

PRIMARY EDUCATION IMPROVEMENT PROJECT

EVALUATION REPORT

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The external evaluator for the PEIP project began his third consultancy in Botswana on May 14, 1984, and completed it on May 25, 1984. The first consultancy was done in January, 1982, and the second was in October, 1982. The service to be rendered in May, 1984, according to USAID, called for the contractor to "assist the Government of Botswana, Ministry of Education and other cooperative agencies in reviewing and refining the evaluation plan for the Primary Education Improvement Project and evaluating the Teacher Performance Assessment Instrument under the Project."

A mid-point evaluation of the PEIP project was conducted in September, 1983 under the leadership of Dr. Jean Meadowcroft, S&T/ED. That evaluation called for a visit of this contractor to work on the formative evaluation in the early part of 1984.

The contractor established an evaluation plan in January, 1982, in which the PEIP staff, MOE officials, professionals of Botswana, including Dr. Axtell, and USAID personnel participated. The plan called for formative and summative approaches, with emphasis on the formative. The purpose of a formative evaluation is to assist a program in reaching its goals by using feedback from participants and others concerned about, and responsible for, the program.

The summative features of the original evaluation plan were designed to provide observation of the effects (mainly long-range) of the PEIP project on pupils. The formative features of the evaluation were designed to observe short-term changes in teaching as a result of PEIP activities.

This report is organized along the lines of the PEIP, which consists of an in-service program and a pre-service program based in the University of Botswana. In each of the two sections of the report, a partial review of progress since the filing of the contractor's report in October, 1982, and the mid-point evaluation report which was carried out in late 1983, will be included. Each of the two reports recommended certain steps to be carried out in the evaluation, and special attention will be paid to the extent to which these recommendations have been carried out. In each of the two sections, observations and recommendations concerning organizational aspects and technical aspects of the evaluation will follow the review of progress made.

Introduction

A proposed reform of primary teacher education appeared to be modest when it was begun in 1981. But no reform as basic as that can be simple in its effects. The purpose of the reform was to change the quality of teaching from depending on rote memory learning to emphasizing comprehension and application. This concept had been debated and considered for implementation for at least 7 years prior to the beginning of PEIP. Almost as important as the concept itself, which is of the essence for preparing children to live in a modern and democratic society, was the fact that the concept was adopted by the MOE and professionals of Botswana. It was a home-grown idea, not adopted as a result of

salesmanship from outside. This concept is unique in the world for a nation to adopt.

The contrary has been true all too often, as nations consider the testing of their students. Memorization has been emphasized by those who deem testing more important than teaching. The imposition of testing which measures only, or mainly, memorization has driven many countries and states back into the absurdity of emphasizing memorization at the expense of higher order mental processes. Botswana's MOE has resisted this tendency. But a reform of the kind undertaken in Botswana presents many challenges, including the assessment of children's learning.

Botswana has decided to enlarge its school reform by extending basic education to a nine year program, thus adding two years to the present basic program. The primary school eventually will consist of 6 years, and the junior secondary school three years. The senior secondary school (Cambridge) will consist of 3 years. The projected extension of basic education to include junior secondary school presents challenges to the primary system which will be discussed in this report.

PEIP, which began in 1981, has been institutionalized in the MOE, its schools and Education Centres, the University of Botswana, and in many other ways too numerous to mention (See, for example, the description of PEIP in Botswana, 1984, an official handbook published by the Department of Information and Broadcasting of the Government of Botswana). It has had the advantage of outstanding leadership in the MOE, in PEIP, and in the University of Botswana. The cooperation, mutual esteem and accomplishments visible among the cooperating agencies are predictive that PEIP is not a dream to fade away as other projects begin to occupy people's attention. The work of the staff of the MOE, the PEIP team, the administration of U.B., the schools and the education centers have all contributed to the success of this project. The concepts of PEIP and the primary education reform are understood and expressed clearly in conversations concerning the PEIP or primary reform.

The leadership and support of PEIP has been of such high quality that the June, 1984 departure of Dr. Knox, who has been Chief of Party, will not cause any succession problems. Dr. Knox has organized the role so well that his successor, Dr. Evans, should have no problems assuming the responsibilities. Dr. Evans has been so extensively involved in the continuous progress of PEIP that he is very knowledgeable of its objectives and activities. PEIP is successful due in no small part to the capable leadership of Dr. Knox. Dr. Evans will be very effective in his role as well.

I. In-service Training

- A. **Progress and Impact of an Organizational Nature.**
The in-service training program has undergone considerable organizational changes among which the following are significant:

1. The first phase of the program was completed in 1984. The 12 workshops involved teachers from the

the primary schools who have been very active in multiplying the workshops by delivering them in their own and other schools throughout the country. Over 100 schools and as many as 1000 teachers have been affected directly by Phase I. The director of in-service training of primary schools has been depending greatly upon these PEIP participants to carry out regular and special workshop activity of the Ministry, including workshops delivered to remote areas.

2. A Phase II of the in-service program has begun. The concept of this phase is clear, understood by all key participants, and was agreed upon by the MOE and PEIP team as a result of an intensive review of the first phase of the in-service program. This concept employs 30 Target One schools and 30 Target Two schools, which were carefully selected because of their characteristics, location, and the high probability of their staffs becoming good trainers. The Target One school trainers will train the Target Two teachers who will become trainers in turn. The 60 schools will be the focus of all the in-service activity for the remainder of the first Phase of PEIP.

Intensive activity directed at carefully developing the trainers will involve the efforts of the in-service program. These 60 schools will be a national resource for training efforts by 1986. The concept is based upon research in training and organizational change. Observation of results will be much easier than in the First Phase, which allowed dispersed efforts, some of which were difficult to account for, accurately.

3. The leadership of Mrs. Lesolle continues to be excellent. Her optimism, good sense, and fine personal style are great strengths for the program. She and Dr. Haseley provide the kind of leadership needed for a difficult task which few countries have undertaken with any degree of success. The PEIP team member, Dr. Haseley, is an effective organizer and is performing well as a resource person in the Ministry.
4. Six PEIP trainers from Phase I were selected as the core team of Phase II activities. These six will work with three PEIP team members in math-science, reading, and English. The care taken in selecting the six teachers should improve their future effectiveness, which in fact had already been demonstrated in May, 1984.
5. The Education Officers have been involved in a series of special workshops presented by the Chief of Party. This is important so that the implementation of PEIP can proceed with the

cooperation of these very important people. The Education Officers increasingly work with complex tasks which eventually will require extensive special training in administration and supervision. As the MOE delegates more responsibility to them, they must have extensive preparation for monitoring, instruction, assessing results of experimentation, and facilitating reform in schools.

6. The Education Centers are working extensively with PEIP in-service activities. There are close working relationships between the PEIP staff and certain centers, and PEIP staff have worked on workshop activities to some degree with all Centers. The Education Officers who are in charge of Education Centers have an interesting combination of responsibilities for in-service training in the new primary education, as well as inspection or supervision. The two roles are not necessarily incompatible, but require skillful people to carry them out. Extensive training in administration and training, including personnel work, would seem to be essential for insuring that these roles in the future are carried out by Botswana professionals in accord with the objectives and spirit of the primary education reform.
7. Teacher Training College staffs have worked with the PEIP staff in the in-service training activity. However, principals of these institutions do not always release the tutors for this activity. More important, the objectives of these institutions so far do not include a commitment to in-service training; so they are not yet organized for it.
8. Incentives for trainers have been established. Certificates have been awarded to those teachers who attended at least 9 out of 12 of the PEIP workshops in Phase I. A certificate attests to the fact that the holder is thereby viewed as a trainer by the MOE In-Service Primary Training Department. Over 60 trainers received certificates. No extra financial system of rewards exists for trainers, however. They are released by their head-teachers for training duties in other schools or their own schools, in order to present the workshops in which they have been trained.
9. The Project Advisory Committee has met as regularly as their dispersed responsibilities and schedules allow. It has provided direction for the project, coordination for those agencies involved, and a climate of openness to ideas from all participants.
10. The new curriculum of the primary schools has benefited from the extensive assistance of the PEIP team members, especially in the language and mathematics areas. This curriculum is being taught

in the in-service and preparation programs throughout the country and at the University of Botswana. The materials used in the workshops are carefully coordinated with the new curriculum which emphasizes comprehension and application of mental skills and requires teachers to involve children in activities.

11. The impact on teachers can be assessed quantitatively, but anecdotes are necessary to get the flavor of the reform. A high official told a story of a school he had observed in which students of the first three standards were all carefully washing their hands in an outside facility after visiting the restroom. When he asked why the upper standard children were not washing their hands, he was told that the teachers of the lower standards had had PEIP workshops; those of the upper standards had not. This is behavioral evidence of change! Evidence of behavioral change contained in such anecdotes helps us understand how schools change. Change is not linear, but occurs on a broken front, sometimes haphazardly, it would appear. But teachers do apply what they consider important. An extensive lesson in planned change could be elaborated from this anecdote.
12. The new Tlokweng TTC has an in-service facility and will have a director of in-service training. It is to be a model of its kind for the other three TTCs. Its proximity to the University and its affiliation with a laboratory school mark it as a promising institution.

B. Problems and Anticipated Changes of an Organizational Nature:

1. An important question concerning institutionalization is whether the director of-service training in primary education will receive some assistance in the near future. A person has been assigned for this purpose for training outside the country. Even with this person's return to this function, the staffing of this department will be at the barest minimum. More attention to staffing this function in the MOE should be planned.
2. More teacher training college involvement in in-service training is necessary. Perhaps a director of in-service training in each TTC would help the TTCs fulfill this needed role. More important is the clear identification of the goal of in-service training as a necessary one for TTCs. Their participation in this is nearly as important as their teacher preparation role if the primary reform is to become effective. The probability of less activity by new lecturers than the present

staff of the Dept. of Primary Education in in-service education makes a role shift in the TTCs toward this activity all the more important.

3. The Tlokweg in-service program has not yet been planned. The opportunity for a close involvement between the Department of Primary Education of UB and the new TTC to establish an outstanding model program could be of great value in in-service training.
4. Closer coordination with the Teaching AID Production Unit (TAPU), Francistown, in in-service education could assist greatly in preparation of relevant materials for the workshops.
5. The transfer of teachers who have been identified as PEIP trainers to other schools has constituted a minor problem, but it is recognized that local authorities do have authority over the placement of teachers in the district.
6. The financial effects of upgrading teachers in service must be studied. In this contractor's report filed in January, 1982, the point was made that UTS officials had foreseen this problem. The mid-point evaluation contains a recommendation that the effects of higher costs for teachers' in-service upgrading be studied. The sector analysis document filed on November 11, 1983, called for improving the quality of teachers' in-service, but did not, to this contractor's knowledge, estimate the increased costs of higher salaries for the teachers who have been upgraded by systematic in-service training. Clearly, these costs require analysis, and a complete sector analysis must estimate these costs. It is surprising that the recent EHR Sector Assessment chapter, entitled "Primary Education," made no mention of the PEIP, even though its recommendations included those of upgrading teachers' in-service and improving the quality of primary education, both of which PEIP was designed for, and which it had been involved in, long before the sector assessment began.
7. The establishment of a 9 year basic education system which will eventually assume a 6-3 pattern (by 1992) is planned. Curriculum planning for nine years of basic education has been begun in the field of mathematics. The extension of universal education from seven to nine years is a fine objective which is also challenging in all respects. The TTC at Molepolole has been designated as the preparation center for teachers in the junior secondary schools. The output of this college will not, however, provide all the teachers necessary. The goal of providing 9 years of basic education presents many challenges to PEIP and the primary education system among which are the following:

- a. Will PEIP-trained primary teachers be transferred in large numbers to the junior secondary schools? If this becomes necessary, what kind of policy will be established to protect the integrity of the primary system? A policy concerning this matter may become necessary before the pressure to staff junior secondary schools becomes intense.
- b. Will new PEIP-trained tutors in TTCs be transferred to the Molepolole TTC? A policy concerning this matter would seem to be advisable to protect the TTCs' primary school preparation mission.
- c. If transfer of personnel, especially the better trained PEIP graduates and trainees must occur, the costs of primary education as now calculated in the sector assessment will have been estimated at too high a figure, while the estimated cost of junior secondary education will be too low. Subsidization of the junior secondary system by the primary system should be estimated in the continuing sector analysis activity.
- d. The costs of primary education are the lowest of any level of the school system in any given country. The implementation of a junior secondary system will perhaps create pressure on the primary system to reduce the practice of exams at Standard 4 and 7. The pupil flow through Standard 7, ultimately Standard 6, will probably be speeded up, reducing the repetition in Standards 4 and 7. These changes will have the effect of increasing internal efficiency in the primary system (and possibly reducing the internal efficiency of the junior secondary system), especially if attempts are made to make the junior secondary system one which is preparatory for the senior secondary system. That eventuality is easy to predict. The goals of the junior secondary system will determine whether it is seen as comprehensive (e.g. including some vocational work, academic [preparatory for senior secondary], or basic skills-oriented). No matter what goals of the junior secondary system are chosen, there will inevitably be effects upon the resources and curriculum of the primary system. It is predictable, therefore, that the PEIP staff will be asked to assist in planning modifications in the curriculum which will occur as a result of the extended basic education system.

- c. The PEIP objectives the second five years must be set in accord with the anticipated impact of the extension to 9 years of basic education. Surely, the need for training teachers' in-service and preparing teachers in the principles of the reformed primary system will continue. Perhaps it will be necessary to upgrade administrators' skills, head teachers' skills, and TTC principals' skills, as well as to help provide more planning, evaluation, and research capability in a maturing education system.
8. Botswana's participation rate in primary education is one of the world's highest - about 84% in 1984. However, as the primary system expands access to more than the present 84% of children, new types of learners will be brought into the schools. Eventually, perhaps in the last years of Phase I of PEIP, or in Phase II, in-service and pre-service training in the diagnosis of learners' skills, along with training for recognition of special needs of learners, also called "special education," will need to be emphasized.
9. The administration of primary education has been assisted by the workshops provided for Education Officers by the PEIP team and their involvement with PEIP personnel. However, as the primary system changes goals and matures with better trained personnel, more responsibility will be delegated to education officers and head teachers. This will necessitate more formal preparation in educational administration for those who administer the system. Specifically, the EOs should have skills in educational planning and evaluation, education systems analysis and organization principles, educational finance, and personnel work. That should be a high priority for EOs, and a beginning should be made, as well, of the same kind of training for head teachers. A Master's degree, emphasizing administration, should be offered at UB, as well as a Master's degree which emphasizes teacher preparation and curriculum planning. Work outside the country should be planned as soon as possible for a cadre of people who can provide administrative skills of the kind enumerated in the primary system and who eventually can teach them at the University of Botswana.
10. With the anticipated departure of Dr. Axtell in 1985, plans for the institutionalization of educational evaluation in the MOE may be affected. Dr. Knox and Mr. Davids now bridge the evaluation - testing functions. Consideration should be given in the future toward a greater development of the

combined evaluation and testing functions. Testing is validly an instrument of evaluation. Evaluation serves to assess the goals and objectives of a curriculum. If, for example, the MOE-designed examinations for Standard 7 were not to measure the new higher order cognitive behavior of comprehension and were to measure only recall of facts, the exams would not be assessing the reformed curriculum, but the old curriculum. It cannot be emphasized too much that the MOE capability for evaluation (including the testing function) and research will have to be strengthened greatly as the basic education system lengthens and continues to expand.

11. Some modification in the policy of assigning Botswana employees of the MOE for out-of-country training might be considered, given some past delays in obtaining clearance for these individuals. For the most part, the process has worked well and is on schedule, but minor difficulties have occurred occasionally in getting replacements for people identified for training outside Botswana.
12. Follow up of the 60 target schools in Phase II of the in-service program might include activity planned for the appropriate education officers and head teachers. Involving district and school administrators in constructive ways may assure the long-lasting effects of the primary reform. It will commit these administrators to observing higher order cognitive learner behavior and the necessity of teachers' using activity approaches in the classroom. Many primary education reforms in other countries have failed because middle and lower level administrators did not cooperate in the planned reform. Commendably, these administrators have been involved in, and have cooperated with, the Botswana primary education reform.

C. Progress and Recommendations in the Evaluation of PEIP

The PEIP staff and the MOE staff, Dr. Axtell, and Mr. Davids, have worked together to provide a continuing formative evaluation based upon the original plan of January, 1982, and revised by subsequent documents. The following observations are pertinent:

1. The evaluation of the workshops has been modified to include three elements:
 - a. Teachers' background and characteristics,
 - b. Teachers' opinion of the workshop processes,
 - c. Teachers' knowledge of the concepts presented.

The PEIP team has placed emphasis on the teachers' knowledge resulting from the workshops. Attitudes toward teaching are no longer included. The semantic differential which was used in the early workshops was not found to be useful.

The instrumentation to be used in the June workshops is acceptable and should be useful to the workshop teams. The usefulness of the instruments in providing feedback to the PEIP teams is their most important characteristic. The contractor recommends, however, that teachers in Phase II of the workshops* be administered a brief instrument concerning their attitudes toward teaching and types of teaching to determine whether there is a change in their attitudes following training, and to determine what the attitudes of the trainers are toward concepts included in the reform of primary education as, for example, the desirability of teaching mainly for memory, or by means of active or passive pupil behavior. However, teacher attitude instruments are not so powerful or valid as direct observation of teacher behavior or determining teacher knowledge.

Research on teaching in developing countries has shown that the intelligence of the teacher in rural classrooms is the most powerful predictor of the achievement of children in those classrooms. Eventually, some measure of teacher mental ability would be helpful in determining the selection of trainers, as well as of teachers. However, mental ability is closely related to achievement; so the measures of teacher retention of the material presented in the workshops will be probably highly correlated with any mental ability measure.

2. Better collection of data on attendance at workshops has been planned and begun in May, 1984, than during Phase I of in-service activity. Careful attendance records will be taken and kept, so that the MOE evaluation people working with PEIP will have access to that data. The award of certificates as trainers will be dependent upon careful records of attendance. The multiplier effect which was a feature of Phase I has been successful, but to an indeterminate degree. In addition to the PEIP target schools in Phase I, possibly 100 schools, or more, received the workshops, and as many as 1000 teachers attended these multiplier (or second tier)

*Phase I and Phase II of the in-service activity should not be confused with Phase I (the first 5 years) and Phase II (hopefully, the second 5 years - or years 6 - 10) of PEIP. The external evaluator has attempted in every case to designate exactly to which Phase I and Phase II he is referring.

workshops which were presented by the PEIP trainees. The impact areas in the country, however, have been established and are on record in PEIP and Dr. Axtell's office. The records of the workshops and recipients in the second tier of Phase I are complete because those attending had to be excused from classroom duties or reimbursed for travel. However, the records have not yet been gathered in one file to account for the number of schools reached or the number of teachers attending these second tier workshops. The multiplier effect worked well, but it should be possible and would be desirable to gather those data together. The new plan for PEIP, Phase II, will make it necessary to keep these and other kinds of records in the future, because of the different kind of training model being used. The new model is aimed at intensity of impact, rather than early diffusion of training. The lessons from the first Phase helped MOE and PEIP to establish a new kind of model which controls the training far more effectively than in Phase I.

3. Dr. Ray LeGrand has constructed observation schedules of teachers' interpersonal skills and of classroom procedures used by teachers based upon the Georgia Teacher Assessment materials. The Georgia model was selected after the visit of the external evaluator in early 1982, to serve as a conceptual resource and guide for assessing teacher behavior in the PEIP. The external evaluator reviewed the instruments prepared by Dr. LeGrand and conferred with him on May 22, concerning minor modifications which might be made in them. The instruments are useful and will be tested in actual classroom situations during the period June - August, 1984 in workshops. Eventually, the revised instruments will be used to observe teachers before and after in-service workshops. They will also be used in the preparation of Diploma and Bachelor of Education people in the Dept. of Primary Education at the U. of Botswana.
4. Dr. LeGrand has also begun to teach classroom observation methods to the 3rd year B.Ed. students. He intends also to teach the regional and chief education officers this material in a workshop during the period July - August, 1984. He plans to present this material in carefully arranged settings to people who can make appropriate use of it. He hopes to be invited to the TTCs to present this material. Eventually, the education officers should be trained in this methodology. His caution in presenting these powerful techniques under appropriate circumstances to potential users is commendable, as a misuse of this methodology is possible.

5. Dr. Evans has constructed a self-evaluation manual of procedures for the TTCs. The approaches were adapted from materials used by regional accreditation organizations in the U.S. The material is very useful and might well be pilot-tested in the TTCs, with subsequent modifications made in the materials for the needs of teacher preparation institutions in Botswana.
6. Observation of classrooms affected by PEIP, as well as those with no exposure to PEIP (so-called "no treatment schools") is underway. Mr. Davids of the Research and Testing Center is conducting video cassette observations of a sample of PEIP and "no treatment" classrooms in order to assess changes in teacher behavior. This well-planned procedure should continue through the life of the project as part of the formative evaluation. The results of these observations will be valuable in assessing the effect of the workshops on teacher behavior.
7. The Primary Education Survey was carried out in 1982. In the evaluation plan, such a survey to gather baseline data for pupils and teachers was considered desirable for two reasons:
 - a. A survey had been conducted in primary schools in 1976, by a team led by Thorsten Husen; so comparability with earlier teacher and pupil data was possible.
 - b. The effects of PEIP on pupils and teachers would be extremely important. Especially important would be the effect on teacher practices. Have teachers changed their practices in order to allow more pupil activity and involvement in learning processes as a result of this teacher training reform? Another important question is whether pupils are learning higher order mental skills than simple memorization, as well as the retention skills, following PEIP activities.

The Primary Education Survey was completed by Dr. Axtell and is a most valuable piece of research and evaluation. More important, to the MOE and PEIP, is its usefulness as a diagnostic tool to look at the primary education system as a teaching - learning system. Many questions are presented and answered in the survey, but many more questions can be asked of the data. The PEIP team has studied the document and is using its findings in planning. The survey includes data on achievement, pupils' perception of their parents opinions about homework, recreational reading, learning facilities in the home, parents' education, teacher practices in classrooms, teacher characteristics, school facilities, as well as pupil

characteristics. It is most important that this survey be replicated in 1985-86, near the close of the PEIP, in order to observe change in the sampled schools. The sample of schools should be used again to insure comparability. The sampling process is clearly described.

A pool of data exists in the possession of Dr. Axtell which can provide additional valuable insights into the primary education. That data pool includes the following:

- Achievement of pupils grouped by their schools' exposure to experimentation (PEIP, PEIP plus curriculum development, curriculum development, no exposure to experimentation).
- Teacher behavior classified according to schools' exposure to experimentation.

A preliminary analysis of the data shows some significant differences in pupil achievement and teacher behavior according to type of experimentation in the school. The choice of schools assigned to the first in-service phase of PEIP may have been based on the judgment that those schools needed help, rather than on the basis of their being outstanding schools. That at least is a hypothesis which could be tested by the data. Definite time and encouragement should be given to Dr. Axtell and even to outside researchers to use those data to conduct the kind of analyses which could enlighten the MOE and PEIP members concerning the performance of the people in the different schools which participated in experimental programs.

8. The planning of the 9 year curriculum testing program has begun. A document which is a draft report prepared by Dr. Axtell, dated 13 May 1984, is a thoughtful, helpful document which presents the assumptions, or consensus, to date on the structure of the system and the kind of testing to be done for the 9 years of basic education. Many recommendations presented in the document are valuable, such as the one which states that rational achievement tests "will be aimed at enhancing the learning experience of students rather than classification" (no. 10, page 1). The PSLE, according to the draft document, will be required as a certification/selection measure for another 10 years. However, if universal participation in the junior secondary is an objective, the PSLE will have to be used as a diagnostic rather than a screening instrument. If enrollment in Standard 7 of the 9 year basic system is to be restricted, then the selection function of the PSLE will be prominent. A most enlightened statement which reflects a

concern for the validity of the proposed future tests is found on p. 5 (3h.). "The primary goal of the examination is to assess the skills students possess which will allow them to function successfully in society if additional education/training is never realized." This statement means that the tests administered must take into account the goals of the basic education system and its curriculum. From the standpoint of PEIP and the primary education reform, the tests should include measures of comprehension and application, and should not measure only, or mainly, retention of facts.

9. In summary, a plan of formative evaluation has been in existence since January, 1982. It has been followed since February, 1982, and has been modified, as noted in the external evaluator's October, 1983 report. (See recommendation, first full paragraph, p. 12, mid-point Project Evaluation Summary, Part II, 10/4/83.)
10. The external evaluator recommended in his January, 1982 document that qualitative information on PEIP be gathered by means of anecdotal information. An example is the anecdote presented above. The progress, obstacles, and modifications of/to any program cannot be captured only in quantitative terms. The "lore" or organizational knowledge of the PEIP team, including the trainees in Botswana and in the U.S., and MOE officials should be sampled from time to time by means of a simple methodology -- that those willing to talk about their experiences in and observations on PEIP talk on cassettes. These can be filed and kept until the PEIP team and evaluators listen to them and record the information. The PEIP team does this in face-to-face situations constantly in order to modify their approaches to training. It is an equally valuable approach in program evaluation.
11. The external evaluator should return to observe the PEIP during the period January - May, 1985. Once Dr. Evans has an opportunity to direct the project for some time, it would be ideal for the external evaluator to make a site visit. At that time, a large amount of data on the evaluation of the Phase II workshops and classroom observation data will be collected and ready for analysis. Therefore, the first part of 1985 would be a time during which the external evaluator could work with Dr. Axtell, Mr. Davids, and the PEIP team on the formative evaluation. It would also be advantageous for the external evaluator at that time to help plan for the second Primary Education Survey, which should be completed in 1986, and to plan the final collection

of data for the termination of the first Phase of PEIP. By April, 1985, five more participants will have returned from out-of-country training and will have been in their positions for several months. Hence, their role in the UB program can be studied by that time. The evaluator should also visit a sample of the 60 target schools at that time to observe their progress in the PEIP. The external evaluator should also return the last year, 1986, to help with a summative evaluation.

II. Teacher Preparation Programs

The teacher preparation programs at UB include a Diploma of Education program and a Bachelor of Education program. The Department of Primary Education at the University of Botswana is the home of the PEIP team, and is headed by Dr. Knox. The Department of Primary Education is housed in a fine facility which will be slightly modified soon to allow more flexibility in arrangements. The programs in primary education are now well established in spite of their newness and the fact that primary education has not traditionally been located in universities in many countries as have secondary education preparation programs. The PEIP has also had the responsibility of assisting the Teacher Training Colleges in adapting to the primary education reform. The following observations include progress and recommendations for future action of an organizational nature and those regarding the formative evaluation.

A. Progress and Impact of Teacher Preparation Programs:

1. Ten diploma students completed their studies in 1983, nine in 1984, and ten will finish UB in 1985. Twenty degree students will graduate in 1985. The completion rate of the students who entered the program is nearly 100%, which is evidence that the students were carefully selected and received good counseling and training during their residence at the University.
2. The selection of diploma and degree students has been delegated by the University to the Department of Primary Education. This facilitates selection processes but also demonstrates the confidence the University has in its relatively new Department of Primary Education. The quality of applicants varies from year to year; but, according to the Department staff, the 1984 selection was from a better pool of applicants than in 1983. Most important for evaluation is that the Department of Primary Education has collected extensive data on each applicant, and it has established a well-organized selection process which allows comparability from one year to the next.

3. Dr. Albert Leep helped the PEIP team to construct a teacher training curriculum at UB which is being tested and modified. It appears to fit Botswana's needs well. Students have choices in their programs, and are counseled on choices of courses relating to specialties which they would like to develop. The process of external examination in the Department of Primary Education has been used as a program evaluation method with good effects.
4. The records show that the Primary Education students compare extremely favorably with other education students at U.B. in achievement.
5. The philosophy of education of the Dept. of Primary Education is one of assisting the education sector of the country to develop. In turn, development of the education sector helps the country attain its economic and social development goals. This development philosophy in higher education contrasts with a philosophy of a university as an academic center which is autonomous from development concerns. Few universities outside North America exhibit the "development" philosophy. However, the "development" philosophy presupposes academic and scholarly competence to a high degree. Without competence to do research and scholarly work, the development philosophy does not work. Development implies that a group of scholars must be able to teach well, as well as to do research which is relevant to the social and economic needs of its country or region. The presence of the "development" philosophy in the U. of Botswana is healthy for an institution in a developing country. With their high academic credentials and demonstrated competence, the lecturers of the Department of Primary Education constitute a fine example of how scholarship, teaching, and service can function together. One mark of the confidence the University has expressed in the Primary Education Department is the fact that Dr. Knox has served as Acting Dean of the College of Education in the absence of Dean Barnabas Otaala.
6. Cooperation between the MOE and the U. of Botswana concerning the activity of PEIP and the Department of Primary Education has increased markedly since 1982. Cooperation concerning in-service activities, selection of diploma and degree candidates, and selection of those who leave the country for training to return to positions in the Department of Primary Education, planning the new TTC at Tlokweng have all required extensive cooperation between the two organizations.

7. Careful records are being kept of the progress of out-of-country trainees. They have been in frequent communication with the faculty and Chairman of the Department of Primary Education, with whom they will be working in the future. All of the out-of-country trainees are making satisfactory progress.
8. Plans have been made for the integration of the out-of-country trainees into the UB Dept. of Primary Education. Mr. Mautle, the first PEIP out-of-country trainee to return to Botswana, has taken his place as a lecturer in the Dept. of Primary Education. He is involved in workshop activity as well. Dr. Zajicek is working closely with him.
9. The Tlokweg facility is progressing quickly toward completion. Its principal has been chosen. The TTC has excellent facilities for classroom observation and in-service training. The Dept. of Primary Education and the Tlokweg TTC should begin to establish a cooperative program of in-service training, observation, as well as a new curriculum which can serve as a model for the other TTCs.
10. Relationships between the Department of Primary Education and the TTCs have increased, concerning in-service workshops. An affiliation handbook for a policy of TTC - UB relationships has been drawn up. This is in addition to the TTC self-evaluation handbook prepared by Dr. Evans.

B. Problems and Anticipated Changes in Teacher Preparation Programs

1. The role of the new lecturers in the Department of Primary Education after their return from out-of-country training must be recognized as having great implications as well as for the future of the University programs. It is nearly impossible for new lecturers to carry as much responsibility for in-service training as the PEIP staff have carried. The new lecturers will need to spend a great amount of time in preparing for classes. They must also demonstrate their skills in research and scholarly work if they are to become tenured or promoted. They do not yet have the experience in in-service work that the PEIP staff have had.

The UB and MOE should consider the formalization of a policy under which the new lecturers will be expected to provide assistance and counsel to TTC tutors to develop the capability in those institutions, with the help of the Department of Primary Education, to carry responsibility for in-service education.

This would leave the responsibility for in-service training in the future to the TTCs which should be organized to provide in-service education along with the Education Centers. The Department of Primary Education in the future could help those institutions build an excellent in-service training program for the whole country. The Dept. of Primary Education members should develop a research interest in in-service education, experimenting with various models of delivery and methodology, which few universities in the world have done.

2. The curriculum of the TTCs, with Tlokweg as the model, requires careful development with the assistance of the PEIP team. This need is complex because of the anticipated change in the primary system to 6 years out of 9 years of basic education. Further, a TTC has been designated as the junior secondary preparation center. This important task will require testing and evaluation of the TTC curriculum as well as planning its revision.

Selection of candidates for the TTCs which will have a new curriculum may be affected. The Dept. of Primary Education faculty may also be asked to provide technical assistance in establishing new selection procedures for the TTC candidates.

A continuing close relationship between the TTCs and the Department will be necessary for the success of in-service training and for accomplishing the mission of the TTCs which is to raise the quality of primary teaching, in accord with the goals of primary reform.

The increase in 1983-84 of 11,000 students in the primary system created a need for at least 300 additional teachers. The growing population and very high participation rate (84%) in primary education will continue to require the employment of unqualified teachers for some time. Hence, all the resources of the TTCs, MOE and UB in careful combination will be required to raise the quality of teaching through in-service and pre-service programs. Cooperative planning and experimentation are called for in improving the quality of teaching. The resources of the Dept. of Primary Education may be used more effectively by working through the TTCs and Education Centers, after the Phase II in-service activities with the 60 target schools have been completed.

3. The placement of diploma and degree graduates in positions after completion of work at the U. of Botswana may require a formal policy which assumes that the graduates be placed in a position which

uses the person's training to best advantage. There is such a great need for well trained people in the primary system that this should not be a problem. The people who have spent two years at UB have suffered the loss of one-half year's income. If there is not some kind of increased professional opportunity following the training at UB, good candidates will be discouraged from applying for diploma or degree programs.

C. Observations Concerning In-service and U.B. Programs:

1. The Chief of Party, Dr. Knox, has completed a comprehensive five year plan for the future of PEIP, Phase II. It is a carefully considered blueprint for the future of the project, which will serve as the basis of any future planning.
2. The departure of Dr. Knox in June, 1984 will not present a problem in succession for the PEIP project. He leaves for his successor a well structured organization and role. Dr. Evans is so well acquainted with the project, down to its details, that he is thoroughly prepared to become Chief of Party. The backup person who will succeed Dr. Evans at the U. of Ohio, Dr. Albert Leep, is also thoroughly acquainted with the project. One of the very strongest features of PEIP has been its backup on the University campus. That strength will continue to be evident.

III. Conclusions and Recommendations

Based on the observations, conversations and visits I have made during the period May 14-25, I would offer the following concluding remarks, followed by recommendations for the future.

A. Conclusions:

1. The extension of the basic education system from seven to nine years offers an opportunity for Botswana's citizens to become better educated in order to participate in an economy which is being modernized. The cost of this extension will be high as such reforms always are. Secondary education in any form is much more expensive than primary education.
 - a. It is to be hoped that investment required in the additional secondary schools and personnel will not require transfers from primary education which will weaken it. The reform of primary education has been long awaited and has involved a significant investment which is only now beginning to reap benefits. These benefits could be compromised if large transfers of

skilled people are made out of the primary schools. Some transfers will probably have to be made, but the effects should be carefully estimated before the transfers are made.

b. Primary Education reform has progressed in remarkably smooth fashion and with unusually high effectiveness in Botswana. Education reforms have not proceeded so smoothly in other countries. It is possible that future reforms in this country may be slightly more difficult, if for no other reason than the first reforms accomplished so much so quickly, and the portion of the education system which was reformed may suffer loss of attention or resources in future reform efforts.

c. An unfortunate long-term effect of reforms in some countries has been to expect far too much of the effects of the education reform on the country's economy. We still do not know enough about the relation of schooling to the economy of a country to be able to predict that a rise in education will be accompanied by a corresponding rise in productivity or employment. In fact we know that increased schooling does not necessarily produce more jobs. What has happened in some countries is that the great expectations of an expansion in the economy which would follow a rise in the schooling of a country's youth were not realized. Worse, worldwide economic conditions caused a drop in the number of jobs available. Education systems have been blamed for this situation by people who know better. Their claims that the school system didn't prepare the people the right way simply ignored the fact that educators don't create the economy. Governments and businesses create the economy. School systems prepare people for the world of work that governments and businesses create.

2. The PEIP has helped primary school reform in Botswana. The improvement of quality of teaching is an essential element in the country's development, but this is only a beginning. The extension of the basic education system to include three years of secondary education will present an additional challenge to the entire education system which will require the continuance of PEIP for a second phase. Mr. Sephuma and Mr. Swartland have referred to the first phase of PEIP as experimentation and that a second phase should be seen as consolidation. The first phase is serving to identify promising ways of raising the quality of primary teaching. These can be applied more extensively in the second phase

while other requirements of a good primary education system need to be met during the second phase. These requirements will be discussed in the recommendations.

B. Recommendations:

1. The first phase of PEIP will be completed in 1986. A second phase of PEIP should be planned to begin in 1986, and to continue for five years. During the second five years, the PEIP staff will be needed for the following activities to continue the reform of the primary education system:
 - a. Reorganizing the curriculum, functions, and administration of the TTCs, and to create close ties between TTCs and the Department of Primary Education of the University of Botswana.
 - b. Upgrading the administrative skills of the education officers and training skills of those education officers who are in charge of education centers. A program should be established for training head teachers in administration. To accomplish these objectives, a Master's degree program in Educational Administration and a Masters degree program in Curriculum and Evaluation should be established at U.B..
 - c. Planning continuing observation, use and support of the 60 target schools selected for the Phase II of in-service work in PEIP I. These schools should serve as model schools for at least five years.
 - d. Developing the research capability of the Department of Primary Education and assisting in the strengthening of the research and evaluation functions in the Ministry of Education. A journal for primary education has been suggested by Dr. Knox.
 - e. Assisting the MOE to upgrade the administrative skills of its officials, where this is deemed desirable by the MOE.
 - f. Assisting the MOE in strengthening its in-service training capability for primary education.
 - g. Assisting the MOE in improving its recruitment and selection procedures for candidates for primary teaching.

The above should be done with a maximum development of Batswana with a gradual phase-out of U.S. personnel.

2. The following is a recapitulation of the recommendations previously mentioned to be considered for the remainder of PEIP I.
 - a. Additional extensive administrative training for education officers should be offered in Botswana, and out-of-country training in educational administration for selected education officers should be started.
 - b. Additional personnel for the in-service function of the Primary Education Department of the MOE are needed urgently.
 - c. The teacher training centers should begin to assume a role in in-service training of primary teachers, in accord with a plan which coordinates those efforts with PEIP and the MOE. The appointment of in-service directors in each TTC, such as the Tlokweng TTC will have, may be advisable.
 - d. The PEIP team should assist in the design of a curriculum for the Tlokweng TTC, which will serve as a model for the other TTCs. This task will have to take into account the changing role of the TTCs as the extended 9 year basic education system is begun. A self-study instrument prepared by Dr. Evans is worthy of trial use in the TTCs. PEIP staff may also be needed to help in changing selection and staffing policies for the TTCs.
 - e. Closer coordination between PEIP's in-service efforts and TAPU should be accomplished, so that TAPU could provide most of the in-service materials which are needed in the PEIP workshops and other in-service workshops provided by MOE.
 - f. The financial effects of upgrading primary teachers should be estimated by the sector analysis staff. The financial effects of transfers of trained teachers from primary to junior secondary schools should also be estimated.
 - g. Policies should be considered which will protect the integrity of the primary education system and not interfere with the goal of a 9 year basic education system. Specifically, transfer policies for teachers to junior secondary schools will have to be established, as well as for tutors from the TTCs.

- h. Workshops in the diagnosis of learners' needs and in special education should be tried on an experimental basis.
- i. The continued strengthening of the evaluation function of the MOE primary education department is needed. Its close relationship to testing which should be subordinate to the evaluation of curriculum should be assured. Measures of comprehension and application should be used in future testing as well as of memory. The work of the Research and Testing Center is evidence that the MOE has a great concern for the research and evaluation functions.
- j. Continued efforts on the part of the MOE to make sure that out-of-country training candidates will have the time to complete their studies are necessary.
- k. The Primary Education Survey, carried out in 1982, should be replicated in 1985-86. Certain additional analyses using the 1982 data would be very advantageous in evaluating PEIP's effects, as well as those of the MOE Curriculum Development program on primary schools. Researchers in other countries should help in the analysis and use of the data.
- l. The classroom observation instruments which have been prepared by Dr. LeGrand should be used in the program, with modifications suggested. His careful approach toward teaching classroom observation methodology is commendable. This methodology is needed by EOs.
- m. Careful follow-up of all graduates of the diploma and degree programs should be pursued, in order to track the effects of this training on the primary education system. The MOE should consider the effects of its assignment of graduates of the diploma and bachelor programs on the willingness of future candidates to attend those programs.
- n. Anecdotal information on the effects of PEIP on schools and other organizations should be collected and used in the future evaluation of the program.
- o. The evaluation of workshop activities is well planned and should include teachers' opinions of the workshops as well as their cognitive growth following workshops. A pre-workshop with post-workshop analysis would be excellent

from the standpoint of evaluation methodology. The changes in attitudes of teachers involved in PEIP toward teaching, as identified in a suggested instrument in the January, 1982 report, would also be very valuable. Consideration might be given to an assessment of mental ability of PEIP teachers.

- p. The following suggestions/remarks concern Phases I and II of PEIP:
- 1) Phase II workshop plans for assessment are much better than the Phase I plans were.
 - 2) The formative evaluation plan, which was proposed in January, 1982 and subsequently amended, should be used for assessing Phase II workshop activity.
 - 3) The video cassettes in observation of Phase II and "no treatment" schools should be analyzed as part of the evaluation of Phase II activity.
 - 4) Data on the number of schools and teachers affected by the Phase I workshops are in existence and should be put into tabular form.
 - 5) Follow-up of the 60 target schools over a period of 5 years should be carefully planned so that changes in their teaching and organization can be observed. EOs and head teachers should be assigned responsibilities for the follow-up.
- q. The use of the PSLE should be considered as a diagnostic instrument. The PEIP team's advice in the use of examinations in the 9 year basic education system should be sought.
- r. The philosophy of the Department of Primary Education of UB which is one of commitment to social development, rather than strictly one of academic preparation, should continue. In all likelihood, the involvement of the new lecturers in the Department of Primary Education will not allow them so much involvement in workshops as the present PEIP staff; therefore the TTCs should assume more of that responsibility, in coordination with the Department of Primary Education of UB.
- s. The external evaluator should return sometime between January and April, 1985, to assist in the continuing use and modification of the formative evaluation. He should return in 1986 to assist in the summative evaluation of PEIP I

and to help plan the formative evaluation of PEIP II (1986 - 1991).

- t. With the change in the basic education system to nine years, the PEIP team with the UB and MOE will have to reassess its role in improving primary education. Planning this role may be the greatest challenge that the new chief of party faces. The PEIP staff has met great challenges before and will make a significant contribution to the MOE in planning this new reform. The abilities, energy, creativity, and dedication of the PEIP staff make it easy to predict that they will continue to contribute to the success of primary education in a significant way.

APPENDIX A

The external evaluator met and talked with the following people:

- Dr. Brian Axtell, Senior Research and Testing Officer, Examinations Unit, Dept. of Curriculum Development and Evaluation, MOE
- Dr. Marion Blue, Math/Science Advisor, Ohio University Team, PEIP, UB
- Mr. William Davids, Examinations Unit, Dept. of Curriculum Development and Evaluation, MOE
- Dr. Ann Domidion, HRDO, USAID
- Dr. Luther Haseley, In-Service Education Advisor, Ohio University Team, PFIP & MOE
- Ms. S.Y. Khama, Principal Research and Testing Officer, MOE
- Dr. Donald Knox, Chief of Party, Ohio University Team, PEIP, UB
- Dr. Ray LeGrand, In-Service Education Advisor, Ohio University Team, PEIP, UB
- Dr. Albert Leep, Professor of Education, Ohio University
- Mrs. Miriam Lesolle, In-Service Leader, MOE
- Mr. G. Mautle, Lecturer, PEIP, UB
- Dr. B. Otaala, Dean of the Faculty of Education, UB
- Mr. Jack Purves, Coordinator, Primary Education Management Program, MOE
- Ms. Janet Ramsey, English Language Advisor, Ohio University Team, PEIP, UB
- Dr. Jack Reed, Science Curriculum Advisor, Dept. of Curriculum Development and Evaluation, MOE
- Mr. P. V. Sephuma, Chief Education Officer, Primary and Teacher Training, MOE
- Dr. Murray Simon, Senior Planning Officer, MOE
- Mr. J. R. Swartland, Deputy Permanent Secretary, MOE

Ms. Lucretia Taylor, Program Officer, USAID

**Dr. Iva Zajicek, Social Studies/Language Arts
Advisor, PEIP, UB**

**Mrs. Magole, Head Teacher, Boikhutso School,
Gaborone**

Six Teachers, Boikhutso School, Gaborone