

COURSE MATERIAL DEVELOPMENT AND DELIVERY IN DISTANCE EDUCATION IN BOTSWANA

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Distance education has produced notable results in the development of education across the world. It is indeed, a viable and most suitable option in meeting the educational needs of people at all levels in today's society because of its flexibility, cost effectiveness and easy accessibility in different settings. Distance education basically aims at facilitating those who are otherwise deprived of formal schooling due to many reasons (Omolewa - 1982) and to assist the economically and socially disadvantaged groups in the society. The importance of distance education is noticed clearly in the field of human resource development and also in the transformation of social and cultural backgrounds of the people.

In developing countries, access to formal system of education is constrained, among other things, by poverty. Hence, the governments in the respective countries have placed distance education high on their educational policy agenda. Among the developing economies, the countries in Africa such as Tanzania, Zambia, Zimbabwe, Kenya, Uganda and, of course, Botswana have different experiences in distance education. The distance education has been rather chosen as an effective mode to address the wide range of gaps in the educational system.

In Botswana, the importance of distance education system was recognized as early as pre-independence period. The general low level of educational opportunities at the time of independence gave way to a recorded increase at all levels, i.e. primary, secondary and higher education during post independence period. To make this venture successful, many activities have to be undertaken in the process of development of distance education. Among other things; course material development and its delivery system, provision of various learner support services, multi-media support including hi-tech information systems are notable. For any distance education system to be successful, an effective self-instructional course material and its delivery is an important activity. The course material and its delivery to the learner will account for 60 - 70% of requirement to the learner and the remaining 30% will be complemented or substituted from other support services. In this context, the paper examines the following aspects with special focus on course material and its delivery system:

- (i) Distance education in Botswana - An Overview
- (ii) Programmes offered by the Centre for Continuing Education (CCE) and the process of course material development and its delivery system.
- (iii) Programmes offered by the Distance Education Division, Ministry of Education and the process of course material development and its delivery.
- (iv) An integrated approach for course material development within the time frame.
- (v) A viable, flexible and economical delivery system for the course material.
- (vi) Collaboration with regional and international institutions for the necessary assistance in the process.

Distance Education in Botswana - An Overview

Distance education in Botswana started at two levels one as a consumer of distance education programmes (correspondence courses) and another as a provider. Many people in Botswana used to study the courses provided by the private institutions in South Africa, Britain and Zimbabwe. The Francistown project started in 1968 in Botswana to train teachers under distance education. The success of the Francistown project led to the establishment of Botswana Extension College (BEC) in 1973 with its courses targeting at the adult learner. Later on in 1978, the Department of Non-Formal Education (DNFE) was established in the Ministry of Education by absorbing BEC and started functioning as a Distance Education Division of the DNFE in the Ministry. This unit continued the work of meeting the needs of out of school clientele at junior and senior secondary levels. Later on, Institute of Health Science (IHS) (formerly National Health Institute) came into being to train the nurses

in the country through distance education. The IHS is aiming at upgrading 1600 nurses in the country (Moesi & Mmolawa : 1998).

The University's involvement in distance education dates back to seventies and the First Credit programme that was offered through distance education was Diploma in Theology in 1979 by the Department of Extra Mural Studies with in the Institute of Adult Education (IAE). Later in 1991 IAE was divided into Department of Adult Education and Centre for Continuing Education (CCE). The CCE continues to operate Certificate in Adult Education by distance mode through its Distance Education Unit.

Since independence, the nation has benefited from seven National Development Plans and two National Commissions on Education. The Revised National Policy on Education observed that there is need for an enormous growth of distance education in the country. The National Development Plan 8 (NDP-8) renewed its emphasis on the importance of distance education in the country. Presently, the government of Botswana is fully supporting of the distance education programmes in the country operated both by University of Botswana and the Ministry of Education.

CCE Programmes of University of Botswana

Centre for Continuing Education (CCE) through its Distance Education Unit (DEU) has a mandate to develop distance education programmes at tertiary level. Presently the CCE is operating Certificate in Adult Education (CAE) by distance and the course material has recently been revised to have more distance education orientation. Course material to a large extent has been written for the Diploma in Primary Education, which will be offered from early 1999. The Unit is also planning to offer B.Ed. programme by distance from 2001 academic year. The following enrollment projections for the three programmes are given as an indication of potential in these areas.

Table - I Enrollment Projections for the Programmes

<u>Year</u>	<u>CAE</u>	<u>DPE</u>	<u>B.Ed</u>	<u>Total</u>
1999	161	600	material development	761
2000	209	1260	material development	1469
2001	271	1986	400	2667
2002	351	2785	840	3976
2003	455	3063	1324	4842

Source: Distance Education Unit, Centre for Continuing Education, University of Botswana, NDP-8 proposals.

Course Material Development

The process of course material development in CAE and DPE programmes has covered the following activities:

- (i) Designing the course outlines/structure
- (ii) Recruitment of course writers (part-time)
- (iii) Training of course writers
- (iv) Dividing the course into modules
- (v) Allotment of modules to individual writers
- (vi) Review of progress of material through workshops
- (vii) Coordination of complete course/modules by the Coordinator
- (viii) Recruitment of course editors - (part-time)
- (xi) Training of course editors
- (x) Content editing by subject specialists
- (xi) Language editing
- (xii) Printing of final copy

The most important part is the training of course writers to prepare the material in self-instructional mode and finally reviewing the material to testify whether it suits to the needs. Since the learner is at a distance, the material is the teacher for the learner. It was also noted that most of the writers are drawn from the full time departments of the University and the rest are the experienced teachers from schools.

Course Materials Delivery System

Presently the course material delivery has been very smooth and timely for the learners, since the number of enrolled students is limited. The ways of delivery are:

- 1 Distribution of first installment course material to the students at the time of orientation programmes in the beginning of academic year, i.e. August every year;
- 2 the rest of the material is given at the time of residential sessions during November every year;
- 3 dispatching material by post to the physical address of the students; and
- 4 collection of course material by the students at the study centres

Mostly the course material reached to the students well in time and safely.

Of course, some problems are encountered during the development of course material as indicated below:

- 1 Some course writers delayed writing modules because of their pre-occupations.
- 2 Replacement of course writers during the period.
- 3 Rejection of some material by the Content editors where the standard is not up to the mark.
- 4 Falling apart from the deadlines for writing and editing material and thereby dislocation of residential sessions in the first phase.

Distance Education Division Programmes, Ministry of Education

DNFE, which was established in 1978, took up the activities of the Botswana Extension College through its distance education division. It mainly offers programmes at Junior and Senior Secondary level and the programmes are operated in 28 centres in the country. These two programmes have made a considerable impact in the country especially targeting out of school education.

Table - II Progress of Enrollments During 1993 - 1997:

<u>Year</u>	<u>JC</u>	<u>GCE</u>	<u>Total</u>
1993	3220	2980	6200
1994	2631	2913	5544
1995	1102	1114	2216
1996	1025	1544	2569
1997	812	1454	2266

Source :DNFE, Ministry of Education

The future enrollment is projected as 20,000 learners by the year 2003. Presently the establishment of Botswana College of Open and Distance Learning (BOCODOL) is underway. The necessary formalities have been completed and is awaiting the approval of the Parliament. The distance education has raised the hopes of the government to impart education to many with less cost unlike the present system where it sponsors every student for higher education by spending huge amount.

Course Material Development

The Distance Education Division, Ministry of Education has more or less the same process in the development of course materials for its learners across the country.

The process is as follows:

- (i) Designing the structure of courses

- (ii) Dividing the course into modules
- (iii) Selection of course writers both part-time and full time
- (iv) Selection of permanent desk officers - writing materials
- (v) Allotment of modules to the writers
- (vi) Editing by subject specialists
- (vii) Language editing
- (viii) Review of the materials
- (ix) Bringing out the final copy of the material for printing

Unlike CCE of UB, the Distance Education division of the Ministry of Education has some full time course writers for a few subjects where the material was ready according to the deadlines, though it is expensive. There were some part-time writers in the development of material. Later, the material was given to the full time subject editors which again was easy to monitor in house and the material will be made ready for the students as per the schedule.

Course Material Delivery System

The delivery of course material to the students has not been a big problem. Only at times, there were problems when material was not ready.

The following system is generally adopted to deliver the material:

- 1 In normal circumstances the material was delivered to the students when they attend tutorial sessions at the study centres.
- 2 To make it for fast delivery, the course material was also sent to the regional centres and maintained enough stocks.
- 3 Some times the course material was also delivered by post on the request of the students.

This system is working very well at present and students have no complaints.

An Integrated Approach for Course Material Development

Well designed interactive course material either in print or electronic technology based, is the foundation for the successful teaching and learning in all the flexible learning modes. In most cases the self-instructional material in the form of print is ideal for all settings. And this course material is a big resource for the distant learner. The material so developed should have suitability, adoptability, compatibility, flexibility, complexity, completeness, appropriateness, distinctness and finally testable and economic. The material should reflect the teacher while the learner reads through the material. To incorporate all such characteristics of self-instructional methods, it is imperative that the planners should design this course material with utmost care and hence an integrated approach can be suggested in the course material development.

- 1 The first and foremost is setting a representative curriculum which would meet the requirement.
- 2 Assessment of learners' characteristics and institutional requirement.
- 3 The team of experts designing the curriculum should setup the standards, duration of the course and modules per course.
- 4 Planning of distance education methodologies against the media.
- 5 Uniformity among course components
- 6 Assignment of writing course modules

In the light of the above a new approach is suggested for the development of course material by integrating the following:

Course Material Development

Collaboration with Other Institutions in the Country/Region
Coordination of the Course Material Development

Course Outlines	Briefing/ Course Teams	Testing Drafts/ Review	Editing Subject/ Language	Material Layout Media/	Final Copy printing	Production In house/ External	Storage Facilities
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The above diagram explains the different stages in the development of course material. The course material being the focal point, the collaboration within the country/region has been taken into consideration, and thereby the function of coordinating the materials preparation links to all the activities.

The above approach will take into consideration all the elements in course material development. To assure the quality of material, the duration of this exercise should be between 18 to 24 months for any academic credit programme, and there after the programme can be advertised for operation. The course material development should never be done in a hasty or hurried way and the planners should be allowed to make better judgements for all the above activities to happen in their own pace of time giving allowance for monitoring, testing, review and incorporation of feedback from the editor.

When the number of programmes grow and the students enrollment increases the collaborative methods assume importance within the department/institution to institution and country to country and the course material can jointly be developed. Technicon South Africa and COLISA are the best examples of drawing highest levels of expertise from different institutions. The institution concerned should be in a position to explore possibilities for sharing and adoption of material, collaboration in preparing the material before the process can be put in place.

Efficient Delivery System for the Course Material

The planning of delivery system should start along with the course material development. As the operations grow the delivery system should be more decentralized and flexible to incorporate modern techniques in the delivery system which of course should also be more economical.

A few decades ago the material used to be sent by mail to the door-step of the learner. The experiences of some countries reveal that the postal delays hampered the performance of the students and hence to resort the other modes of delivery of material.

The efficient delivery system should also answer the following questions:

- Is the material supplied promptly as far as possible?
- Is the material dispatched using appropriate packaging and methods?
- Are records maintained for materials supplied to learners?
- Are stock records up-to-date, accurate and secure?
- Is all material delivered safe and intact?

In the light of the above, the following is the viable, flexible and economical delivery system with its agents as indicated.

Delivery of Course Material

Postal Services	Regional Centres	Study Centres	Regular/Constant Mobile Delivery	Internet	E-mail
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The modes used in the above system for the delivery of material will check one with the other. As long as enough stocks are maintained at regional/study centres, even if there are postals delays, the material can still be given to the students at the study centres. Apart from this on a regular basis, the mobile transport can be arranged to supply the material. Finally when the hi-tech facility is made available to the most learners, the material in print can also be delivered through e-mail and Internet. The hi-tech can reduce the production costs to a large extent and thereby become economical.

Constraints in Delivery System

Each form of delivery of course material has its own advantages and disadvantages. One needs to evaluate the systems thoroughly to choose the best form of delivery as a prime mode of delivery. Hence it is advisable to have flexible modes of delivery of course material to the learners.

Delivering materials by post sometime causes delays and it is also an expensive affair. To make it more economical, it is better to deliver the material through the regional centres/study centres. Coming to the study centres, if the infrastructure is not developed, there may not be proper space and storage facilities. Later on, if the materials have to transport from one region to the other and one country to the other, it may attract customs and sales tax which needs a policy agreement between the interested parties. Finally, the e-mail and Internet can come into effect wherein lots of material can be sent to the learner, provided the learner is linked to these facilities. To have a fair delivery system of course material, it is suggested to have a proportionate mix of all these modes outlined.

Collaboration with Other Institutions

Collaboration in distance education assumes greater importance in the twenty-first century. It entails large scale economies to the partners and offers a good amount of choice, freedom and flexibility in planning and implementation of distance education programmes. There are different forms of collaboration; internal collaboration, inter-institutional, international and inter-continental. Collaboration in course material development and delivery system should come out as an important and most desirable option at this hour of the time. In this process, the developed countries could easily overcome the financial, manpower and other technological problems. Over the years, the distance educational institutions in the world and especially the Commonwealth governments have deliberated on having collaboration in this area to assist the developing countries. Commonwealth of learning (COL) has taken lead in this collaboration to benefit the partners in distance education. UNESCO, UK Open University have also established some roots for this collaboration.

While acknowledging the efforts taken by COL in this collaboration, some countries in Southern Africa, i.e. UNISA in South Africa, IEMS in Lesotho, DEMS and IDE in Swaziland, CCE in Botswana have recently come to an understanding to collaborate in many issues of distance education more especially with course material development. This was agreed during the Conference of the Distance Education Association of Southern Africa (DEASA) (in which the above countries are members) held 23 - 25th October 1998 in Swaziland. The conference took a strong view on this collaboration. "Collaboration is better than competition" is the consensus arrived at the Conference.

It is further suggested that the following factors have to be taken into consideration in collaborating to move forward in the course material development and its delivery system:

- Establishment of working committee
- Guidelines governing collaboration
- Data Bank of all course materials available with the respective institutions
- Assessing the needs of all interested parties
- Adoption of course materials from other institutions, if necessary
- Types of courses
- Course material development modalities
- Establishing DEASA web site with the assistance of Technicon South Africa.
- Regular communication mechanisms

After having established the above in place, the concerned institutions come together and constitute the course teams to develop course material in the planned courses and later on monitor and review of material.

Collaboration between Botswana, Lesotho and Swaziland

Some institutions in Botswana, Lesotho and Swaziland deliberated the issue of collaboration during the DEASA's conference time in October 1998 and agreed to start the collaboration on the course material development within the available/common programmes. The meeting agreed that Botswana can adopt

some of the material from Swaziland for its Accounting and Business Studies programme to be offered by distance and the rest can be developed afresh. Coming to the Diploma in Law - Botswana wants to start this programme by adopting some of the course material already prepared in Swaziland. It was agreed to prepare the course material for B.Ed. programme by distance, which both countries have to start collaborating the course material development in due course. Since Lesotho is already ahead to run this programme by distance, some of the course material can be adopted from Lesotho. One hopes that this collaboration continues to benefit each other and the collaboration should also through light on customs and sales tax issues of different countries for the material, so that the whole package will be cheaper for both institutions and learner. The institutions/countries need to assess postal/courier services, by road, rail, air, sea mail, etc. should be explored to deliver the materials.

Conclusion

The need for distance education in the Botswana was envisaged through the National Development Plans and the National Commission on Education. Course material development and delivery system is the main function in the whole process of distance education. The course material should be more self-instructional, any short fall in the material will adversely reflect the progress of distance education.

Thus, the course material assumes greater importance especially in the learner point of view. In the analysis it was clear that both the CCE's DEU and Distance Education Division of Ministry of Education are more or less followed the same method in the development of course material and its delivery. As things develop and the programmes and students number grow, an integrated approach in the development of course material development, with special emphasis on collaboration will become imminent as it is economical and flexible for operation. Hence, the issue of collaboration both in the course material development and delivery system is also suggested. The recent collaboration between Botswana, Swaziland and Lesotho will go a long way in achieving the objectives of distance education. In spite of different existing collaboration models in the world, it is advised to create a model to the context under which the participating countries are operating and also to benefit from other models as well with special emphasis on the development of course material and its delivery.

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