1981. The first, while generally approving the experimental approach, expressed reservations concerning the strategies used in the practice and review activities. The next evaluation, specifically commissioned by the USAID Mission and the GOL/MOE to resolve issues raised in the first effort, gave the IEL system its full approval -- its two team members were internationally recognized experts in programmed instruction and instructional design systems. They judged the materials done at that time to be on a par with the best available on the world market.

The third evaluation, the regularly scheduled Mid-Term Evaluation, found both previous evaluations to have been competently done and subsequent project development to have been successfully meeting the requirements specified in both. That evaluation also recommended an amendment of \$2,000,000 and additional time to reach project objectives.

The current evaluation finds that generally satisfactory progress has been made toward End-of-Project-Status (EOPS), and in fulfilling the recommendations of previous evaluation(s). It suggests the project team should, however, look carefully at: (1) whether direction of the project is coming from the field (to include the Liberian government and the USAID) or from the contractor's home office(s), (2) how the project might attract additional capable Liberian professionals for staff positions, and (3) whether the decision to subdivide instructional materials into a large number of small booklets (191 per class per semester in the lower grades, 503 per semester in the upper grades) is appropriate in the current rural-Liberian setting. The 1983 evaluation committee supports the recommendation of a \$2,000,000 amendment and, further, suggests an extension of the Project Activity Completion Date from May 31, 1984 to March 31, 1985.

The committee details the current status of the materials developed for each grade, recommends a personnel level and time schedule for project completion, and a budget for these activities. The committee suggests a modification in the dissemination plan outlined in the original project paper that is more in keeping with current Liberian realities.

The last section of this evaluation presents an analysis of project management performance. In general, it finds it adequate, but suggests improvement in: (1) all types of communication; (2) USAID surveillance of project activity; (3) contractor attention to, and concern for, input from the field; (4) AID/W performance in its support function; (5) Ministry of Education effort to meet its agreed-upon commitments; (6) effort by the Liberian Project Director to master necessary technical knowledge; and (7) Steering Committee performance, i.e. in holding regular, substantive meetings.

While identifying problems needing correction, the report concluded that the IEL system can make a significant contribution to Liberian primary education and should be supported in a manner that will allow it to reach its stated objectives.

Note: The Scope of Work for the full evaluation process calls for three (3) separate parts: (1) A review of project status (this section); (2) an analysis of 1982 achievement test results, by Dr. Klaus Galda, an independent summative evaluator for the project; and (3) an analysis of the IEL system's cost effectiveness, by Dr. Douglas M. Windham, consultant, State University of New York at Albany.

Original plans called for the three parts to be distributed as one package. For valid reasons that plan is not feasible at this time. This document, the review of project progress, distributed May 27, 1983, will be followed, within 2-3 weeks, by the remaining elements of the full evaluation process.

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IMPROVED EFFICIENCY OF LEARNING PROJECT
EVALUATION OF 1982-1983 ACTIVITIES
April 23, 1983

The project's stated purpose is "to develop and establish systems to increase the effectiveness of instruction by elementary teachers." (To include both materials development and teacher training.)

Background: This is the fourth evaluation since the project's implementation in January, 1979. The first, by Dr. Robert Jacobs, November 4-28, 1981, was a regularly scheduled review of the effectiveness of the programmed learning process that was being developed at the project's site in Gbarnga, Bong County, Liberia. To those on the outside or periphery of professional educational development, in the past programmed learning has been usually considered an individual process -- individual learning, self-checking with immediate feedback or corrective action suggested, arranged in a sequential pattern. The IEL approach,* rather than using the individual as the operational unit, has developed a method of programmed instruction for groups, using social interaction as its basic element for motivation, to insure control, to precipitate insight, etc. In addition, the IEL process, in grades 1, 2, and 3 has suggested that effective instructional modules for those grades can be teacher mediated (prepared for teacher presentation), but written in language that is typical of each grade. It is claimed that the use of these modules by a teacher will not only be beneficial for primary school children, but will also be an effective tool for teacher training. Also, it is claimed that only a short two or three week course is needed to train teachers to use the materials successfully.

Jacobs found a great deal of evidence to support the contention that the IEL approach could be successful. He had, however, a number of factors that he felt needed change and/or improvement, i.e.. "The teaching portion of the PT management system is operating very well, but the practice and review sequences are not."

As Jacobs had pointed to other short-comings in the basic elements of the IEL process (and had also offered suggestions for resolution), both the USAID and GOL/MOE felt it necessary to seek further advice on the effectiveness of the IEL approach. Two experts with international reputations and experience were asked

*For a detailed contractor description of the IEL system, with definitions of terms, please refer to the annex starting on page

to come to Liberia for the purpose of determining the effectiveness of the IEL approach to programmed instruction in the Liberian setting. They, Drs. Robert Morgan, of Florida State University, and Grant Harrison, of Brigham Young University, arrived in-country on February 8, 1982.

Following an in-depth, on-site evaluation their conclusion was that the materials developed in the IEL format were uniquely suited to the Liberian situation and were equal to the best currently found in Western, developed nations. These findings, perhaps because they were so high in praise of the system being developed, seemed to raise serious questions as to their professional validity. In all honesty, however, if, through skepticism, the combined work of two internationally respected experts is to be disregarded because of its very positive nature, then the entire concept of evaluation by experts must be brought into question. Both Drs. Morgan and Harrison, through long careers, have proved their professional competence. It must, then, be accepted that the materials developed under the current process are not only acceptable, but of unusually high merit.

This assumption was borne out in a regularly scheduled mid-term evaluation, April 8, 1982. This third evaluation, while suggesting minor improvements in the development process and project implementation, found the materials uniquely suited to local needs. Except for pointing to some minor errors in fact and some illustrations that were not consistent with rural Liberian life, the report concluded. "The committee recommends additional time and funds be allocated for the project."

The current evaluation was planned by the Mission to check the validity of the experimental design during the 1983 school year for grade 1-4 modules, and to suggest funding needs for the amendment needed to complete the project. The committee met several times as a full committee and also in sub-groups during the week of April 11-15, 1983 to establish frames of reference for the evaluation and to obtain needed background data. It then spent five days, April 18-22 in Gbarnga at the project site. During that time, it reviewed available project documents, interviewed the Project Director, the Contractor's Chief of Party, and other Liberian government and contractor professional personnel. By dividing into three separate teams (each team contained at least one member of the evaluation group and one Liberian member of the IEL staff),

22 schools were visited -- nine IEL schools, including the Laboratory School, six Optimal Conventional schools, four status Quo schools, and three rural schools not in the project. At each location committee members observed classes, interviewed administrators, teachers, and students.

1. REVIEW OF OUTSTANDING ISSUES:-

A. April 1982 Evaluation Recommendations: The committee's task was to review with appropriate project staff members the progress toward the 16 recommendations made in the last (March-April 1982) evaluation. The results were as follows:

1. "The committee recommends additional time and funds be allocated for the project." The current evaluation committee agreed fully with this recommendation. The first action taken during the past year was USAID's preparation of a \$900,000 contract amendment which fully committed all available project funds, \$5,186,530. In addition, the Steering Committee met several times to study the contractor's suggested revision of the Life-of-Project Plan, presented in May 1982. Currently at issue are contractor recommendations of off-shore training programs for writing and editorial personnel, seemingly endless additions to, or alterations of, the instructional materials at all grade levels and repairing rather than replacing project vehicles. A financial review of contractor expenditures was conducted by Arthur D. Little and Associates under an AID/W contract in late March and early April 1983. Their analysis of expenditures to date indicated that the contractor could complete all work by March 1985 at a cost of \$7,443,867. That figure would call for an additional \$2,257,337 to be added to the project. It was the committee's opinion, based on close examination of the remaining tasks, that this amount is perhaps overestimated and should be carefully reviewed and reduced at the time of the project amendment. The mid-term evaluation recommendation of a \$2,000,000 amendment is considered to be still valid.

Note: The narrative of the supporting document for the \$900,000 acknowledged that this amendment would fall short of all needs, but a carefully planned use of this \$900,000 by the contractor would continue the project at its present level until August 31, 1983 -- further if additional contract savings now contemplated are realized. In any case the mission plans to take any actions needed to continue financing through the May 31, 1984 Proposed Activity Completion Date by the third quarter of FY 1983." The following budget was proposed:

| <u>CATEGORY</u> | <u>CURRENT BUDGET</u> | <u>INCREASE</u> | <u>REVISED BUDGET</u> |
|---------------------------------------|-----------------------|-----------------|-----------------------|
| I. Salaries & Wages | \$1,479,250 | \$345,600 | \$1,824,850 |
| II. Overhead | 261,665 | 109,175 | 370,840 |
| III. Consultants | 67,080 | (-8,115) | 58,965 |
| IV. Travel & Transportation | 475,369 | 19,250 | 494,619 |
| V. Allowances | 601,703 | 70,775 | 672,478 |
| VI. Other Direct Costs | 222,112 | 87,800 | 309,912 |
| VII. Equipment and Materials | 500,698 | 97,325 | 598,023 |
| VIII. Participant Training | 135,620 | 6,760 | 142,380 |
| IX. Subcontracts | 32,500 | 25,000 | 57,500 |
| X. General & Administrative (.075) | <u>277,609</u> | <u>97,500</u> | <u>375,109</u> |
| TOTAL COST | \$4,053,606 | \$851,070 | \$4,904,676 |
| XI. Fee | <u>232,924</u> | <u>48,930</u> | <u>281,854</u> |
| GRAND TOTAL | \$4,286,530 | \$900,000 | \$5,786,530 |

Implicit in this action was that further Mission/GOL planning would go into the preparation of funding and operation requirements for the post-August 31, 1983 period. The AID/W contract office executed amendment 12 to the contract on November 23, 1982 to the following amounts:

| <u>CATEGORY</u> | <u>BUDGET AMOUNT</u> |
|-------------------------------|----------------------|
| I. Salaries & Wages | \$2,142,872.00 |
| II. Overhead | 447,278.00 |
| III. Consultant Fees | 66,062.00 |
| IV. Travel and Transportation | 565,852.00 |
| V. Allowances | 768,298.00 |
| VI. Other Direct Costs | 423,796.00 |
| VII. Equipment & Materials | 670,268.00 |
| VIII. Participant Training | 314,958.00 |
| IX. Subcontracts | 92,282.00 |
| X. General & Administrative | 454,528.00 |
| TOTAL COST | \$5,946,194.00 |
| XI. Fixed Fee @ 5.39% | 320,392.00 |
| GRAND TOTAL | \$6,266,586.00 |

Although the USAID and GOL were aware of the \$2,266,586 increase in the contract, the details or what has been agreed upon were not fully understood. It wasn't until the financial review (March and April 1983) that the details of contract provisions in increased personpower levels, participant training, project completion date, etc., that went far beyond anything then approved by the mission, the Liberian government, or recommended by its own field staff were fully understood. Discussions of this matter with project staff and with Ministry of Education personnel suggest an immediate effort from the mission to have the contract renegotiated. Among other things, this contract calls for a large increase in the contractor's monthly expenditures. To expand the difference between the current total of \$5,186,530 authorized by USAID/Liberia and the contract total of \$6,266,586 between August-September 1983 and the contract completion date of January 29, 1984 would call for a monthly expenditure far above the average monthly cost over the previous twelve months, under \$110,000.

Close examination of project activities planned during that time does not offer justification for such an increase in expenditures. The Steering Committee indicated it was not aware of any new initiatives, or changes in project direction. The evaluation committee recommends that action be taken to see that all future contract negotiations follow USAID/Liberian government guidelines and that immediate action be taken to rectify the present situation.

2. "The committee urges that particular attention be given to evaluation of the practice and review sections of Programmed Teaching (PT) modular units."

It was obvious that significant improvement has taken place in the practice and review sections. Over the last year both practice and review booklets have been developed for all subjects, making these activities much more meaningful. In addition, the teacher-training course was lengthened from two to three weeks, allowing more time to be directed to improving teacher skills in these areas.

3. "Special attention needs to be given to the role and use of the laboratory school. The opportunity this school affords to obtain more comprehensive and current information about teacher and student performance does not appear to be adequately utilized. The committee suggests regularly scheduled meetings

of the lab-school teachers, instructional supervisors, and module writers." This year's committee visited the laboratory school and found that the 1982 recommendations were being followed. The committee observed that special emphasis had been placed on the retrieval of more comprehensive information on the performance of both students and teachers. There were regularly planned discussion sessions involving writers, laboratory school personnel and teachers that provided a means of retrieving information for the improvement of the feedback and revision cycles of the system.

In addition, a handbook had been written by the IEL staff that described the formative feedback system and how to use it. This publication had proved to be particularly effective when used as a resource document during the 1983 IEL teacher training course.

4. "The evaluation section of the project staff is not as strong as it should be." The first evaluator, trained to the master's degree level at Florida State University, left the project shortly after returning to Liberia. Fortunately, there was a very capable USAID-trained evaluator temporarily in excess from another project for immediate assignment to Gbarnga. This evaluator, however, has only a one year obligation remaining and will need to be replaced. This replacement needs to be on site before the end of the 1983 school year.

5. "The modules, while consistent with the Revised National Curriculum (RNC), have at times used illustrations and content that are inconsistent with the rural life style and family patterns of the majority of Liberians." The 1983 committee was particularly pleased with the progress in this area. Staff personnel indicated that a panel of outstanding Liberians had been employed to review and correct all materials. Review of a large number of modules by the evaluation committee members indicated these editors had done their work effectively.

6. "The IEL system's success in the demonstration schools has depended heavily upon the Instructional Supervisors (IS) for its effectiveness during

this experimental period." This year's evaluation panel unanimously agreed that a need for IS participation was clearly indicated. Given the limited time devoted to teacher training, and the relatively low professional/academic level of those entering the profession, there is a definite need for supervisory assistance throughout the school year. All of the experienced IEL teachers seemed to perform admirably, many with relatively advanced professional skills. The committee felt, and the IEL project personnel agreed, that the Ministry of Education supervisory personnel must be drawn increasingly into project activities -- actually, this should have been done before now. It is recommended that steps be taken to include district-level Ministry of Education supervisory personnel in this year's activities, and that they and their professional development be included in future project planning.

Note: As part of the planning for the 1983 experimental year it was decided, largely because of USAID/Liberia pressure, that the IEL instructional supervisors would only observe for formative data -- that they would not interact with teachers to correct instructional or other mistakes. The rationale was that since there was essentially no supervision in Ministry of Education schools, supervisory intervention would bias the process in favor of IEL schools. The committee, in talking to county school leaders, however, found that the Ministry of Education personnel would be delighted to join with IEL supervisors to do team supervision -- perhaps one IEL school and one Optimal conventional school during a supervisory day. It is recommended that this matter be further developed immediately. The committee observed several instances in both optimal conventional and IEL schools where supervisory assistance was definitely needed.

7. "The problem of adequate storage space for written materials in the project office, as well as in each school and classroom, needs immediate attention -- as does the establishment of a materials inventory system." This matter has been satisfactorily resolved. The office now has rooms outfitted to effectively store modules and other IEL materials. A box for each classroom, especially designed to store one semester's teaching materials, has been constructed for all IEL and Optimum Conventional classrooms.

8. "The experimental design requires Optimal Conventional schools with teacher training and textbooks to be provided by the Ministry of Education. It further should consider the provision of equal experience with tests for the control school students." (A full discussion of this matter and its status are parts of the next section of this report).

9. "The frequent lack of 45 students in each first grade room and the abundance of students in pre-first grade classes needs attention." This matter was brought to the attention of project staff who in turn discussed it with teachers in the experimental schools. Except in schools where the total enrollment did not provide a student body large enough to provide 45 students for the first grade, there were no repetitions of last year's large pre-school, small first grade situations. (As the average Liberian first grader in project schools is several years older than his/her counterpart in developed countries, the 1982 evaluation committee had felt that the first grades could have absorbed some of the over-age preschoolers to bring first grade classes to 45 students).

10. "Care should be taken that the project staff and the Ministry of Education take into account the frequent absences of both teachers and students in rural primary schools." This, of course, is largely beyond the scope of project personnel to change significantly. It was reported in the Morgan/Harrison evaluation, and confirmed by the current evaluation committee, that there is a reported improvement in both teacher and student attendance in IEL schools. It is assumed here that as teachers achieve increased professional success, and as students become convinced that they are actually learning something, personal involvement/interest increases. Also relevant is the issue that the number of class days required for completion of IEL activities should more realistically reflect the number of days rural schools are in session. In the IEL system for primary grades, 1 - 3, 150 instructional days are called for. Many/most rural schools are in session for only 90 - 110 days at most. While the project staff has, in the past year, attempted to identify lessons that might be combined and/or deleted entirely, much more attention needs to be given to this matter.

11. "The current teacher education component of the project is largely unrelated to the IEL project." It was apparent that the 1982 panel did not fully understand the responsibility of this position -- and the people responsible for briefing them did not, or for some reason could not, understand these responsibilities either. The Project Paper very clearly defines the position and its function: "This person will serve as the senior advisor to the Ministry of Education Teacher Training Division and will work in a counterpart relationship with the Director of Teacher Training and Assistant Director of Teacher Training. Duties will include assisting the Ministry of Education Teacher Training Division in the review, analysis, design, and implementation of all pre-service and in-service teacher training activities within the context of a total system of teacher education. While this specialist will not have direct responsibility for the project experiment in programmed instruction, this person will assist the Ministry of Education in developing effective liaison and professional support of the project experiment. In addition, this specialist will explore, identify, and assess alternative strategies for integrating and replicating the results of the project experiment."

There seemed, to the present committee, to be at least two serious questions here: (1) Why were the contractor's field personnel not knowledgeable about this situation? and (2) Why is there still no evidence that the specialist ever performed the critical task of establishing effective liaison between the IEL project and the ongoing teacher training institutions (the University of Liberia, Cuttington University College, the Kakata Rural Teacher Training Institute, and the Zorzor Rural Teacher Training Institute)? Some report of compliance to contract specifications should be on record and fully understood by the project management. The committee suggests that the contractor prepare a report of accomplishments in this area from the project's inception until March 31, 1983, when the technician's term of service ended, and make this report available to all interested parties.

12. "The project does not receive sufficient support from the Curriculum Division of the Ministry of Education Instruction Department." Although there can always be improvement in any cooperative professional arrangement,

the committee concluded that a good deal of effort had been directed to resolving this issue. For example, the efforts to make IEL material learning activities consistent with Liberian cultural patterns were done in cooperation with the Curriculum Division.

13. "The planned training programs for the PL writers at the University of Indiana should be closely coordinated with the Steering Committee." A review of this matter indicated that the "plans" were really contractor suggestions. Subsequent to the 1982 evaluation, the Steering Committee decided that all future training of writers should be done in-country. This was first tried during January and February 1983, and from all indications was extremely successful. The current committee agrees that this type of training can best be done at the project site.

14. "The fact that few Liberians are currently scheduled for long-term participant training raises questions about the long-term implications of the IEL system." The committee feels that if the IEL system is to come on line in the mainstream of Liberian public education, it must have personnel of a caliber to work at the university level and serve on a person-to-person basis with upper ministry officials. There are few of the current staff at this level and those currently scheduled for training would probably not reach that status even with extended schooling. The Ministry of Education should be urged to seek professionals of the caliber described above and the USAID and the Liberian government should be urged to find mechanisms for training them during the remaining years of this project and/or the first part of Phase II.

15. "A careful cost study of all project elements is now required." This effort was begun in late 1982 and still continues. The Liberian Ministry of Education commissioned Dr. Douglas M. Windham, State University of New York, Albany, to conduct a thorough study of both development and recurrent costs of the IEL project. Windham presented his preliminary analysis of production and distribution costs in Report #1 submitted January 22, 1983. The report's major purpose was to determine the unit costs of the main factors within the IEL curriculum methodology and to contrast those costs with the textbook alternatives currently available.

The conclusion reached in Report #1 was that "the cost estimates which presently exist justify the continued development of the IEL project to allow for the most complete and objective evaluation of the IEL system's potential to assist with improving Liberia's primary schools." The report recommended that the Ministry of Education "consider a phased implementation of IEL beginning with the lower grades and advancing to the higher grades as class size expanded at those levels."

In Report #2, submitted March 1, 1983, Windham identified and elaborated internal and external efficiencies as they exist in the present IEL system and as they would exist under implementation. The report suggests that planners might also consider modifying the IEL semester package for PL levels in schools which have smaller enrollments. (See Windham Reports #1 and #2).

Windham's final report, due in late May, 1983, will involve an initial and provisional cost-effectiveness comparison of IEL and non-IEL schools based on the summative evaluation work conducted by Dr. Klaus Galda and an analysis of the cost implications for the major strategies to be identified. Planning the actual design for implementation, however, will be the responsibility of the Ministry of Education, the IEL project staff, USAID, and the Steering Committee.

A summary view of contractor costs was completed April 8, 1983. Together with the Windham studies, this report will provide data for costing for the remainder of Phase I and the planning of Phase II.

16. "Serious problems have arisen at the Gbarnga site and costs in the project have increased considerably because of the lack of electricity and sometimes, water." Their concern was based on the fact that the lack of public utilities had increased project costs significantly and that communication with necessary Ministry of Education offices was extremely difficult, often requiring a three-hour drive each way for tasks that could be accomplished on the phone if the project office were in Monrovia.

The Steering Committee in mid-1982, appointed a sub-committee to study the problem in depth. It found, first of all, that there was strong resistance from project staff to the move (many had lived and worked in the arnga area all of their lives). Next it found that much of the Ministry of Education leadership felt strongly that a move to Monrovia would erode much of the IEL capacity to be sensitive to rural Liberian educational needs. After a rather extensive search failed to turn up any building in Monrovia that could serve the various functions, with the possible exception of the Xerox 9400 printing operation, it was decided that for the immediate future the project would remain in Gbarnga. The current evaluation committee found this situation, both the need and the resistance to it, unchanged.

B. April 1983 Evaluation Recommendation: This year's evaluation committee found in conducting a review of the above 16 recommendations that most of the basic issues had been covered. There is a critical difference, however, between last year's mid-term evaluation and this year's: this committee has been charged, as project funds run out and contract date expires, to consider and suggest future options. It has also been charged to determine what activities still remain to be completed, when to complete them and to make recommendations for dissemination and institutionalization. With this in mind, the committee suggests 7 issues that were not in the 16 above, and which it considers to be critical at the present time.

1. Does high tech/cost printing equipment, i.e., the Xerox 9400, make institutionalization by Liberians more difficult and/or tend to invalidate this project as a cost-effective, replicable model for other LDC's? The Xerox machine was purchased only because its features met the needs of this research and design-type project. The requirement for copying large numbers of originals in limited quantities for this experiment and the fact that it eliminated the need for mimeograph stencils were two major reasons for its purchase. The Windham Report #1 compares costs of the Xerox to offset press and comes up with a break-even point after which the copies to be printed on an offset unit would be cheaper. Any consideration of project expansion will take advantage of that report to assure proper selection of

the printing mode to be used. Any consideration of replication in other countries should study the local project needs and specifications to see what type of printing mode should be used.

Given the increasing costs of Xerox maintenance and the need for a constant source of power, is there an alternative to the continued use of this machine for this project? It was originally expected that mimeograph machines could handle the materials reproduction needs. In the first months of the project, however, the staff became aware that the volume of materials needed (15 million copies, to include a large number of originals) could not be produced on that type of machine. This problem was exacerbated by the fact that competent secretaries and illustrators were not available in the Gbarnga area.

The staff's analysis of the volume of material needed and other factors were presented to Robert McMackin, a short-term production advisor. He reviewed various production alternatives for their cost-effectiveness and capabilities and concluded that the project could best be served by the purchase of a Xerox 9400 machine. He further chose that alternative because local service, parts and maintenance for this machine were all available in-country. USAID studied his proposal and questioned the cost, suggesting there be a second opinion. Robert Jacobs, Jr., an IIR production specialist, reviewed the question and came to the same conclusion as McMackin. By September 1979, the IEL project had a Xerox 9400 in Gbarnga.

In addition to the purchase price of \$125,000, there was originally a \$12,000 per year service charge for maintenance, parts, etc. (In the project paper, \$250,000 was budgeted for all commodities during the five-year life-of-project.)

The project also brought in a highly skilled U.S. technician for its staff and began training one of the Liberian staff to run the machine. Two operator assistants were also hired.

The machine remained in Gbarnga for three years. Constant problems, due largely to the irregular source of electricity, made the operation of the machine often

one of the major blocks to smooth, effective material production. The project reached a point where the increasingly large production schedule could not be met due to frequent problems with the machine. It was decided that the best thing to do would be to move the machine to Monrovia.

In January 1983 operating space (\$150 per month) was found for the machine in Monrovia. Three project staff were brought down on a temporary basis, and as of this writing (4/83) are still in Monrovia. Also, the yearly service charge has doubled to \$24,000 -- the company claimed it lost money the year before on servicing the machine. The company's contract also stipulated a charge of 2¢ per copy over 50,000 sheets a month. With materials needed by deadlines to meet school calendars, the most recent month's service charge for additional copies was \$20,000 above regular operating costs and the service charge.

Discussion: Concern has been expressed about the Liberian government's ability to take over the costs of this machine when the project is completed. Can it afford the machine, its service, and costs? Would there be other more attractive options, such as using a commercial printer?

The justification for the purchase of the machine was only as part of the research and design costs: if the project didn't have the machine, the schools wouldn't have had the materials. Questions of the Liberian government being expected to pay for this cost are far in the future because there is potential for its use in Phase II. This second phase (dissemination) is envisioned as a continued donor project on a large-scale over a seven-year period. During this phase, the machine would only be used where cost considerations and benefits were reasonable.

Recommendations: The 1983 evaluation committee recommends that despite the drawbacks discussed above, the Xerox machine should remain in Monrovia until such time as the electrical power situation in Gbarnga is improved. As this could be a long-term situation, the committee recommends an immediate change in status of the three employees from TDY to permanent staff in Monrovia. Further, the committee urges more careful planning of the printing schedule so that the amount of printing each month does not exceed the maximum the Xerox contract stipulates, and in these two ways help reduce costs.

2. Has the contractor's home office followed and supported directives from the field or tended to make operational decisions unilaterally?

Discussion: The committee observed what seemed to be a trend toward contractor home-office personnel making more and more program decisions at that location without adequate field input. In late 1982, for example, the contractor's U.S. Office made arrangements for larger amounts of office editing and reformatting than were agreed to by the USAID, GOL or its own field staff. The Project Director informed the evaluation committee that serious production slow-downs were caused when it became necessary to redo already printed materials to conform to home office produced revisions, changes frequently mandated without field involvement. The committee found no logic in increasing the level of work done outside Liberia as the project reaches its final stages, especially in view of the fact that institutionalization is a major project objective. There was further concern that the unauthorized format changes tended to slow the module production schedule and increase project costs, possibly out of proportion to the real value of such changes.

Recommendation: As the IEL Project is designed as an educational system developed in Liberia by Liberians, the contractor should take special care to avoid even the appearance of controlling the project from the home office. Also, revisions that necessitate a slowing of project momentum or increase in project costs should be cleared by all project elements before being put into effect.

3. How can the project get additional highly qualified Liberians involved in the project's future?

Discussion: There seemed to be a sense among the Liberians working on the IEL project that the work is transitory -- that it will not lead to anything else, let alone a permanent position within the Liberian government. In their opinion, it is very difficult to recruit qualified people to go to Gbarnga, if one is "on the way up," it is not the place to be. The evaluation committee feels that the skills learned by key people on the staff should not end when grade 6 material is completed. The beauty of the programmed learning system

is that it is applicable for any body of knowledge which needs to be conveyed and could be used at higher levels of instruction, in vocational education, etc. There also may be revision needs at the primary level over the years and, consequently, the well-trained IEL staff should become part of the MOE Curriculum Unit.

Recommendations: The project staff and the Ministry of Education personnel that cooperate with it should be fully informed of the wide range project possibilities. As time allows, the staff should begin to explore other uses of programmed learning in the Liberian educational scene. One avenue for such expansion that has already been suggested is the use of a programmed instruction approach in vocational education. Another possibility is attaching some of these trained professionals to the MOE Curriculum Unit.

4. Since the technical staff has been reduced from 7 to 3 persons, there are approximately 4 sets of excess household furniture in storage.

Discussion: Originally the 7 households of furniture were purchased under the project to facilitate housing for the technical assistance personnel. At present there are only 3 long-term staff and the furniture is being stored at several sites in Gbarnga and Monrovia, at a cost to the project.

Recommendation: The project should transfer, as soon as possible, all furniture in excess of project needs to the Ministry of Education for use in promoting the purposes of the project.

5. Concern was registered over the amount (number of copies) of IEL material.

Discussion: It was found that each teacher in grades 1 and 2 would receive and be expected to use nearly 400 different pieces of instructional material each year. At the third grade this number of publications would jump to over 620, and for grades 4, 5, and 6 would top 1000 copies. The committee's attention to this matter came as a direct result of the project director's

report of her visits to classrooms during her Far East observation tour. She stated that many of the teachers complained that they were unable to make effective use of programmed materials if the number of publications was too large.

Recommendation: The evaluation committee feels this matter needs careful attention and that a reply to this issue should be prepared for Steering Committee attention by contractor personnel as soon as possible.

6. As a result of the visits of AID/W backstop and other ranking personnel, suggestions have been made that remaining project funds might be most effectively spent in institutionalizing the already completed PT modules in grades 1, 2, and 3 (first semester only), rather than continue with development of PL in the second semester of grade 3 and grades 4, 5, and 6.

Discussion: As of now, all grade 3 PL materials, plus all of grade 4, one-half of grade 5, and one-fourth of grade 6 have been completed and are in one of the various stages of refinement and validation. To withdraw now would be counter to the plans of the Ministry of Education and would negate all work completed on the fourth, fifth, and sixth grade materials. Further, the Ministry considers this project as an important part of its overall plan to improve the entire public system, kindergarten through grade 12. They feel strongly that the use of the IEL approach for only a small part of this effort would be counterproductive, and not serve their long-range objectives. In their opinion, any change in the plan to use IEL materials in all grades 1 - 6, would jeopardize their efforts to channel World Bank Fourth Education Loan funds into project-planned efforts in teacher training, material documentation and printing.

7. The contractor, since the inception of the project, has carried a large Liberian staff on its payroll.

Discussion: Many/most of these positions will not be picked up on the Ministry of Education payroll. Plans for the sequencing of the release of these employees should be drawn up as soon as possible. The project director has indicated that they are all aware of the fact that their jobs are temporary, and have accepted this.

Recommendations: Plans detailing the continuing need for, and suggested termination dates, should be drawn up and approved by the project director and USAID.

II. REVIEW OF THE CURRENT EXPERIMENTAL DESIGN

A second task of the 1983 evaluation committee was to review the current/ongoing experimental design. As background, the revised project plan calls for the 1983 school year, March through November, to be used to try out the final revision (third) of all grades 1 - 4 modules. There are 40 modules for grades 1 and 2, 80 for grade 3 (20 for semester one, and 60 for semester two), and 120 for grade 4. The original project paper called for:

Control Group: Sixty qualified teachers (graduates of rural teacher training institutes with 3 years teaching experience), 10 each grade level, using traditional methods and materials with up to 40 students in each class.

Experimental Group "A": Similar number of teachers and students (teachers underqualified -- high school graduates with no teacher training) using IEL materials.

Experimental Group "B": As before, with "underqualified" (non-high school graduates with no teacher training), using IEL materials.

The design now in effect (1983) for 45 schools, although modified to meet existing conditions, is essentially as described above. Important changes are, first, only grades 1 - 4 materials have been completed and are being tested -- grades 5 and 6 are still under development. Second, as it was found to be impossible to find schools with fully qualified staffs for the traditional schools, i.e. Control Group (above), the Ministry of Education agreed to furnish tests and provide specially designed courses to instruct teachers in their use. Third, Experimental Group B was replaced by 15 of what are called "Status Quo Schools" (SQ), which are to be representative of schools as they exist -- few qualified teachers, few, if any, texts and/or materials.

The current design calls for:

Fifteen Experimental (IEL) Schools: staffs as are, 45 children per classroom where possible and the teachers given two to three weeks of training in the use of IEL materials. Each classroom fully equipped with modules, practice booklets, review booklets, and other materials that have been the result of the IEL development process.

Fifteen Optimal Conventional (OC) Schools: staffs as are, 45 children per classroom where possible and teachers specially trained (two- to three-week course) in the use of traditional materials. A full set of approved texts -- one book for each two students -- supplied by the Ministry of Education.

Fifteen Status Quo (SQ) Schools: staffs as are, enrollment and teacher materials as are.

All groups chosen are to be as alike in initial teacher training, enrollment, and child academic achievement as possible.

The evaluation team, in its observation of 22 schools, found the design being followed closely, with each group well aware of its role in the project. A very serious problem, however, was obvious, and if not corrected soon will essentially invalidate the experimental process. The Ministry, because of a shortage of available texts in the official bookstores, and a lack of the financial resources to correct that matter, had only supplied approximately 65 percent of the needed texts, and only 40 percent of the teacher editions needed to make the available texts fully effective. A typical school had the following enrollment and text distribution:

T E X T S

| Grade | Enrollment | Social Studies | Math | Science | Language | Reading |
|-------|------------|----------------|------|---------|----------|---------|
| 1 | 65 | 29 | 30 | | 30 | - |
| 2 | 38 | | 17 | | 17 | 26 |
| 3 | 28 | | 15 | 6 | 13 | 8 |
| 4 | 24 | | 10 | 10 | 10 | - |

In the committee's eyes, while the texts supplied are a vast improvement over the number usually found in rural Liberian schools, they do not begin to match in either quantity or quality the IEL materials available in the Experimental Schools. The above actual school situation, for example, shows that there are currently no social studies texts in grades 2, 3, or 4; far less than enough language arts texts in grades 2, 3, and 4; and no reading texts in grades 1 and 4 -- too few for grade 3. Fortunately there is still time to provide these books and sources do exist.

The committee feels that there is some valuable data to be obtained from the current activities (much more if plans to provide the remaining texts are soon realized). A great deal can be learned by both the project staff and its Ministry of Education counterparts in the area of formative, development evaluation. Care will need to be taken, however, in projecting too much from the differences in academic growth demonstrated by the students in the three groups.

Although there are essentially no Optimal Conventional public schools (as originally specified) in Liberia at this time, there are private schools that might meet most of the criteria set forth in the original project document. The evaluation panel suggests consideration be given to matching some of these, if they do exist, with the IEL schools -- head-to-head. While there are, in many/most cases, reasons why the private schools would have an advantage in this matter, it probably wouldn't be any greater than the current IEL schools have over the current OC schools. Even a modestly good showing by the IEL schools in such a situation would be a mark in their favor. Item for item, the current IEL materials are probably the result of as large a concentration of top-flight talent as any items now on the world market.

III. REVIEW OF PROGRESS TOWARD ACHIEVEMENT OF PROJECT OBJECTIVES: END OF PROJECT STATUS

A. Progress to date: A third assigned task for the evaluation committee was to determine how far the project had advanced toward completing project activities, and what was yet to be completed. This involved measuring the project outputs to date against end-of-project (EOPS) statements. To determine current status the committee visited 22 project schools, interacted with project staff (Liberian professionals and Technical Assistance personnel), and reviewed project documents and instructional materials.

EOPS STATEMENT #1

The Project paper states that by the end of the project unqualified and under-qualified teachers will be using PT and PL materials effectively with a minimum of training and supervision. It refers to two periods -- "experimental" 20 schools, 120 teachers, 1440 students; and "expansion" 10 schools, in each of nine counties, or 90 schools, 540 teachers, and 21,600 students.

The committee found that as of April 1983, a total of 96 classrooms were using IEL materials (81 teachers and 15 teaching principals). Of these 96 people, 37 were considered "qualified" (high school graduates with two years of teacher training and three years of professional experience); 46 were "underqualified" (high school graduates with and without experience); 13 were "unqualified" (non-high school graduates with and without experience).

The committee observed 36 teachers using programmed materials in 9 IEL schools. It was clear that the project was working effectively, in that those under-qualified teachers were using programmed material effectively (especially those teachers in their second and third years in the IEL program.) Some teachers new to the materials were experiencing difficulties, but none that seemed unusual for beginning teachers.

It needs to be mentioned that 10 of the current 15 IEL schools are completely new to the program this year. At the time of the visit, teachers in these schools were still using only special instructional materials that are designed to orient both teachers and students to IEL methods. The committee's last day in the field was to be the first day of regular IEL material distribution to the 10 new schools. The committee had hoped to see new teachers using regular IEL materials, but many of the schools had just finished registration in mid-April and were only then getting down to the serious business of teaching.

The evaluation committee observed a wide range of teacher behavior between the new and experienced teachers -- the latter had taught in the five schools with IEL materials the preceding year(s). The experienced teachers demonstrated, at a minimum, an acceptable ability to manage both the learning

process and the students -- several were clearly superior teachers. Only a few of the teachers new to the materials appeared as competent as second or third year teachers. This is, of course, to be expected, and speaks well for the-on-the job teaching training objectives of the PT system as a whole. Original project plans called for the teacher training course to be two weeks in length. This year's effort was the third time the course had been offered, and the two weeks had been expanded to three weeks -- with a strong recommendation from the participants themselves that it be further extended next year to four weeks. Considering the degree of difficulty many new teachers seemed to be having, the committee would agree that more time could be profitably used in training.

IEL materials are designed to improve teacher effectiveness while also resulting in pupil growth. It is the committee's judgement, however, that by itself this material will not guarantee effective teachers. Pre-service training and in-service supervision, especially in the teacher's first year in the program, seem to be necessary. Supervision is weak to non-existent in the current Liberian school system. While IEL materials were designed with this problem in mind, similar projects in Southeast Asia have demonstrated that a well structured management and supervision system for the schools is a key factor. Principals need to work with their teachers who are new to IEL. Teachers who have been successfully using the system also could advise fellow teachers. Neither suggestion would add an unusual burden to the present system.

The IEL project has encouraged principals to attend the pre-service workshops. District supervisors will need to be actively involved in the IEL program, too. In the initial stages of the project, district supervisors understood that the project wanted a hands-off approach from their offices. The evaluation committee, as elaborated in a previous section of this report, questioned the hands-off supervision. It seems inconsistent with an approach to learning that stresses immediate feedback.

Not only advisory support, but also management support is needed from the district. For example, teachers who take the IEL pre-service training course need

to be sure they will be assigned to an IEL school. This has not always been the case. The project then, needs to work closely with the district administrative offices particularly the Chief Education Officer. The Ministry of Education will need to commit itself to building a stronger supervisory outreach at the district level, educating the district supervisors in the IEL program needs.

Universities and rural teacher training institutions should be encouraged to continue their involvement. Project staff, for example, might teach a theory and methods course in learning theories, including programmed learning, experiential learning, etc., with credit for student practice teaching in IEL, OC and/or SQ schools.

Dissemination: The project originally called for the Liberian government to fund the expansion to 10 schools in each of the 9 counties. There are currently 15 IEL schools in 4 counties. The 10 in 9 counties, despite how desirable, may not be possible, even advisable, by that time. The reasons for this are numerous, but the most compelling center around the fact that this might well create a supervisory load beyond the capability of the Ministry of Education to absorb. (Most certainly, plans need to be made to absorb the schools currently involved in the project as SQ and OC schools during the next school year, making a total of 45 schools with IEL materials in 1984). If 15 new OC and SQ schools were identified for the 1984 trial of grades 5 and 6 materials, then a project plan of their inclusion in 1985 might well be written into the project -- resulting in a total of at least 75 schools using the IEL system.

Care must be taken to include no more schools than can be adequately supervised under the existing Ministry of Education supervision system. As a positive note, the Ministry, under new leadership is just now beginning to plan ways to improve supervision, accepting the fact that quality education demands the existence of an effective supervisory function that contains at least the basic elements of training, dedication, and transportation. Despite this new awareness, in an era of shrinking governmental revenues, it

must be realized that requests for significant governmental input, ie., cars, gasoline, etc., are not likely to be met by the GOL -- no matter how logical they might seem.

The evaluation committee recommends continued USAID, Liberian government, and IEL discussions with World Bank so that the Bank's sector loan #4 will be consistent with the supportive of IEL activities. For example, the Bank may be able to help provide textbooks for 1984 OC schools and help fund both the printing and teacher training needs of the IEL expansion.

EOPS STATEMENT #2

The project paper promised that by the end of the project all PT and PL prototype materials for grades 1 - 6 would be designed and validated. (Included here are the instructional modules, learning aids, and supplementary reading materials.)

The committee found that, as of April 1983, all PT materials (grades 1, 2 and the first half of grade 3) have completed all three revision cycles, and are being printed. Second semester grade 3 PL materials, and those for grade 4, are currently in the last revision cycle and will be completed, edited, and printed soon. At the suggestion of the project staff, and primarily because of the improved performance of writers for grades 5 and 6, these materials should need only two revision cycles. The current plan calls for all six grades to be in final form and printed by October 31, 1984. (Refer to Revised IEL materials Production Chart, page 25.)

It is the committee's opinion that the mid-1982 decision to send materials to the Bloomington IIR office for final editing/revision was not a productive one. There seemed to be an inclination at that location to make changes, even minor, that necessitated similar modification in many other parts of the program, and thereby caused serious and costly delays. Additionally, it was reported that most, if not all of the original PT writing necessitated from 75 percent to 100 percent "editing." In addition to "editing" being an entirely incorrect term in this regard, what has resulted is that the PT modules were not "written in Liberia by Liberians," but "written in Liberia and/or the United States by technical assistance personnel." Despite the

admitted excellence of the end product, this type of operation violates the basic development principles of the project, and does next to nothing toward institutionalization. The evaluation committee strongly recommends that all editing be done in Liberia by Liberians in the future.

EOPS STATEMENT #3

The project paper states that in-service PL and PT teacher training courses will be institutionalized by the end of the project. (The project paper suggested options here, alternative means by which all teachers needing training could be reached -- vacation schools, extension schools, and/or mobile units.)

As of April 1983, there had been 3 IEL teacher training workshops. Each one had been offered in February, the month preceding the scheduled opening of a new school year. The 1981 and 1982 training courses were 2 weeks each; the 1983 course was extended to 3 weeks. During 1981 and 1982 only the teachers from the Laboratory School and the 5 original Systems Schools were involved. In 1983 an additional 10 schools were added. There were 20 participants in the 1981 training workshop; 25 in 1982; and in 1983 there were 86 (12 teaching principals and 74 teachers). (20 of the participants had attended all 3 workshops.)

In addition to the three IEL workshops, the project also sponsored a three and one-half-week training course, January 31 to February 18, 1983, at Cuttington University College for 70 teachers and administrators assigned to schools designated as Optimal Conventional (OC) schools. OC schools, according to the Experimental Design described in Task Two Section of this report, were to be conventional schools where optimal conditions existed -- adequate textbooks and qualified teachers. The purpose of the OC workshop was to upgrade instructional skills through effective use of prescribed textbooks and careful lesson planning. The participants comprised 48 full-time teachers, 5 full-time administrators, 15 teaching/administrators, and 2 not defined.

No evaluations exist of the first two IEL workshops. Evaluations based on teacher questionnaires and tests given to participants, however, were produced for the third IEL course and the concurrent OC training course. In general, participants indicated satisfaction with the course at its conclusion. Dissatisfaction related to the course's relevance to the teaching program cropped up once teaching began -- most often from the OC teachers who returned to schools only to discover their subject area or grade and even school assignment had been changed. They also complained of not having all the texts. Participants in the IEL workshop also were not always assigned to the schools they had anticipated. The evaluation team found some teachers working in IEL classrooms for the first time, but without pre-service training and some who had been pre-trained assigned to non IEL schools. Those teachers who returned to the expected school were more complimentary of the relevance of the training.

The evaluation committee recommends that pre-service training courses and in-service training and supervision be institutionalized if the program is to be disseminated successfully. This should be done with close involvement of the Ministry of Education Instruction Department, the District Supervisory Offices, the RTTIs, and the universities.

The committee feels strongly that the remaining project tasks can be accomplished within the limits of an amendment providing \$2,000,000 of additional funding and a Project Activities Completion Date extension to March 1985. If the proposed production schedule is followed, all modules should be completed by October 31, 1984. *All full-time technical assistance should end soon after that -- perhaps as early as mid-December 1984.

A large part of the Liberian staff will have been with the project for almost six years. It is felt that a cooperatively planned short-term assistance package would be all that was necessary until the March 1985 completion date. (It is also felt that if this were not feasible the project could not be considered a success, and that another large infusion of technical assistance would not materially affect the situation.)

*The Chief-of-Party might, for cost-effect reasons, be retained in country. This person would be semi-detached, allowing the project to be entirely Liberian directed and operated.

B. REMAINING PROJECT ACTIVITIES

The following is a slightly revised edition of a contractor-suggested plan for the remaining project activities. It now reflects Steering Committee dictates, i.e., no off-shore training for writers, and is suggested as a basic document for future planning/negotiations. These pages present a plan that varies only slightly from that on page 25, and consideration of the two together can suggest some flexible times for completion of all tasks by March 1985.

PROPOSED REMAINING PROJECT ACTIVITIES

March 1983

All instructional materials for the first semester of grades 1 - 4 in experimental schools packaged and delivered.

Training of students in experimental schools grades 1 - 4 completed by implementation unit.

Retraining of students in systems schools completed by teachers under supervision of implementation unit.

IEL instruction initiated in the five systems schools and ten experimental schools.

Second semester of PT phase "C" revisions completed.

Revisions of PL grade 3 completed based on feedback from 1982 systems schools.

Pre-tests administered to students in systems and experimental schools.

Teacher education advisor departs.

April 1983

May 1983

Initial dissemination plan prepared.

Three four-wheel drive vehicles repaired and in operation.

July 1983

Writing of grade 5 PL modules completed.

All instructional materials for the second semester of grades 1 - 5 installed in systems schools and of grades 1 - 4 installed in experimental schools.

September 1983

Dissemination plan revised.

Editing of grade 4 PL modules completed.

Scoring completed for pre-tests administered to students in systems and experimental schools in March 1983.

November 1983

Post-tests administered to students in grades 1 - 4 in 15 OC schools, 15 IEL schools, and 15 SQ schools.

December 1983

Instructional design head returns from long-term post-graduate study.

Guides and manuals for teachers, administrators, and students revised.

Complete training package revised.

Pre-tests for grade 6 developed.

January 1984

The January 1983 formal descriptive report of the system and experiment updated.

Training schedules for the 1984 school year established.

Training conducted for new teachers and for teachers of grade 6 in the systems schools and of grades 5 and 6 in the experimental schools.

February 1984

Summative evaluation report submitted for grades 1 - 5 in all schools involved in the experiment.

March 1984

Editing and reproduction of grade 6 PL modules completed.

All instructional materials for grades 1 - 6 packaged and installed in experimental schools.

Pre-tests administered to all students in experimental schools.

IEL instruction begun in all grades.

July 1984

Revision of grade 5 PL modules completed based on 1983 feedback from systems schools.

September 1984

Scoring of pre-tests completed for students in all grades of 15 OC schools, 15 IEL schools, and 15 SQ schools.

Slide presentation updated.

October 1984

Grade 6 PL modules revised based on 1984 feedback.

November 1984

Post tests administered to all students in systems, OC, and SQ schools.

Draft of final dissemination plan prepared.

February 1985

Final summative evaluation report on grades 1 - 6 in the systems, OC, and SQ schools submitted.

March 1985

The January 1984 formal descriptive report of the IEL system and the experiment updated.

Final dissemination plan submitted and approved.

Final project report submitted.

Chief of Party, administrative officer, PL advisor, and PT/PL teacher training advisor depart.

USAID/Liberia produced for the evaluation committee a preliminary estimated illustrative budget based on the above proposed schedule:

ESTIMATED BUDGET FOR IEL PROJECT AMENDMENTS

| | |
|----------------------|---------------------|
| Technical Assistance | \$ 1,000,000 |
| Training | 150,000 |
| Commodities | 250,000 |
| Other Costs | 300,000 |
| Inflation | 170,000 |
| Contingency | 130,000 |
| <u>TOTAL</u> | <u>\$ 2,000,000</u> |

IV. PROJECT MANAGEMENT

A. Overview: The committee's fourth task was to review the various elements of the management within the project. Overall project management was considered to be adequate, although some aspects resulted in project weaknesses which might have been corrected had effective procedures been in place.

The experimental nature of the IEL project requires a flexible management style that can deal with the number of variables and unanticipated problems which are inevitable in this type of effort. The following factors have complicated management of the project: high inflation; the unplanned costs related to using advanced technology; printing and word processing units; the unforeseen loss of electric power; the increase in the number, as well as the inaccessibility of schools; difficulty with machine maintenance; increased

vehicle trip requirements linked to a 300 percent increase in the cost of gasoline; the loss of trained staff; and the unforeseen need for a complete analysis of the MOE curriculum.

However, poor communication among management elements within the project appears to be the most significant factor preventing proper project management. For example, serious misunderstandings were found to occur at times between the Liberian project manager and the contractor's Chiefs of Party (there have been four COPs since the project's inception), between the Liberian project manager and the contractor staff, primarily with the principal investigator; between the home office(s) of the contractor and the field team; and between the AID/W contract office and the USAID/Liberia mission. These misunderstandings impeded project progress to such a degree that serious and frequent intervention of the USAID/Liberia staff and/or the Steering Committee was required to ensure continuation of project operations.

Perhaps the most serious misunderstanding, (on pages 3,4 and 5), involved the USAID/L and the AID/W contract office. The contract office did not follow mission instructions regarding contract negotiations and as a result allowed the contractor to modify critical elements of project implementation without the prior knowledge of the USAID/L or project field staff. Immediate action to correct this situation is being recommended by this evaluation committee.

The use of a Steering Committee to monitor the project has been found to be an excellent tool. The committee, however, needs to improve its performance in certain areas. This issue is discussed more fully under the Steering Committee section which follows.

B. DETAILED ASSESSMENT OF MANAGEMENT PERFORMANCE

1. USAID/LIBERIA: Generally, USAID/L management of the project has been satisfactory. There have been several occasions, however, when decisions reached in consultations between the USAID/L project manager(s) and the contractor staff were not previously discussed with the Liberian Project Manager -- although it was USAID's understanding that this had been done.

There are indications that this failure to communicate was more a product of tight work schedules than of actual intent. This situation must not continue if effective and timely implementation is to be achieved. The evaluation team found that significant project issues have surfaced and have been resolved through the initiative and persistence of the present USAID project manager.

2. AID/W: Generally, AID/W has provided funding and other support in a satisfactory manner. A major exception to this is discussed on pages and of this report.

3. GOVERNMENT OF LIBERIA: The Ministry of Education has supported the project well. Unanticipated financial constraints, however, have limited its ability to provide such originally agreed-to support as public utilities (in the absence of publicity furnished electricity) for the Gbarnga project operations. The committee has been particularly impressed with the Liberian government's commitment to the nationwide institutionalization of the IEL system. The Ministry of Education has already begun preliminary planning for the Phase II effort. The committee was convinced of the Ministry's continued dedication to support the program, subject, of course, to constraints (mostly financial) beyond their control.

The committee recommends that the Ministry of Education undertake the following actions which should contribute to improved project performance:

- a) Devote maximum effort to providing by early May 1983 the necessary remaining textbooks to be used in OC schools.
- b) Provide a liaison person to create the necessary linkage between the project and the teacher training institutions.
- c) Make necessary representations to the Ministry of Finance emphasizing the importance of prompt payment of salaries in achieving the objectives of the IEL project, and requesting that the Ministry of Education continue its granting of priority status to the support of the project.

4. PROJECT STAFF:

Many of the Liberian staff are to be commended for their dedication to the project and for working long hours under difficult conditions. The evaluation committee found no significant problems with project staff performance. (It did, however, suggest that the Chief-of-Party could improve his control of arrival and departure times of USAID funded staff.)

The Liberian Project Director shares the responsibility for ordering and providing the books for the control schools. This aspect of the project, had it been better planned, could have been executed with no difficulty at least two years ago. Immediate attention must be given to this task. The committee found that the Liberian Project Director has devoted unusual amounts of time to the administrative aspects of project implementation and has consequently given too low a priority to the more technical aspects of the project. Her mastery of the technical aspects of the IEL system, e.g., editing, processing, is the key to any future institutionalization of this technology and should be the primary focus of her attention for the balance of the project.

The evaluation committee recommends that the Project Director immediately delegate most project administrative management responsibilities to qualified staff members, and begin to focus most of her time to acquiring detailed knowledge of all aspects of the IEL technology. It must be remembered that with the departure of the technical assistance staff in 1985, she will be the primary spokesperson for the IEL project in Liberia.

5. STEERING COMMITTEE: The evaluation committee believes that the Steering Committee concept is an excellent management tool for this project. It allows for integrated management and cooperative supervision of the project. However, there have been some problems with it. These problems related to infrequency of meetings and agendas which were so long they could not be completed in a reasonable length of time. Nevertheless, when meetings were held, there have been excellent results. The importance of regular monthly Steering Committee

meetings, therefore, cannot be overemphasized. This practice would serve to allow all members of the Steering Committee to be fully appraised of what is happening in the project and deal with issues on a timely basis. It would also reduce temptation for unilateral actions to be taken by any of the parties involved in the project. The committee recommends that all parties involved in project implementation make a concerted effort to assure that the decision-making role of the Steering Committee is acknowledged and supported.

CONCLUDING REMARKS

The evaluation committee wishes to express its sincerest gratitude to all who have assisted in this effort. While problems of various magnitudes are highlighted in the preceding pages, this does not detract, in our opinion, from the fact that contractor personnel have worked diligently and productively, frequently under very trying circumstances, and that the IEL system can make a significant contribution to Liberian Primary education. This committee agrees unanimously that the project has unique merit and should be supported in a manner that will allow it to reach its stated project objectives.

Evaluation Committee

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CONTRACTOR'S OVERVIEW OF IEL SYSTEM IN LIBERIA

IEL is an educational development of the Ministry of Education, Republic of Liberia. The initials, IEL, stand for Improved Efficiency of Learning. The purpose of IEL is to improve the efficiency of learning of children in the primary schools of Liberia, particularly those living in the rural areas of the country.

IEL is a complete educational system; it is not simply an instructional technique. The system is one in which all participants (students, teachers, and principals) work together to create supportive atmosphere for effective and enjoyable learning. Children learn together in small groups, and teachers share responsibilities across grade levels.

The primary modes of learning in IEL are forms of programmed instruction. The ways that children are taught and the ways that they learn are not left up to the teacher as in a conventional classroom; learning is programmed by the IEL staff -- a group of dedicated and experienced professionals in instructional design.

The form of programmed instruction used in the first two and one-half years of school is called Programmed Teaching (PT). Children learn in PT classrooms in the following instructional sequence:

Direct Instruction
Review
Practice

Each of the above steps in the sequence takes 15 to 20 minutes. A single sequence, therefore, requires one hour. The PT instructional sequence is repeated four times each school day, once for each of four subjects (i.e., Language, Mathematics, Reading, and Science or Social Studies).

In a typical PT classroom, children are divided into groups of 10 to 20 students. At any one time, the groups are engaged in different PT learning activities. While the group is learning in Direct Instruction, another is learning in Review, and a third is learning in Practice.

For Direct Instruction students are taught directly by the teacher. While conducting direct instruction with one group of children, the teacher monitors, but does not direct, the Review and Practice activities of the other groups.

During Direct Instruction, teachers use PT Modules. Both the content of what is to be taught and the methods of how it is to be taught are contained in the PT Modules. The teacher is helped by the module in presenting the content to be learned, in eliciting student responses, in reinforcing correct responses, and in making corrections for faulty responses. This teaching activity is programmed for most effective learning by the PT Modules -- hence the title "Programmed Teaching."

The use of hand signals by teachers is very important to the success of Direct Instruction. Teachers use hand signals both to indicate what material is to be learned and to inform students when to respond. The material to be learned may be presented in the module as pictures or letters or numbers. The module is held up by the teacher so that all children can see it clearly. The material to be learned also may be written on the chalkboard by the teacher. In whatever way the material to be learned is presented, the teacher uses hand signals to indicate which items of the material are to be responded to.

The teacher's hand signals also are used to insure that children respond exactly on cue. In direct instruction the majority of responses are made by all the children together. It is vital to the effectiveness of direct instruction that responses are made at exactly the same time so that the teacher can identify and help any student giving incorrect or hesitant answers. Because children are taught to respond precisely at the time the hand signal is given, the teacher is able to detect students who need special attention. Individual responses in direct instruction are used to test and to give remedial help. Hand signals also are used to elicit individual responses. The use of hand signals gives both structure and control to the teaching/learning process of direct instruction.

A single session in direct instruction lasts for about 15 minutes. This amount of time has been found to be ideal for permitting the extremely rapid stimulus response pace of direct instruction without losing the concentration of students. It is fast-paced learning that is within the attention span of small children.

Although the teacher's primary attention must be given to students in direct instruction, he or she also monitors the activities of other groups engaged in Review and Practice. If any corrections have to be made in these activities, the teacher stops direct instruction for the short period of time needed to make the correction.

After students have completed a 15-minute session in direct instruction, they move to a different part of the classroom for Review. At the same time, a new group moves into direct instruction.

There is a five-minute break between learning activities. The teacher takes this time to inform the children how to do the required Review activities. The PT Module contains the instructions which the teacher follows to inform the students.

For review, the PT groups divide into smaller groups of 3 to 7 students. These small "PT peer groups" are made up of friends who enjoy studying together. All children are given a copy of a Review Booklet, told what pages to review, and informed how to review the materials in the booklet together. These review activities cover the same material that was learned in direct instruction during the previous 15 minutes.

Review activities include (a) asking and answering questions of each other, (b) reading aloud, (c) holding "show and tell" sessions in which students take turns showing each other something they have done, (d) having team games among PT peer groups, (e) tracing in one's copy book, (f) copying from the Review Booklet, (g) drawing (h) writing from dictation, and (i) writing answers to questions contained in the Review Booklet.

Students most usually study together in Review sessions, but occasionally they may work independently. Activities that lend themselves to independent study include solving mathematics problems, tracing or copying letters or numerals, etc.

If children studying in Review sessions have any difficulty, they raise their hands. The teacher, who would now be conducting direct instruction for another group, stops direct instruction for the short time required to help the review group.

At the end of 15 minutes, PT groups again change activities. The children who were in Review now move to Practice, and the group in Direct Instruction moves to Review. The Practice group moves to Direct Instruction.

Children in Practice stay in the same PT peer groups that they were in for Review. Each student is given a Practice Booklet which contains basic skills materials for practice in reading and computational skills. These materials are taken from lessons previously covered in direct instruction. The purpose is to maintain mastery of the basic skills.

The above PT instructional sequence of Direct Instruction (Review) Practice is repeated four times each school day -- one time for each of four subjects. Thus, one hour is spent in the study of each subject. At the end of the day, PT students check out from the teacher the Practice Booklet they last used. They take it home for self-study of basic skills.

The activities outlined above are for the first two and one-half years of school. They are all included under the general heading of Programmed Teaching. PT activities are concluded at the end of the first semester of Grade 3.

Programmed Learning begins in the second semester of Grade 3 and extends through the remainder of primary school. Whereas programmed teaching (PT) specifies teaching behaviors, programmed learning (PL) specifies learning behaviors.

The majority of PL learning takes place in PL peer groups of 3 to 7 students. There is little or no direct teacher instruction; students study together, helping each other, and the teacher monitors, corrects, and reinforces positive learning behaviors.

PL Modules are used. Students complete one of these modules each school day, and they check the module out from the teacher each day as homework and review.

Each student in a peer group has a copy of the same module, but different peer groups will be studying different modules at any one time. The modules, thus, are reusable -- when one group is finished with a module, a second group checks it out to study the next day. The savings in materials costs by IEL are substantial even though each child always has a module to study. Only a very few copies (usually seven) are needed at any one school, yet as many as 70 students can be provided for.

Within PL peer groups, students take turns being the group leader. PL Modules contain specific instructions to be followed by the leader. The instructions prescribe how the material in the modules is to be studied. One instruction, for example, is "take turns reading sentences." Other instructions include, "take turns answering," "answer in notebook," etc.

There are specific behaviors which students in PL peer groups follow in studying together:

- o Take turns being the leader.
- o Follow leader instructions.
- o Help the leader if he/she has difficulty understanding the instructions.
- o Help each other.
- o Ask others for help.
- o Accept help from others.
- o Avoid criticizing others.
- o Speak up. Don't be shy.
- o Use chalkboard whenever needed.
- o Ask teacher for help when needed.

One module in one subject is studied during the school day. The same module is taken home for review and further study. The first period of the next school day is taken up with a test covering the module studied the previous day. The teacher scores test papers and uses test information to help individual students during a remediation period which is held during the middle of each school day. Students are assigned different remedial activities depending upon individual needs identified by the module test results.

The IEL school schedule given on the next page shows both PT and PL learning activities during a typical school day.