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BOTSWANA

Junior Secondary Education Improvement Project

PROJECT OUTPUTS

February 1988

IEES

Improving the
Efficiency of
Educational
Systems

The Florida State University
Howard University
Institute for International Research
State University of New York at Albany

United States Agency for International Development
Bureau for Science and Technology
Office of Education
Contract No. DPE-5823-C-00-4013-00

Improving the Efficiency of Educational Systems (IEES) is an initiative funded in 1984 by the Agency for International Development (AID), Bureau for Science and Technology, Office of Education. The principal goals of the IEES project are to help developing countries improve the performance of their educational systems and strengthen their capabilities for educational planning, management, and research. To achieve these goals, a consortium of U.S. institutions has been formed to work collaboratively with selected host governments and USAID Missions for ten years. The consortium consists of The Florida State University (prime contractor), Howard University, the Institute for International Research, and the State University of New York at Albany.

There are seven countries working with the IEES initiative to improve educational efficiency: Botswana, Haiti, Indonesia, Liberia, Nepal, Somalia, and Yemen Arab Republic.

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Agency for International Development
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SYSTEM DEVELOPMENT

Planning

Developed and established computerised procedures for the Form I (JC) selection and admissions programme in 1987 and 1988, and for the Form III certification of JC students in 1987; procedures are now operationalised within the Department of Secondary Education; established database for Form I admissions, provided report, and used database information as the basis for bursaries awards.

Carried out an analysis of the feeder schools for all secondary schools to expedite selection and admissions procedures.

Established a school mapping database; analysed population densities, growth rates, and the feasibility of fully utilising proposed junior secondary school facilities in low density areas; this work resulted in policy papers on school boarding and the linking of primary and secondary schools; produced reports on student distance from schools and issues for the next phases of the expansion programme; developed the "small school" project which has been externally funded for implementation.

Analysed secondary school financing and wrote report on the abolition of secondary school fees for the assessment of the Government's decision to provide free education at the secondary school level; paper looked at the options for the financing of secondary education.

Established procedures for the exchange of data between the Central Statistics Office and the MOE; wrote necessary linking programs; developed database on secondary school staff; carried out staffing analysis and developed a formula for the allocation of professional staff to the junior secondary schools -- system now being used by the Unified Teaching Service.

Reviewed the CJSS construction programme (Phases 0 to IV) for the MOE; developed computer program to produce update reports on the building programme for the Planning Unit.

Model for the allocation of staff to schools was used in conjunction with an enrollment projection model to estimate staffing requirements for junior secondary schools to 1996; model was also used for the estimates in the developmental plans for a second College of Education (replicating the MCE).

Participation in the mid-term review of the National Development Plan 6 for Education.

Analysis of the internal rate of return for Community Junior Secondary Schooling; improved estimates on the Sector Assessment work.

Carried out Planning Unit Seminar on the "Use of Management Information Systems for Planning."

Trained Planning Unit staff in the use of the project-purchased Sperry Computer; set up systems; installed software; and maintained operational integrity of the system.

Carried out reviews of the EMIS requirements for UTS, DNFE, and Bursaries Departments.

Organised the Joint Masters Programme of the Florida State University and the University of Botswana; 4 JSEIP staff participated in the teaching of the research course at UB; served on selection committee.

Established JSEIP administrative offices and procedures.

Organised and served as rapporteur for the Project Planning Committee, which meets 4 times a year on project policy; Committee has become a general operational planning body for the Ministry of Education, as well as serving the project.

Evaluation

Draft, participatory debate with key MOE officials, and publication of Educational Programme Evaluation Guidelines for Botswana; 500 copies ordered by Government for distribution through the CD&E and Botswana Educational Research Association (BERA); formal presentation to BERA at the 1987 National Conference.

Training seminar (2 weeks) with the Head of RTC and the Evaluation Task Force, the SEO for English, and the Principal CDO for the CDU at FSU on formative programme and curriculum evaluation; plans formulated for the development of curriculum evaluation approaches and procedures, with assistance from Professors Walt Dick, Garrett Foster, and Bob Morgan of FSU; 13 Masters students of the FSU/UB programme attended relevant sessions both as part of the training activity and as a resource for review and development of the evaluation effort; John Bowers provided formal paper on materials evaluation to the ETF and the CDU.

Establishment of the CJSS evaluation framework for the Deputy Permanent Secretary's Office as part of the MOE's programme evaluation activities of the JS expansion; plan presented and approved by the Heads of all Departments; plan distributed and explained to 1-7 staff members at each of 44 CJSS schools, 31 primary education officers, and 10 secondary and curriculum officers.

Establishment of the Evaluation Task Force to operationalise the JC programme evaluation design; procedures and activities formulated for the ETF; over a dozen studies initiated that look viable at this stage; edited monograph planned for August, 1988 to summarise programme status.

Published loose-leaf Handbook of Evaluation for the ETF, outlining evaluation philosophy and approach, procedures, and plans.

Established task forces for practical studies and technical studies to informally evaluate the status of optional subjects in the curriculum; Ministry of Finance personnel participated in the technical studies task force to attempt the link with employment information -- but the link is only possible at the senior secondary level and only for the formal sector, at this time; further cost analyses of the practical subjects (technical studies, home economics, and art) indicate that these subjects will become very expensive as the system grows -- that is, increasing hands-on "practical" experience in the curriculum may be impractical in the long run.

CJSS school surveys conducted by 13 FSU/UB students under the guidance of Wes Snyder and Howard Williams; 26 schools visited; full reports written by students, edited, and sent back to the schools by the Principal Curriculum Development Officer;

12 hours of class contact time devoted to training and discussion of the field research effort.

Six questionnaires developed for baseline data collection on school variables and trial tested in Gaborone; visiting 35 schools in eastern Botswana, 222 teachers and headmasters completed Q-sort on Aims of the Programme; 164 teachers and headmasters completed a 52 item Quality of Work Life questionnaire; 148 teachers and headmasters completed an attitude questionnaire on the Nine Year Programme; results reported to all primary and secondary education officers.

Re-establishment of the IEA testing programme, formerly developed by the National Commission on Education in 1976; plan devised and presented by Wes Snyder and approved by all department heads; training and administration organised by John Bowers through the MCE teaching practice programme; 20,000 tests given to Form II and III students in 1987, the last year of the Form III in the JC -- 4 tests in Word Knowledge, Reading Comprehension, Science, and Math were administered to 2,500 students at each form across the nation (missing only 6 schools in the country); scoring organised by Bryan Axtell and William Davids of the RTC; IEA programme also included data on aspirations and expectations of the students -- currently being used in the World Bank studies for the MOE through the National Institute for Research at UB.

Devised and planned National Curriculum Consultative Conference Series ("Therisan ka Thuto") for increased community consultation on the basic education programme of the MOE; plan has gone through 7 revisions and been presented to and approved by the Project Planning Committee, the Policy Advisory Committee, and USAID; 5 video-taped programmes have been planned (1 1/2 completed) to bring community opinion and information to the conference in dramatic and comprehensive fashion; early, less edited versions of taped interviews have been shown to all department heads and CDO and MDT officers, many MCE instructors, and new headmasters -- this has provided important formative information to the MOE decision-makers and has already affected attitudes and orientations to the communication problem; the completed taped programme was used at an UNESCO conference by the MOE.

Organised classroom observations studies at 6 schools, including rural Marapong and Maun, across all subject areas; observations at 2 of the schools have been carried out for 1 year (began February, 1987) for 1 full day at the school a week; the approach is ethnographic; 2 Masters students are being trained in the methodology and using it in their field research covering agriculture and home economics.

Reading Comprehension study initiated to develop procedures to assess and establish baseline data on English language proficiency, provide needs assessment information on the late primary-early secondary language skills, identify pre- and in-

service programmes in diagnostic and instructional systems, and support institutional development through research training (26 students involved in the research associate training programme) and policy recommendations; 540 school students (3 classes of 30 pupils in 6 areas of the country -- Gaborone, Mahalapye, Selibi Phikwe, Gumare, Kang, and Gantsi).

Needs assessment studies documented the general needs of the curriculum and the resources available for the development process and confirmed the structural changes in the entry requirements of training opportunities for JS leavers; the link with employment and training data will be very difficult to forge because few opportunities exist for JS leavers and even these are dwindling in the formal sector.

Carried out internal evaluation of the project in preparation for the "official" mid-term internal evaluation reported subsequently by Bob Morgan and David Chapman.

Format and presentation of the national exams improved, including 13 subjects for JC for 35 test papers, 7 subjects for the PSLE 7 test papers, and 3 papers for TTC selection; work carried out in the RTC.

- JUL 87: Given responsibility for evaluation of mathematics materials with SEO, Mr Ramaswami
- JUL 87: Met with Mr Ramaswami and Mr Selerio to discuss workscope. Math had revised well-established materials for Form 1--different evaluation plan required

Product= Workscope for mathematics evaluation.

- AUG 87: Prepared notes with Wes Snyder on evaluating curriculum development and implementation projects -- umbrella evaluation structure across subjects as a basis for possible involvement rather than SEO-proscribed work on mathematics

Product=Short paper on a structure for evaluating CD projects

- AUG 87: Developed a tentative two-tiered field test plan for mathematics. Circulated to SEOs together with a checklist of possible evaluation questions.

Product= Field Testing for Revised Form 1 and 2 Materials

- OCT 87: A single evaluation plan for mathematics was decided by SEO. Details not forthcoming, but to be developed after the holidays.

- JAN 88: Was provided office in CDU/RTC for three days each week with MCE informed.
- JAN 88: Met Mr Ramaswami, SEO Mathematics, to discuss evaluation plans for the new mathematics materials
- JAN 88: While on home leave, prepared a first-draft prospectus concerning a short consultancy to help MOE/Botswana implement a proposed advanced training programme in testing and assessment for MCE graduates.
- FEB 88: Meeting of Social Studies group in CDU.
- FEB 88: Used StatView to analyze and examine 1987 JCE multiple choice (Paper 1) item statistics in social studies and in art, and to examine item and total score statistics for social studies JCE Paper 1 and Paper 2.

Products= Statistical tables, histograms, and scatterplots.

- FEB 88: Collected Mathematics Book 1 Evaluation Forms from GPO and delivered to Mr Ramaswami. My involvement will be to aggregate teacher response data chapter-by-chapter as each is taught and completed forms are returned to the SEO.
- FEB 88: Prepared revised handout materials for first three of six scheduled afternoon training sessions with MDTs. Materials deal with an instructional frame to classify instructional objectives by levels of learning and content categories and with rules for item writing.

Product= Revised Handout: Instructional Frame and Item Writing Suggestions

RTC TEST DEVELOPMENT--JCE PREPARATION

- FEB 86: Hope Phillips agreed to my working with RTC in JCE test development
- FEB 86: Met with English Panel as observer at the request of RTC.
- FEB 86: The EO/Social studies requested me to obtain multiple-choice JCE-type items from two Molepolole lecturers.

Product = Item Writing Guide and a set of 25 candidate items.

- MAR 86: Attended one day of a PSLE "shredding" (editing of items) exercise at CDU.
- MAR 86: Met twice with Bookkeeping and Commerce Panel.
- APR 86: Received RTC responsibilities for JCE Social Studies and JCE Art.
- MAY 86: Met with social studies panel and discussed MOE JCE policy.
- MAY 86: Assisted MCE art lecturer in setting JCE art requirements.
- JUL 86: Met with art teachers to outline JCE art specifications

Product = Art test specification grid

- JUN 86: Met with JCE exams subgroup of the social studies panel.

Product= 10-page handout on setting exams questions

- AUG 86: Presented workshop for art teachers to write JCE items (first JSS test in Botswana)

Product = JCE Art test item pool

- SEP 86: Set preliminary JCE Art multiple-choice test to be used in 1987

Product = JCE Art Paper 1 draft

- OCT 86: Met with art exams group to review JCE Paper 1 and ways to evaluate Portfolio

Product = JCE Art Paper 1 revised and Portfolio Evaluation scheme

- OCT 86: Conducted item-writing workshop for social studies JC exams subgroup

Product = JCE Social Studies Paper 1 draft

- DEC 86: Prepared penultimate draft of JCE Paper 1 art test for 1987

Product = JCE Art Paper 1 in final form except for illustrations

- DEC 86: Worked with Don Thompson to prepare JCE Paper 2 and Paper 3 items in social studies

Product = JCE Social Studies Papers 2 and 3 draft for review

- FEB 87: Meeting of exams subgroup in social studies to set final version of 1987 JCE papers

Products = Final versions of JCE social studies exam disk edited

- MAR 87: Final versions of 1987 JCE art and social studies exams word processed.

Products=Tests on disk supplied to RTC

RTC TEST DEVELOPMENT--JCE PREPARATION (CONTINUED)

- SEP 87: Met with social studies exams group to prepare items for 1988 JCE Paper 1-- 125 draft items were written which were entered on computer and returned to the SEO.

Product=Draft items on disk supplied to SEO

- OCT 87: SEO edited social studies items.

Product=Amended items placed on disk and supplied to SEO

- NOV 87: Prepared item bank copy of social studies items and gave to Ms Chalisa in CDU.

Product=Item analysis printouts of p, r, distributions.

School Management and Headmaster Inservice Training

Five day training session, November 24 - 28, 1986 at Bridec, Gaborone, for 11 newly appointed Headmasters. Worked with W. Grisdale, Headmasters Advisor and M. DeCoste, Financial Advisor. Training session was to provide minimum "survival" skills for these newly appointed Headmasters when they took up their new appointments. Training session was evaluated.

Developed a questionnaire for identifying immediate and major problems and concerns faced by newly appointed headmasters. This was given to 11 participants at 1986 training session and to the nine who attended training session in 1985. This information was used to design and plan future workshops for newly appointed Headmasters.

Worked on draft of New Educational Regulations at various times in December, 1986, and January - March 1987. A draft was submitted to Permanent Secretary and then to attorney-General Chambers. No action was taken on this draft.

Participated in nine meetings of 2 - 3 days in length, at six locations with 74 Headmasters during months of June and July to discuss the March Draft of the New Educational Regulations. Many major revisions were suggested and implemented in the regulations. In January, 1988, most revisions were approved by the committee responsible for development of the manual.

Final revised Draft of Educational Regulations sent to Minister, Permanent Secretary and Deputy-Permanent Secretary on February 11, 1988. These were approved with no changes and returned on February 29, 1988. This draft will now be sent to Attorney-General Chambers for their legal approval.

Draft of Headmasters Manual developed January - April, 1987 and edited in December 1987 and January 1988. Final draft for distribution to 93 schools (70 Junior and 23 Senior Secondary Schools) is close to completion.

Designed, distributed (to 54 schools), and analyzed February - April 1987), a questionnaire on Bursars to develop a profile of those in this position. Information used in making decision on Bursar qualifications and pay scales.

Designed and distributed to 70 schools in February 1988, five questionnaires to obtain information on Non-industrial and Industrial Staff throughout the Junior Secondary system. This information will be used to establish system wide guidelines for such staff in regard to qualifications, Grade and Salary scale.

Developed in December, 1987 a proposed establishment of Non-Industrial and Industrial Staff in Community Junior Secondary Schools. This was approved and put into effect in February, 1988. This will provide a standardized Establishment for all schools in

the system.

Designed, distributed and collected questionnaire on Biodata of 70 headmasters during 1987. Data base will be developed in conjunction with computerized system at Unified Teaching Service to provide us with a profile of present Headmasters in the country.

Visited 9 schools in February, six of which had new Headmasters. Gathered information on their major problems in establishing new schools. Visited 11 more schools during rest of 1987. Time factor limits school visitations.

Participated in Four Headmasters' Conferences with 77 Headmasters conducted in June and October 1987. These are information sessions for Headmasters and a chance for them to express concerns and problems.

Designed, distributed to 54 schools (May, 1987) and analyzed a questionnaire (Needs Assessment) to determine major topics for future workshops for Headmasters. From the analysis, most of their needs will be dealt with following workshops on New Educational Regulations, Headmasters Manual and New Financial Regulations. Two key topics for future seminars are Legal Issues in Education, and School Discipline. The results of this needs assessment were given to 54 Headmasters in October, 1987.

Organized in January, 1987: the computer entry of data for the Form 4 selections, the running off of a final selection list, and the production of 500 copies of the Form 4 Selection Booklet.

Compiled in May, 1987, a profile of housing for Secondary Schools to be used in deciding schools to receive additional housing under emergency building scheme.

Designed, distributed to 54 Headmasters (in June 1987) and analyzed a questionnaire to obtain information on problems and concerns that the Headmasters had with their Chairman (Manager), Board of Governors, the community, and teaching practice. Information was used in making revisions to the Educational Regulations and will be used in future workshops with the various groups. Information on teaching practice was used by Committee organizing such practice for 1988.

Assisted (October 1987- 3 person committee) in the development and production of the final draft of the Secondary Educations' report on progress and problems regarding the implementation of the objectives of the National Development Plan 6. Stress was made on the need to add business, commerce, and technical studies to both junior and senior secondary levels.

Planned, and assisted in delivery (November 2 - 20, 1987) of a three (3) week training session for 16 newly appointed Headmasters at Bridec, in Gaborone. A three week rather than one week training session was much more efficient and effective.

Extra time permitted us to increase the skill and competences of those becoming Headmasters. Training session was evaluated.

Drafted in September 1987, criteria to be used in selecting schools and cooperating teachers for piloting and field testing curriculum material. Arranged a pilot class for English materials at Gabane school just outside of Gaborone.

Prepared materials on Establishment, Grade and Salary scale for Non-industrial and Industrial staff in community schools together with recommendations regarding qualifications for such positions. Material used in one day session with Managers of schools on January 13, 1988 in Francistown. Same materials used at meeting same day with Managers in Gaborone.

Curriculum Coordination Committee (CCC)

At the request of the Project Advisory Committee, I helped get the Curriculum Coordinating Steering Committee, later called the Curriculum Coordinating Committee (CCC), off the ground and coordinated its activities. The need for such a committee was due to the many development activities that were simultaneously occurring throughout the Ministry of Education (MOE) and general lack of communication among the various departments and units within the MOE. In researching the needs that such a committee might address, I solicited the views of MOE officials from the Department Chief Education Officers to the unit education officers and advisors and summarized their views in a series of small documents. Approximately 15 - 20 officials from all units within the Departments of Secondary and Curriculum Development and Evaluation were involved in the survey. Based on that information, I prepared and submitted a report to the Deputy Permanent Secretary and Chief Education Officers of the MOE.

The report included an outline of my recommendations regarding the composition and structure of the CCC. Based on my recommendations and the discussions surrounding them, a CCC was appointed. It was comprised of representatives from the CDU, Secondary Education Officers, Headmaster Inservice Advisor, Teacher Inservice Advisor, Primary and Teacher Training Department, Research and Testing Unit, University of Botswana, Molepolole College of Education, PEIP Project, JSEIP project, and Non-formal Education.

Subsequently, I was appointed secretary of the committee and was responsible for organising meetings and agenda, reporting minutes, and preparing committee reports to the Project Advisory Committee. I helped develop and write the terms of reference of the committee which were submitted and approved by the Project Advisory Committee. The CCC originally met every other week. Over two hundred copies of minutes and reports of each meeting were distributed to all officers in the Departments of Secondary, Curriculum Development and Evaluation, and Primary and Teacher Training as well as headmasters of all community junior secondary schools and teacher training colleges. In conjunction with my CCC activities, I collected, recorded, and distributed a monthly MOE Activity Schedule which listed dates and venues of workshops, panel meetings, and other events that occurred within the MOE. I served on numerous subcommittees and usually prepared their progress reports for the CCC members. Subcommittees I served on dealt with issues such as introducing objectives into the subject syllabuses, the JC examination, national curriculum conference, and language proficiency in schools (some described below).

Presentations and seminars. My CCC-related activities included the preparation and presentation of a paper describing CCC functions and activities at headmasters' conferences in Francistown and Gaborone (approximately 60 at each conference).

Report. I prepared a summary of CCC decisions and recommendations made during the period of April 1986 through April 1987. This was prepared so that CCC members could see the progress or lack of progress made in various areas over the course of the year and plan their next year's work accordingly.

Language proficiency subcommittee. I studied and summarized documents dealing with the intensive English programme which had been trialled several years previously but had since been abandoned. The English officers and panel members had expressed an interest in resurrecting the programme with some modifications. My report provided the basis for several day long work sessions with representatives of various subject areas as participants to discuss the possibility of integrating writing and reading skill applications into other subject areas and to introduce into the English curriculum specialised terms related to other

subjects. I also helped organize and prepare materials for a joint meeting of Setswana and English panel members to discuss language problems in the schools. Dr. Paulston, a socio-linguist sponsored by USIS, made a presentation at the meeting.

Organizational

The Research and Testing Centre is now making a conscientious effort to include curriculum development staff in developing test items for the Junior Certificate examination. The efforts of myself, along with many others in JSEIP and the Ministry, helped us reach that point. Prior to this year, generally, the RTC with secondary officers would organize the development of test items with no input from curriculum.

Compiled a list of books to order for the Curriculum Resource Centre from suggestions of CDU staff, JSEIP advisors, and Molepolole College of Education lecturers. Also I distributed a bibliography of African Studies in Curriculum Development to SEOs, CDOs, and MCE lecturers from which they could select titles. I also ordered documents and books requested.

As difficult as communication between Secondary and Curriculum Development seems now, at least it does exist on a regular basis. On our arrival, it was practically non-existent except at the CEO level. Much of my early work was directed toward establishing better communication. I helped do this in a number of ways including the Curriculum Coordinating Committee and the Materials Development Teams.

I served on a community junior secondary school library book selection committee and, by default, often acted as its coordinator. In doing so, I helped the committee identify and select books to be purchased for community junior secondary libraries through World Bank funds. I developed a questionnaire for Secondary and Curriculum Development Officers and teachers to complete which would identify books they would like in their school libraries. I compiled a report based on the responses to the questionnaires and participated in many meetings of the library book selection committee.

For the Secondary and CD/E CEOs, I developed a plan for organizing primary and secondary panels into single, integrated committees. I drew up the terms of reference for the panels and the terms were approved by the CEOs. The plan has been implemented in two subject areas while varying degrees of progress toward implementation has been made in other subjects.

Also, for the CEOs, I coordinated the effort to translate the official Aims and Objectives of the Nine Year Programme, which were in English, into Setswana. While there were a number of disagreements about the precise translations, a consensus was finally reached and now both English and Setswana versions appear side by side.

Meetings, Workshops and Reports

I prepared and presented a two hour session on integrated curriculum for Curriculum Development Unit workshop and attended the week-long workshop. (Approximately 60 participants)

Conducted interviews with Curriculum Development and Evaluation (CD/E) and Secondary Education Officers to update, revise, and correct the Sector Assessment Update: Chapter 5 (which contains status report of curriculum development in Botswana). Wrote report detailing necessary changes in the Update. (Approximately 10 officers interviewed)

During my introductory period in Botswana, I sat on several subject panels and attended teacher workshops when appropriate. Through these meetings, I was able to introduce myself and development a perspective regarding the status of panel work concerning syllabus, teacher concerns, classroom material, and examinations. I was also able to study curriculum materials, to advise panels as to the problems that I could see, and to come to an understanding of the relationship between the CDU, panels, and Macmillan Publishers who are contracted to produce all new materials of the CDU.

Helped the CDU staff organize a number of workshops for teachers, panel members, and officers. I also participated in a number of workshops including a Teacher Training College self-study workshop.

With other JSEIP RTAs and MOE officials, visited villages which would have education centres including Lobatse, Mochudi, Gantsi, Tsabong, Gumare, Maun, Kasane, Mahalapye, Palapye, Selebi-Phikwe and Serowe and visited new community junior secondary school sites. This was done to inform the local staff about developments of the MOE regarding education centres and schools, to find out what problems schools in the areas were having, and to orient ourselves to schools in outlying areas of Botswana. During three hour discussions with teachers of the community schools, I focused on curricular matters, specifically the success of subject syllabuses. I summarized my notes and distributed them to curriculum development officers. With D. Dubey, I developed needs assessment instrument which was carried to teachers and headmasters during the visits and which they completed and sent to Dubey for analysis and, with Dubey, prepared a 'School Visitation Report and Recommendations' for the CCC. The report was based on responses from 20 Headmasters and 154 teachers.

Attended a week long workshop for educational officers (both primary and secondary) which dealt with issues arising from the implementation of the nine year programme.

Attended with the CDU staff a quarterly meeting with Macmillan Publishers and met with Swaziland National Curriculum Centre staff to discuss their development efforts and to share information.

Conducted five hours of sessions on integrated curriculum as part of the Curriculum Development Unit panel workshop. (Approximately 40 panel members in attendance)

Wrote an article about the junior secondary curriculum activities of the MOE and another about the Materials Development Teams for Thuto, a quarterly educational new magazine. I also provided the magazine with a three month schedule of MOE Activities (based on the ones prepared for the CCC) to be included in the publication. This was distributed to all schools in Botswana.

With Secondary and Curriculum Development officers, I organized a week-long science workshop for primary and secondary teachers and officers to develop a continuous nine year syllabus. I obtained a consultant from Florida State University to help make final plans and to participate in the workshop. I also participated in three days of the workshop. I made arrangements for the Science Curriculum Development Officer attending a workshop in Tallahassee, Florida to meet with a consultant to discuss a plan for formatively evaluating curriculum material. (Approximately 35 participants)

I made a one hour presentation on curriculum development to the Family Life Education Conference participants and discussed with them potential ways to integrate Family Life

TEACHER DEVELOPMENT

Molepolole College of Education

Taught 152 first-year students in "Mixed Ability Teaching" course for 13 weeks; produced 10 handouts of about 15 pages each.

Taught 152 first-year students in "Curriculum Design" course for 13 weeks; produced 12 handouts of about 8-15 pages each.

Taught 162 second-year students in "Principles and Practice of Education" for 13 weeks; produced 8 handouts of about 10-15 pages each.

Taught 61 first and second-year students in "Introduction to Physical Education" for 13 weeks; produced 10 handouts of about 20 pages each.

Taught 176 first-year students in "Instructional Design" course for 13 weeks; produced 10 units of self-instructional modules of about 35 pages each; course materials printed by the College through the Government Printer for student and library reference material.

Taught 162 second-year students in "Continuous Assessment" course for 13 weeks; produced 5 handouts of about 8 pages each.

Co-lecturer in general education course for 50 students for 2 months.

Taught 40 students in "Art, Craft, and Technology as a Subsidiary Subject" course for 10 months.

Taught 20 students in "ACT as a Main Subject" course for 12 months.

Supervised 160 students in "Teaching Aids Development" for 4 months.

Taught 7 students in "Technical Studies" for 2 months and 9 students for 10 months.

Taught 8 students in "Technical Studies as an Optional Subject" for 2 months.

Supervised 28 students in Teaching Practice at 10 schools.

Established Department of Art, Craft, and Technology in April, 1986; served as first Head of Department; negotiated for and received tools and equipment grants of P17,000 from USAID and P75,000 from GOB; setup Technology Building and Craft Room; built dark room and finishing room; designed and built customised racking for tools.

Served as Member of the Academic Board and Academic Affairs Committee.

Designed 15 course syllabuses for the Education Department, including the unitisation of topics reflecting horizontal and vertical integration subjects.

Conducted 8 seminars on various aspects of curriculum integration, including teaching methods and continuous assessment; attended by 80% of staff.

Designed the first comprehensive Physical Education Curriculum in the country leading to the Diploma in Education.

Acquired about 120 titles of instructional materials on ISD and other aspects relevant to education.

Helped design the Communication and Study Skills Course at MCE; procured and delivered all materials; assisted with textbook selection and purchase for 160 first-year students; researched appropriate resource material; observed various English, Education, and Social Studies classes of both first and second-year students and interviewed groups of students in several subject areas to determine study skill problems; wrote 100 test questions and answers per week for 15 weeks of instruction for use in course continuous assessment; prepared lecture notes and visual aids for 3 of the 10 first term lectures attended by all first-year students; provided on-going support for the first year of operation of the course.

- 1986 Term 1: Taught test development topics with Solade Adams to 150 second-year students for one period per week.

Product = Outline of possible future course dealing with classroom teaching and student learning.

- 1986 Term 1: Taught one class of 30 first year home economics students--we constructed a household survey for students to use from house to house in Molepolole. Approximately 150 surveys were completed and used by students to examine needs in cooking, sewing, food storage, shopping, and similar daily life activities.

Product= 40-item Household Survey

- 1986 Term 2: Named administrative coordinator of 1986 teaching practice program
- 1986 Term 3: Taught course on "teaching and testing" to 155 second-year students

Product=Course notes and handout materials

Product=10 multiple-choice items from each second-year student selected and processed into booklet

- 1987 Term 1: Assumed part of Johnson Odhoro's course load while he was on medical evacuation
- 1987 Term 2: Coordinated 1987 teaching practice administration and supervision
- 1987 Term 3: Taught course on test construction and assessment to 159 second-year students

MCE TEACHING PRACTICE

- FEB 86: Began activities with MCE for 1986 MCE Teaching Practice

Products = Student School Placement Preference Form, Placement Roster for 155 second-year students

- FEB 86: With MCE staff specifications, produced first drafts of TP supervisor forms and manual for students and supervisors

Products = TP Supervisor Form, Student TP Manual, Supervisor Manual.

- APR 86: With MCE staff, set Student Information Form and School Information Form for data collection by student-teachers while on teaching practice.

Products = Student Information Form and School Information Form

- MAY 86: Visited seven schools to resolve TP problems.
- MAY 86: Prepared cost estimate of TP at the request of the MCE Principal.

Product = Itemized TP cost estimate

- JUN 86: Supervised nine students in six schools.
- JUN 86: Prepared evaluation outline for 1986 MCE TP.

Product = Evaluation plan outline, Student TP Evaluation Form, Supervisor TP Evaluation Form

- JUL 86: Started processing TP evaluation data.
- JUL 86: Membership on MCE TP Committee
- AUG 86: Organized final receipt documents for student stipends and transport

Products = Rosters and receipt forms

- AUG 86: Prepared final reports of TP Student Evaluation and TP Supervisor Evaluation

Products = 1986 TP Student Evaluation and TP Supervisor Evaluation Reports

- SEP 86: Revised school placement preference forms

Product = 1987 TP Student School Placement Preference Form

- DEC 86: Supervised student recording of student-teacher verbatim comments on evaluation form

Product = Computer list of comments classified into seven categories on disk

- DEC 86: Began school survey data collection for 1987 teaching practice program
- DEC 86: Entered school roster information on Macintosh
- JAN 87: Prepared Macintosh rosters of 320 student-teacher placements and revised supervisors observation forms for 1987

Products = TP Supervisor Form; School Rosters

- JAN 87: Assisted MCE staff in orientations for schools in Serowe and in Mahalapye
- FEB 87: Final version of professional assessment form for use in TP prepared with staff

Product = 1987 TP Professional Assessment Form

- MAR 87: Prepared a summary form to collate supervisor's ratings during teaching practice

Product = 1987 TP Supervisor Summary Form

- MAR 87: Prepared the Education Department's Anchor Test Exercise for teaching practice.

Product = TP Anchor Test Exercise for 1987 TP (third year students)

MCE TEACHING PRACTICE (CONTINUED)

- JUL 87: Developed the plan with staff to transfer TP coordination responsibilities to Ron Sawatsky, the Assistant Principal. This was decided. I was to assist in administration.

- JUL 87: Prepared first report of 1987 TP evaluation reported to TP Committee.

Product= Initial 1987 TP Student Evaluation and TP Supervisor Evaluation Report

- AUG 87: Ron Sawatsky and I met with Walter Grisdale to consolidate plans for TP in 1988.
- JUL 87: Prepared final report of TP evaluation data reported to TP Committee.

Product= 1987 Final TP Student Evaluation and TP Supervisor Evaluation Report

- SEP 87: Academic Board approved plan to make the Assistant Principal in charge of TP.
- SEP 87: Collected placement preference data from 322 students and entered on Macintosh.

Products= 1988 TP School Roster and TP Student Roster.

- OCT 87: Prepared draft of the 1988 Teaching Practice Guide.

Product= 1988 TP Guide

- NOV 87: Final versions of materials and rosters for 1988 TP completed.
- DEC 87: Posted 1988 TP student placements-- 159 second year and 163 third year.
- DEC 87: TP materials sent to the Government Printing Office.
- DEC 87: Prepared new rosters for regional coordinators to schedule team visits.

Product= Regional Rosters for each of six regions

- JAN 88: With the TP Coordinator, reposted some students, met with the Printing Office, and with Walter Grisdale for help in persuading schools to hold to original postings.
- FEB 88: Assisted Ron Sawatsky, Assistant Principal and Teaching Practice Coordinator, with final administrative details regarding 1988 MCE teaching practice. Got materials from GPO.

Products= 1988 MCE Teaching Practice Guide; Classroom Observation Form; Professional Assessment Form; Lesson Plan Guidelines in 10 subjects; School Placement Roster for 321 students; School Roster for 1988 MCE Teaching Practice.

MCE EDUCATION DEPARTMENT

- APR 86: Developed course outline for education department in classroom testing and student learning.

Product = Course outline

- JUL 86: Assessment course approved by education department
- DEC 87: Began data entry for microteaching evaluation obtained from education department staff
- JAN 87: Prepared tabled summary of microteaching evaluation responses from MCE students and staff and from secondary pupils

Product=Report on staff and student Responses to microteaching committee

- JAN 87: Wrote memo to Department Head outlining a scheme for the Education Comprehensive Examination for third-year MCE graduates-revised version given to MCE assessment committee by the department head

Product=Memorandum on Education Comprehensive Examination

- JAN 87: Planning for IEA Anchor Test Exercise for MCE third year students on teaching practice. In 1987 was started

- MAR 87: Prepared my scope of work for Ms Mannathoko, Head of Education Department

Product= JB Scope of Work

- JUL 87: Revised outline for test and assessment course for second year students.

Product= Revised course outline and handout materials

- JUL 87: Participated in the preparation of the education department's comprehensive examination on third year graduates.

Product= Two questions and scoring guides for Paper 1. Placed full exam on disk

- AUG 87: Began teaching with staff the third term course in testing and assessment.
- SEP 87: Revised handout materials and tests for third term courses.
- SEP 87: Prepared a roster for scheduling microteaching.
- NOV 87: Finished course on testing and assessment.
- NOV 87: Prepared rosters for education department's comprehensive examinations. Analyzed scores for Papers 1 and 2.

Products= Rosters for staff graders. Report on Education Comprehensive Tests

- DEC 87: Prepared marking rosters for education department lecturers.

Products= Student rosters by year for education lecturers.

- JAN 88: Began redesign of course outline for second year third term class in test construction and continuous assessment..

- FEB 88: Wrote revised version of content outline for the MCE course on test construction and continuous assessment for second-year students the third term.

Product= Course Outline: Test Construction and Continuous Assessment

- FEB 88: Term meeting of Education Department

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MCE GENERAL

- AUG 86: Assisted art lecturer to prepare a concept paper for secondary art curriculum
Product = Art Curriculum Development Paper
- DEC 86: Prepared a 45 item end-of-Form 1 test for Tsegetsang science department using test items written by students in my test construction course.
Product = End of Form 1 science test for Tsegetsang CJSS.
- FEB 87: Presented afternoon workshop to new PCVs in training at St. Paul's, Molepolole
- FEB 87: Prepared memo for COP on OPSCAN use possibilities at MCE
- MAR 87: Prepared paperwork for the Principal requesting short-term systems analyst consultant and OPSCANNER FOR MCE. Prepared SCOPE OF WORK for proposed consultant Five Macintoshes at MCE.
- SEP 87: Prepared third year final aggregate grade roster for the Assistant Principal
- OCT 87: Prepared memo on advanced program for MCE Principal.
- NOV 87: College Advisory Board approves advanced training program in general.
- NOV 87: Prepared a Form 1 art test for Tsegetsang students from its art teacher's items.
Product=Form 1 art test on disk
- NOV 87: Prepared a Form 1 science test for Tsegetsang students from items written by my student in the testing course.
Product=Form 1 science test on disk
- FEB 88: Prepared discussion paper on the advanced training program for MCE graduates to bring MCE and RTC more closely into the curriculum revision work of CDU. Discussed the program rationale and submitted the discussion paper to Mr Ramatsui (CD&E), Ms Leburu (CDU), Mrs Khama (RTC), Mr Thompson (MCE), and Ms Mannathoko (MCE)
Product= Discussion Paper: Advanced Training Programme

MCE Staff Development

- A. Education Seminars - a total of 11 over an 18 month period, average attendance 20, or about 60% of total staff of MCE. Noteworthy attendance because all staff development activities were voluntary.
- B. Individual consultations with MCE staff - 21 staff took advantage of consultations with the Staff Development Specialist over a two year period. Consultation topics included Evaluation, Observation techniques, Microteaching, Supervision techniques, large and small group instruction, curriculum development, and instructional design. Consultations ranged from 1 hour to about 60 hours, and averaged approximately 8 hours.
- C. Consultations with departments (excluding the Education Department). All MCE departments were met, except for Technical Studies and Art for at least two sessions, for some as many as four sessions on topics ranging from timetable construction to development studies. 6 department, average of 5 sessions, of 1 1/2 hours each.
- D. Committee formation and service. Responsible for the establishment of the Student Teaching Evaluation Committee, Microteaching Evaluation Committee, Communications and Study Skills Committee and Staff Utilization Committee. Served as a member of the Education Department, Academic Board, and COLDIG (The Committee Overseeing Developments in General, at MCE). Average of 8 hours per week for 6 terms of 12 weeks each.
- E. School Supervisor Orientation Sessions (with MCE staff in attendance). A total of eight orientation sessions were held with more than 300 teachers in attendance who would serve as school supervisors for MCE student teachers. These were one day sessions (approximately 6 hours of instruction), held regionally. Topics included instructional systems design, observation techniques, the use of forms, school-college relations, and substantive information on education exercises including Reinforcement Techniques in the Classroom, the Use of Teaching Aids, Questioning Skills, the the Proper Use of Exercise Books in Instruction.

- F. Materials Development Specialists: Specification of Scope of Work, preparation of MCE staff for their use, and Recruitment of three (3) Materials Development Specialists in Communications and Study Skills, Social Studies, and Education.
- G. Staff Utilization Study for MCE, including preparation of a formal staff paper, and conducting a staff utilization study leading to the adoption of staff policies for the college.
- H. Advisor to the Education Department, in situ. As a member of the department, it was possible to influence curriculum development, instructional systems design, evaluation, teaching methods, course configuration, and preparation of syllabi.
- I. Course participation. Until staffing became unreasonably constrained because of scheduling difficulties, it was possible to co-teach, with only supplementary responsibility with other members of the staff. Even when it was necessary to assume operational responsibility for classes, close collaboration with Batswana staff was still maintained as assignments were arranged to co-teach with local staff rather than expatriates.

MCE Curriculum

- A. Redefinition of Subject Preparation Helped MCE change from preparation in four subjects to preparation in two.
- B. Introduction of General Education. Helped establish the Communication and Study Skills Course (see separate description)
- C. Coordination of Curriculum Development. Succeeded in having a curriculum development and coordination policy adopted by the college.
- D. Materials Development Specialists. These specialists were accepted by the MCE staff to provide substantial curriculum and materials development.
- E. Permeation of Instructional Systems Design. From instruction in education courses, to assisting with instructional systems approaches in observation and supervision in and outside of the college, to the elaboration of objectives in professional studies components of academic departments, the accountability of instructional design was accepted by the college as a whole.
- F. Materials for use by Graduates. Departments developed materials modelled by JSNP staff members for use in teaching practice and for use after graduation.

MCE Education Department Curriculum

- A. Redefinition of Entire Education Department Curriculum. Dwight Allen prepared an entirely new instructional framework, at the request of the department, which was adopted by the Education Department after discussion.
- B. Approval of Education Department for Instructional Systems Approach. An instructional systems approach was adopted for all courses.
- C. Sponsorship of Education Department for Microteaching and Teaching Practice. This provided a "power base" from which these program components could be developed since staff development activities were not officially sanctioned.
- D. Modelling Teaching Methods. Co-teaching with other staff members demonstrated a variety of teaching methods. Since much instruction in Education was in large groups, it was often possible to model teaching methods for other staff members.
- E. Education Department Sponsorship of College Wide Orientation for First Year Students. Planned for the first time for the 1988 intake.

MCE Teaching Practice

- A. Developed the entire teaching practice system. Included both logistics and program.
- B. Secured school cooperation for placement of 320 student teachers in 55 schools
- C. Developed six teaching practice exercises.
- D. Developed observation protocols and forms
- E. Introduced observational focus and accountability
- F. Introduced peer observation for the first time in Botswana
- G. Developed an evaluation system for teaching practice
- H. Developed a monitoring system by exception (Alert Box), allowing the majority of effort to be focused on instructional improvement
- I. Developed a training and orientation program for school
- J. Used teaching practice as a forum to introduce instructional systems design principles college-wide.

MCE Microteaching

- A. Developed and refined a unique model of microteaching for MCE
- B. Trained over 500 teachers in a minimum of 2 teach-reteach cycles of microteaching about 1/3 of which were videotaped.
- C. Developed observation and evaluation protocols for microteaching.
- D. Trained three staff members (one local) to operate the microteaching clinic.
- E. Wrote a research paper on the development of the microteaching clinic at MCE for potential use by primary TTCs.

MCE Communications and Study Skills

- A. Helped establish and became a founding member of the Communications and Study Skills Committee
- B. Developed the Curriculum Framework for the CSS course
- C. Recruited and supervised materials development specialists for CSS
- D. Helped formulate specifications for CSS manual for MCE
- E. Conducted 11 large group sessions
- F. Developed 9 exercises for CSS units

MCE Schedule Development

- A. Proposed changes to 31 instructional periods rotating through 25 scheduled periods, to rationalize the schedule.
- B. Helped achieve minimal rationalization of schedule to consistant 70 minute periods
- C. Failed to achieve adoption of several proposed schedule reforms

MCE Internship Proposals

- A. Proposed Lesotho study trip to investigate internship possibilities for MCE
- B. Conducted study tour in Lesotho
- C. Favorable study tour report undermined by College Administration
- D. Potential post-graduation internship association with MCE still potentially under consideration if adequate advocacy is continued.

MCE General Development

- A. Established a Computer Laboratory at MCE
- B. Failed to influence chaotic College logistic support
- C. Developed Scope of Work and Recruited Consultant for Staff Development in Computer Use
- D. Developed low cost procedures for materials reproduction using computer printers to produce stencils (NB: the procedures developed at MCE were acknowledge and published in Macworld, the leading Macintosh users' publication).

MCE and JSEIP Inservice Education

- A. Visited 42 secondary schools to research inservice needs, orient staff development needs, and obtain student teacher placement.
- B. Developed a case study proposal for 2 secondary schools as baseline data (never implemented because of death of Darrell DuBey)
- C. Developed a country-wide inservice plan around teaching practice; implemented only vestigially.

Inservice Teacher Training

Conducted 17 Social Studies workshops at different locations across Botswana for 525 teachers in writing of social studies materials, objectives and unit writing, and updates and critiques of existing materials.

Conducted MCE workshop on micro teaching for 30 educators at Molepolole.

Conducted UB workshop on supervision role of Education Officers for the Primary and Secondary EOs at the University of Botswana.

Conducted 4 workshops on continuous assessment for 180 teachers at different venues around Botswana.

Conducted workshop for all Headmasters on the function of the Education Centres; also conducted workshop for the directors of the Education Centres on a planning agenda at Tlokwen Education Centre.

Conducted workshop for 3 CDU employees on the maintenance and repair of the U-Bix 500 Z photocopier.

Conducted 3 one-week workshops for 55 teachers on the orientation to teaching Technical Studies in a multiple activities classroom setting at the CJSS.

Member of the Advisory Board for the development of the B.Ed. Technology Degree Teacher Training Programme.

CURRICULUM DEVELOPMENT

Materials Development Teams

Until about October 1987, I was the primary JSEIP coordinator for MDT activities in all core subject areas. After the reorganization of the JSEIP RTAs, I became primarily responsible for the areas of Setswana and social studies.

I spearheaded the effort to organize Materials Development Teams. I participated in meetings with CEOs and developed terms of reference for the MDTs and coordinated the efforts to identify potential MDT teachers and to get them to Gaborone. I reviewed the plans with JSEIP members, wrote correspondence for the CEO of CD/E to headmasters who were asked to release selected teachers, and met with the Director of UTS, A. Hartwell, and CEOs of Secondary and CD/E to clarify issues and verify decisions made by them. I organized an orientation meeting for MDT coordinators of core subject areas to discuss the criteria for selection of MDTs, the terms of reference and the relationship between the MDTs and officers and panels of the Ministry of Education.

When UTS failed to release the MDT teachers at the beginning of the school year, 1987, I coordinated three MDT workshops for MDT teachers, coordinators, and selected panel members to begin MDT activities and to prepare for the ultimate arrival of the MDT teachers. (Approximately 26 participants per workshop.)

One goal of the workshop was to complete the revision of syllabuses and to divide the syllabuses into units of approximately one to two week periods. I developed guidelines for that process with the approval of the CEO of CD/E. In preparation for those workshops, I developed workshop materials, obtained necessary supplies, and met with MDT coordinators for their input. I conducted a pre-workshop session with MDT coordinators so they could critique and use the materials I had prepared for the workshop. I coordinated the arrangements for holding the workshop locally. I compiled both primary and junior secondary syllabuses into two sets of books so MDTs would have all documents available to them. With the help of J. Carter, I made arrangements with Macmillan Publishers, the

Botswana Book Centre, and other publishers to obtain three complete sets of required junior secondary texts for easy reference by MDT members. With the help of a secretary, I supervised the cataloging of acquired materials.

On the arrival of the first MDT teachers, there were no CDOs for agriculture, science, technical studies, social studies, and English. I was charged with coordinating and supervising all MDT activities. I was a trouble-shooter in terms of finding them accommodation, reimbursement for travel, and other problems which developed due to UTS's failure to meet its commitments.

To help with the review of materials, I helped establish Subject Review Committees which were comprised of three representatives from the Secondary and Primary Panels who were within a short distance of Gaborone. As compared to convening all members of primary and secondary panels, the Subject Review Committees can be convened with relatively short notice to review and approve material produced by the MDT. I prepared updates of materials development team activities for the Project Advisory Committee.

Documents that I produced associated with MDT work include:

Materials Development Teams Terms of Reference
Subject Review Panel Terms of Reference
National Panel Terms of Reference
National Subject Panels: 12 Questions Officers Might Have
Task 1 Guide: Step-by-Step Procedure for Organizing Syllabus Information into Units of Time
Overview of the MDT Project Plan
A Model 'Curriculum Guide'
Topic, Time, & Sequence Worksheet
Materials Development Teams: Some Issues and Answers

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Curriculum Resource Centre for the CDU

Established the CuRC; located Centre in new Building; initiated a modified cataloguing system for both a reference and a library loan section; procured books and other related resource materials.

Catalogued and shelved over 2200 texts and 900 journals for use in the subject areas of English, Math, Setswana, Social Studies, Agriculture, Home Economics, Integrated Science, Health, and Religious Education, Art, and Physical Education.

English Materials Development

Assisted in the design and writing of a revised English language curriculum for Form I and II of the Junior Secondary School System; revised syllabus includes overall aims, subject aims, and the general and unit objectives for the JC; syllabus divided into modules, each module representing one week's lessons (10 modules per term) for six terms' work; each module is based on an integration of the four language skills -- reading, writing, listening comprehension, and speaking -- and study skills.

Wrote materials, properly sequenced and graded, for reading, listening, writing, oral/aural skills, and study skills; completed sequenced reading material to cover the first term of 10 weeks of modules; chose 6 set texts for the 6 terms and 50 graded readers for the "free" reading material; developed listening comprehension material, properly sequenced and integrated, which contains local content; oral/aural skills exercises developed, using some of the reading material as a base; written worksheets, exercises, and tests for all the above material; 37 pages for testing/evaluation, 135 pages for reading material, 45 pages for writing material, and 24 pages for forms/reports.

Rewrote basic text for Form I, retaining only about 5% of the original material.

Assisted in the writing of the Teacher's Handbook (37 pages); revised in trial school work and ready to be printed; prepared 23 pages of module outlines with suitable objectives for each term; wrote 43 pages of lessons and suggested guidelines in study skills for the Teacher's Handbook, and 35 pages of study skills lessons for the Student Book.

Compiled 47 pages of poetry to be used throughout the six terms of JS English.

Worked with Josiah Tlou of PEIP on his plan to stimulate entrepreneurial consciousness and skills in Botswana schools, including the proposal on the formulation of a Botswana Council on Economic Education.

Identified series of topics which would stimulate entrepreneurial skills and consciousness; those closely related to other JS subjects (particularly social studies and science) for integration and reinforcement; topics of regional and local interest to Botswana students.

Provided on-going support for the MDT; served as liaison between CDO, MDT, and JSEIP.

Scheduled schools trials of the materials; 8 periods of English (4 hrs. 20 mins. per week); taught 4 periods; supervised 2 team members at Gabane School; observed lessons with Gabane

English teacher; revised and prepared for publication all reading and writing materials; prepared testing materials; taught 5 lessons in Study Skills at Gabane CJSS.

Begun work on new material for Term 2 (reading/writing skills for 10 weeks); wrote 5 weeks of Study Skills lessons for the Student Book and the Teacher's Handbook for Term 2, Form I.

Agriculture Materials Development

Produced draft syllabus for JS Agriculture; syllabus specifies relevant practical skills and academic content.

Produced student and teacher resource books for Units 1-3; each unit is about 30-100 pages of text, with tests and practical work; the Teacher's Guide is 50-250 pages per unit and has specific directions on how to implement the lesson of each unit of instruction; these materials are the first set of materials specifically designed for teaching agriculture in Botswana.

Technical Studies

Produced 6 sections of a proposed TS Teacher Manual for distribution and review to SEO/TS, PEO/CDU, and TS teachers around the country.

Initiated the effort to broaden the scope of the technical studies programme so that it is more relevant to the Botswana context; the old programme of technical drawing, woodworking, and metalwork has been broadened to include: woodwork, metalwork, technical graphics, combination materials, design and modelmaking, energy, mechanisms, materials technology, structures, graphic reproduction, industrial simulation, and traditional craft.

Objectives and unit detailing of the first year's programme are nearly completed; these will be distributed to Panel Members and inservice teachers for review and approval.

Member of the National Panel for Technical Studies.

Setswana

With Setswana officers, I prepared a draft and revisions of the Setswana syllabus. This was based on previous Setswana syllabus and a Zimbabwe language syllabus that the officers liked as a model for topics. I synthesized the two syllabuses based on what Setswana panel members identified as desirable. Then I developed a list of objectives that those topics seemed to suggest. I took that document back to the panel for review and revision. Based on their comments, I refined the objectives further. The topics of the cultural section of the syllabus were developed by panel members and the officers. The Setswana CDO and myself refined those topics into objectives. The objectives were then reviewed and revised by panel members. The whole syllabus was submitted to panel members and officers as well as teachers during the course of a year. The final syllabus was eventually structured in its present form based on syllabus standards I helped the CDU prepare.

We are currently 80% finished with dividing the syllabus into units. This has also been an ongoing process. The units that have been identified and will be presented to the Subject Review Panel for approval in the near future.

I helped organise a series of Setswana workshops to introduce the Setswana syllabus to junior secondary teachers throughout the country and to get their input regarding syllabus revisions. Approximately 200 teachers participated in those workshops.

First draft teacher guides and some worksheets have been developed for Term 1 of Setswana but they still need a lot of editing. Some teacher resource materials have been developed, based on general information found in English texts (e.g., writing, speaking,

and notetaking objectives). A book on Botswana culture based on the objectives of the Setswana syllabus has been outlined. An author has been identified. After two more preliminary meetings with the author and Macmillan Publishers, the author should begin writing the first chapter.

We are in the process of organising another series of eleven two-day workshops to be conducted during the months of March - May and a joint text item writing workshop with social studies people in August.

Social Studies

I helped organize and facilitate a week-long social studies workshop designed to refine syllabus objectives, develop new ones, identify the overlap between social studies and other subject syllabuses, and identify the gaps and duplication between the primary and junior secondary syllabuses. (Approximately 25 participants)

My work with the social studies MDT team has been helped a great deal through the social studies consultancy of Dr. M. Merryfield. During her consultancy, the following things have been achieved. An analysis of junior secondary social studies topics across Botswana and other African countries was prepared to provide MDTs a context for African and Botswana social studies development. Model lessons, scholarly articles and other materials were shared with the MDTs as part of their daily 1 - 1 1/2 hour seminars and on the job training. Topics for training and practical application have included teaching methods and activities, writing lessons around primary source materials, guidelines for writing and evaluating social studies materials, and social studies in-service education.

Curriculum products include a Teacher's Guide for Junior Secondary Social Studies. This 40 page document introduces social studies in Botswana and describes in some depth the methods for teaching and assessing social studies skills. Teaching material developed include module overviews, individual lesson summaries and sample lessons for Term I modules. Some of these materials have been disseminated during inservice workshops in

INSTRUCTIONAL MEDIA

Materials production needs for the project were assessed and plans for a production facility were developed.

A list of equipment requirements for the CDU was prepared after consultation with the CDU staff and JSEIP Advisors.

A phased purchasing plan for equipment for JSEIP was established and the first equipment was ordered for the CDU in Feb. 1986. Up to Feb. 1988 approximately \$370,000 worth of commodities have been purchased for JSEIP.

A comprehensive record of commodities for the Project has been produced and is updated quarterly.

Budgets for the operation and maintenance of equipment at CDU are prepared for the CEO each year to be included in the CD&E Departmental budget .

The planning and construction of the new CD&E Building was monitored for the Project from Jan. 1986 to the present time.

Orders for all the furniture for the CD&E building were prepared. Purchases and delivery of the furniture was coordinated.

Coordinate the move of various units of the CD&E Department to the new building.

Coordinate the maintenance and repair of all project equipment.

Coordinate the maintenance, repair and use of the project vehicles at CDU.

Procedures for hiring local consultants for the MDTs have been established and the first of these consultants has been hired to write modules for Agriculture.

Three CDU copy typists were trained to do word processing on the Macintosh computers.

Two CDO's were given instruction on the use of the computers in preparing instructional materials.

Staffing requirements for the CDU Production Unit were forwarded to the MOE. It was projected that a minimum of five support staff would be necessary to establish a production capacity sufficient for project needs. Only three posts were approved and two have now been filled. These two are technical posts for computer publishing system operators.

Two computer publishing system operators have been trained in word processing, typesetting, page layout and simple graphics.

JSEIP RTAs have been assisted in learning the Macintosh computers and various software packages.

Two teachers' guides for mathematics (Standards 5 & 6) were prepared on the Macintosh computers and the laser printer. These were prepared as camera-ready copy which included a complete page layout, typesetting and graphics. They were then submitted to Macmillan Publishers for printing and distribution. Book 5 was done by the Instructional Media Specialist as a training vehicle for the CDO for Mathematics. Book 6 was then done entirely by the CDO.

A Technical Studies Handbook was revised by the MDT. A camera-ready copy was prepared using the Macintosh computers, the laser printer, and various graphics and page layout software. It was printed in quantity by the Government Printer.

The Publications Unit staff have been trained to use the Macintosh computers for the production of the MOE magazines *THUTO* and *MOSO*. *THUTO* was completely redesigned and is now being published in a new format.

Project reports and documents have been produced for JSEIP.

A variety of syllabuses and instructional materials have been word processed and printed in quantity for distribution.

UB/FSU Masters Degree Program

- A. Assisted with the development of the program framework
- B. Assisted with recruitment and implementation of the program for the first intake (15 students)
- C. Served on 3 University of Botswana (UB) Committees in synergism with joint program
- D. Appointed to the UB faculty to be an instructor of record for graduate research course
- E. Developed needs assessment survey instrument for UB to survey Ministry of Education and School personnel
- F. Assisted with recruitment and selection of second intake (18 students selected)
- G. Served as field supervisor for FSU field research projects

CDU Training Program

- A. Developed training schedule and supervised twice weekly 1/2 day training seminars
- B. Conducted selected seminars

Committee Membership (attached)

Written Materials (attached)

Committee Membership and Service

Molepolole College of Education

The Academic Board
The Education Department
COLDIG - The Committee Overseeing Developments in General
*Communications and Study Skills Committee
*Student Teaching Evaluation Committee
*Microteaching Evaluation Committee
*Staff Utilization Committee

*Responsible for the establishment of the Committee

University of Botswana

Graduate Studies Committee of the Faculty of Education
Practice Teaching Committee of the Faculty of Education
Program Policy Subcommittee of the Graduate Studies Committee
Joint Masters Degree Liaison Committee

Member, Botswana Education Research Association

Papers presented:

Characteristics of Good and Bad Teachers, 1986
The Microteaching Clinic at Molepolole College of Education:
Adaption and Development 1985-1987, 1987

Written Materials

- 3/86 School Visit Report
Ministry of Education Retreat Proposal
Mobile Computer Laboratory Proposal
Student Teaching Exercise on Reinforcement
- 4/86 Five Exercises for Practice Teaching
Supervisory Guidelines for Practice Teaching
Supervisory Schedule (preliminary and final versions) for Practice Teaching
Possible Curriculum Structures for Junior Secondary Schools in Botswana
Ministry of Education Proposal for Botswana Teachers Day
- 5/86 JSEIP MA training brochure for distribution by the Ministry of Education
Practice Teaching Supervision Forms
University of Botswana MEd Needs Assessment Survey Instrument
- 6/86 Practice Teaching Evaluation Form
MCE Faculty Workshop on Assessment Planning Document
Planning Document for Lesotho NTTTC Visit (sent to Lesotho)
Response to the Principal on his suggestions for teaching practice
MCE Proposed Education Curriculum Structure
MCE Supervisor Suggestions
MCE Unit Curriculum Framework Proposal
JSEIP Education Center Suggestions
- 7/86 Public Relations brochure for Tshwaragano CJSS (Maun)
Anecdotal evaluation of MCE Teaching Practice
Agenda for Headmasters' Conferences on Evaluation of Teaching Practice
Memo to School Headmasters re Evaluation of Teaching Practice
Evaluation of Francistown Headmasters' Teaching Practice Evaluation Conference
Proposal for Headmasters' Scholars at MCE
Proposal for JSEIP Case Studies of CJSS Development
Proposal for MCE Faculty Workshop on Continuous Assessment

- 7/86 (cont'd):
 Proposal for MCE Microteaching Clinic
 Continuous Assessment Exercise using Exercise Books
 University of Botswana, follow up on Needs Assessment for MA
 Program
- 9/86 Microteaching exercise on Chalkboard Use
 Microteaching exercise of Questioning
- 10/86 BERA Paper on Characteristics of Good and Bad Teachers
 Lesotho Internship Study Team Report
 MCE Curriculum Structure Proposal to COLDIG (with J. Odharo)
 Microteaching Clinic Evaluation Forms
- 11/86 Staffing Needs at Molepolole College of Education
 a Confidential Assessment, November, 1986
 Possible Rating Items, Molepolole College of Education,
 Teaching Practice, 1987
 Assessment of Teaching Practice
 Senior Secondary Schools Needs Assessment
 Proposed Consultant Visit
 University of Botswana, Masters Degree in Education
 Draft Regulations
- 12/86 Molepolole College of Education Teaching Practice, School
 Supervisor Orientation Schedule
 Molepolole College of Education, School Supervisors Orientation,
 Agenda
 Molepolole College of Education, Education Curriculum (with other
 JSEIP staff and members of the MCE Education Department)
 Molepolole College of Education, Education and Society Course
 Outline (to be taught with Changu Mannathoko)
 University of Botswana/Florida State University MEd program:
 Course Syllabus
 Introductory Exercise
 Registration and Arrival Instructions - Masters Program
- 1/87 Molepolole College of Education Teaching Practice Observation
 Form
 Molepolole College of Education Communications and Study Skills
 course outline
 Proposed Guide for the Development of Instructional Units and
 Course and Unit Planning Cycle (with Johnson Odharo)

- 2/87 Molepolole College of Education, Proposed Inservice Program
Molepolole College of Education Draft Education Curriculum
(revised)
Proposed UB/FSU MEd Program Final Examination in Research
- 3/87 Molepolole College of Education Teaching Practice Lesson Notes
Format
Molepolole College of Education Exercise Check Sheet
Molepolole College of Education Student Information Sheet
Memo to Headmasters Executive Committee on Inservice
Workshops
- 5/87 Proposed Study of Staff Utilization at Molepolole College of
Education - revised
Supervision Assignments for Teaching Practice
Rosters of school and students assignment (prepared by John
Bowers)
Classroom Observation Form
Professional Responsibility Assessment
Proposed Examination Questions - 3rd Year Final Examination in
Education Foundations
JSEIP Claims for MCE (staff working paper)
JSEIP Claims for FSU/UB MEd program
- 7/87 Placement of MCE Graduates in UTS Assignments
Possible use of Molepolole Graduates for Test Item Preparation
and on Curriculum Development Teams
Interview Questions - JSEIP MEd Program 1987/88
Interview Guide - JSEIP MEd Program 1987/88
- 8/87 Third Year Final Examination, Education, Paper Two
Third Year Final Examination, Education, Answer Keys
MCE Education Department, Case Study on Overcoming Poor
Timing in Covering the Syllabus
MCE Staff Utilization Committee Minutes
MCE Departmental Load Questionnaire
MCE Individual Staff Load Questionnaire
MCE Scheduling Proposal
- 9/87 MCE Staff Utilization Materials
Microteaching Clinic Materials and Exercises

- 10/87 MCE Staff Utilization Materials
Microteaching Clinic Materials
- 11/87 MCE Staff Utilization Materials
Alternative Time Table for MCE
Microteaching Clinic Materials ,
The Microteaching Clinic at Molepolole College of Education:
Adaption and Development 1985-1987
- 1/88 UB/FSU Field Project Materials
- Outline of Course Requirements
- Instructions for Two Page Summary
- Instructions for Project Paper
- Listing of Student Proposals