IMPROVEMENTS IN ACCESS/LIFE-LONG LEARNING

Dual Mode Example: University Of Mauritius

by

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INTRODUCTION

The Context

The University of Mauritius, set up in 1968, was conceived as a developmental University initially. It was deliberately designed to help Mauritius to overcome its developmental crisis by providing training facilities, largely of an in-service, non-graduate basis in the fields of technology, administration and agriculture, while at the same time conducting research of an applied nature in consultation with government departments.

With the passage of time, and following changes in its mega-environment, it changed directions and focus. Free education at all levels, a rise in the standard of living, and higher aspirations of the younger generations have all swelled the demand for higher education, which the University of Mauritius, as the sole tertiary education provider in the Island, could not satisfy. For example, in 1992, 2437 applicants applied for admission to the University. Out of those, 1975 (81%) were fully qualified; only 943 were admitted (48% of qualified). The World Bank in its 1995 Report, made mention of a 100% enrolment ratio of the relevant age-group at Primary level, of 52% at Secondary School Level, and only 3% at Tertiary Level. The tendencies illustrate a pyramidical structure, with a large base, and a narrowing top:

Tertiary	3%
Secondary	52%
Primary	100%
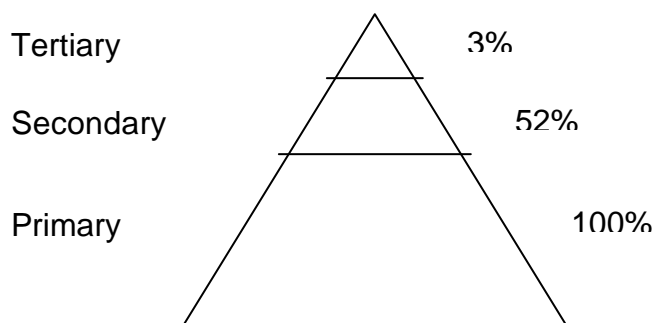
Source: World Bank Report, 1995

This unhealthy state of affairs led the University Authorities to realize that it could no longer rely solely on traditional, lecture-led delivery. Alternative strategies become not only desirable, but imperative to meet the growing challenges.

The concept of democratization of higher education, which views education as a means of social mobility, becomes popular in common parlance. To meet the challenges posed by the stake holders, and upon the recommendation of John Daniel, following his mission in Mauritius, the University of Mauritius created the J Baguant Centre for Distance Learning (JBCDL) in 1993, with the following objectives:

(i)   Improve access to educational.

(ii)   Enhance quality in terms of both standard and learning process.

(iii)   Improve efficiencies in terms of products, greater return in investment and cost reduction and constraints (Col., 2001).

The Centre for Distance Learning

In the overall process of setting up a Distance Learning Centre at the University, University of Mauritius had the assistance of Laurentian University, Canada, under a CIDA-funded project. Initially, a Centre for Extra Mural Studies was set up in a small section of the Faculty of Engineering, but as the activities expanded, permanent quarters in a separate building were secured. Similarly, the part-time skeleton staff assigned to the Unit, were converted to full-time staff, comprising a Senior Academic, an Administrative Assistant and other support staff. Those directly involved in the administration received training in Mauritius and in Canada.

By 1995, the need for written policies, and for a statement of University's Vision and intent with respect to distance education was clear. An internal review was conducted. The review resulted in a report, which recommended policies with regard to distance education. The recommendations were accepted by the Senate and Council of the University of Mauritius and provided a framework for the future action and decision-making. At the same time, the title of the Centre was changed to Centre for Distance Learning to reflect on its function and mandate more correctly.

To-day, the Centre's head holds the title, Director, Centre for Distance Learning. There are 13 staff, including three Instructional Designers, and in the academic year 2002/2003, the Centre has offered 33 modules to 6,000 students.

Role of the Centre

The distinctive feature of the Centre is that it acts as a facilitator in distance learning matters for all Faculties of the University. As programme facilitator its primary objective is to maximize the use of University's resources and to facilitate an increase in the first year intake for full-time studies. By the use of distance education methodology, it has been possible to introduce flexibility in the delivery system, allowing staff to handle large cohorts of students, while maintaining and improving at the same time the quality of provision.

In co-operation with academic Departments, the Centre identifies modules for development. It then contracts with professors to develop the Units/Module, sets up module development teams, provides instructional design assistance to the development teams, produces the draft, and copy ready versions of the modules, and prints the module manuals. The Centre subdivides the students into sections, contracts with tutors for the conduct of tutorial sessions, provides orientation to ensure a consistent approach among the various tutors, and arranges and conducts the final examination in a manner consistent with University policies.

The Model

The model adopted, probably unique of its kind, involves the designing of modules according to distance education student-centred teaching/learning principles, and the holding of regular tutorial sessions with a qualified tutor for academic module on which large cohorts of students *are enrolled. The modules form* part of the regular Programme of Studies and are offered to full-time students, on Campus. In fact, students are not required to attend regular classes. Instead, a carefully designed course manual, including independent learning activities and other learning materials are purchased by each student. Tutorial are held once a week, at the rate of 1 hour for each module. Although there are many tutorial groups for each module, students write common assignments and a common final examination that adheres to University policies. Unlike the situation in other Universities, the JBCDL is an integral component in the University set-up. It obtains academic resources from the Faculties; it liaises with the Faculties in fixing dates for tests and examinations, and is the focal point as far as the examinations in Distance Education modules are concerned. All examinations processes like typing of examinations papers, vetting, security measures are undertaken by the Centre. This enables the Centre to be seen as an essential sub-system in the overall University system.

The Centre also undertakes a major role as regards monitoring of delivery. As a co-ordinating mechanism, it convenes meetings of tutors, obtains feedback concerning the delivery of courses, and provides advice as appropriate.

DIFFICULTIES AND CONSTRAINTS & LESSON LEARNT

Acceptability

The stumbling block that the University faced when it introduced distance education on campus was acceptability by academics, and even by some in top management. This reaction was but natural, given the set of circumstances prevailing at that time. The University had British roots and was steeped in British traditions, with an elitist culture, where students "read" for a degree. As such, it is no wonder that there was considerable resistance to non-traditional approaches to teaching and learning. The personnel at the University felt that they were being pushed into the project, and pushed to make change. The academics in particular did not think highly of distance education as a reformative strategy. There was a strong belief that distance education was no match to the regular, face-to-face lectures.

In-fact, the academics and administrators have all had their schooling and University education through the traditional, face-to-face mode of delivery.

The students as well found it hard to accept this mode of delivery. Competition to secure a seat at the University is high; therefore, students need to perform very well in the examination, particularly in high school examination, to obtain good grades, to gain access to the University. Supplementary teaching against payment of fees becomes part of the culture in the high schools. Teaching and Learning becomes mechanical, examination based, with very little scope for self-development. With such a set-up, it is clear that adjustment to self-directed learning became stressful for the students, and hence, resistance on their part.

Strategies adopted

Given the set up and the prevailing culture, University of Mauritius adopted a well-defined strategy of training to effect the desired change in attitudes.

> ➢ **Training for Top Management**
> The Vice-Chancellor and the Pro-Vice-Chancellor responsible for distance learning on Campus and the Registrar were exposed to the mechanism of distance learning through various ways: visits to the various centers for distance learning, attendance at various conferences, workshops and seminars.

> ➢ **Training for Mid-Management Level**
>
> Each of the principals involved in the Centre for Distance Learning has received a structured and focused training in Canada, and training had also been carried out in Mauritius. The Director and the Administrative Assistant both spent time at the Centre for Continuing Education, Laurentian University, learning about the operations of a dual mode University and about the sets of skills and procedures required to develop and deliver distance education courses. In the same way, the Mauritian Instructional Designer was trained, and she developed the necessary skills through a series of well-designed hands-on training programme in both Canada and Mauritius.

> ➢ **Training for the Academics**
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> Intensive workshops in the philosophy of distance education, and in the basic skills necessary for course development and tutoring were offered to faculty at large. A "pairing" strategy was resorted too. For example, the Professors involved in the development of the first four made in Mauritius modules were "paired" with a Canadian content expert who had also experience in the design and development of distance education course. These Professors worked together in both Mauritius and Canada at different stages in their courses' development, with hands on coaching as the predominant methods of assistance. Between the face-to-face periods, electronic communication took place.

> ➢ **Orientation Training for the Students**
>
> Orientation programmes were designed for the first time tutors and for students studying by mixed mode for the first time. Students were given an exposure as to how to approach the study materials, and what to expect from a tutorial session. Tutors were briefed as to how to handle a tutorial session, and the main differences between tutoring and lecturing.

> ➢ **Training for the low-level Administrative Staff**
>
> Training was also conducted for the low-level staff, in particular, the Clerical and Executive Cadres, to create an awareness on the quasi-industrial aspect of distance education. The needs to stick to the production schedule, and deadlines, and the imperative of Quality Assurance as regards stocks and distribution of materials were some of the topics dealt with.

> ➢ **Leadership**
>
> Another equally important and well-calculated strategy adopted by management was to staff the Centre for Distance Learning with personnel, especially those at the top, who have referent power with proven leadership qualities. This has considerably helped the Centre, especially at its initial stage of development. Support for the project had become

possible through the network of the Director, who had been on Campus for more than 20 years.

➢ **The Carrot**
It has been realized that at the end of the day, academics need the carrots to motivate them in the project. Not much can be accomplished if incentives are not offered for efforts made. Thus, academics who develop modules on Distance Education mode are rewarded through payments. Academics who agree to tutor are also compensated in their teaching load. Finally, module development is given credit in promotion exercise, specially any junior staff.

➢ **"Sensitivity to Stakeholders Concerns"**
The Distance Education Model developed is one that takes into account the concerns of academics, students and administrators. It blends the elements found in the two worlds, the new one and the old one. It retains the face-to-face encounters with the lecturer - albeit for a much shorter time now – while at the same time through carefully designed programmes enables the students to become autonomous.

Lessons Learnt

❖ In any change process, it is very important to work with friends and volunteers who have good leadership qualities. Voluntary change is much more successful than that which is forced upon. Further, with willing volunteers, the risk of sabotage is reduced.

❖ The pace of change may be related to leadership in the institution and in the project. In the early stages of the project, University of Mauritius was struggling to define the value of distance education, given its organizational culture. This value became clarified only after the institution took a "leap of faith" and launched on a process that was not only difficult and time-consuming but also required commitment, without a clear view of the short and long term effects, or of what the future really looked like. In fact, people had to be willing "to be changed", without knowing at times what they would be changed to.

❖ It is of prime importance to provide continuing support to early adopters, particularly when they are working with generic systems. Such unflinching support must not only be forthcoming, but more importantly, seen to be forthcoming by one and all. The support, then, becomes an engine for pulling the project through.

❖ It is important to operate an array of incentives that could satisfy the needs of all those involved in the project. Financial incentives, given to module development, proved to be effective in roping in the academics in the project. Further, reckoning the time spent by tutors in Distance Education activities has also born its fruits. The general feeling is that recognition of efforts in any project is a sufficient form of motivation to make the project move.

❖ It is a fact that people are always afraid of change, because of uncertainty. Even academics do! Change, however, is inevitable and for it to be effective and efficiently effected, it must be gradual, and not drastic. In other words, elements of both the old word and the new world must be retained. This has been clearly demonstrated by the method of distance learning adopted by the University. In fact, the hybrid mixed- mode is unique as it allows for the retention of some traditional values, like lecturers meeting

the students, while at the same time it has introduced the notion of independent learning and state of art approaches to instructional design.

Cost-effectiveness

To be cost-effective, distance education mode of delivery needs a minimum number of students. Any number below that minimum is not cost-effective. Economies of scale are reaped when the number of students who registered exceeds that minimum.

When the University was set up, all its programmes were set on a full academic year, with rigid structures that did not allow students to take courses outside their home discipline. This rigid compartmentalisation leads to a situation where the number of students registering for a course is limited. At best, the number of students studying a course can be 30. In such a situation, it is clear that DE mode of delivery is not cost-effective.

Strategies Used

> **Programme Structure**

It became clear that it required more than just the installation of a D.E. Centre at University of Mauritius to be able to talk of a fully functional D.E. mode of delivery. The first step was to semesterise the academic year and to rationalize and streamline courses on campus. As far as possible, this involves having common modules/courses of a generic nature at all level I programmes. In this way, the problem of critical size for cost-effectiveness purposes was resolved. Standardisation has been achieved by attaching credit value to the modules.

The direct benefit of this strategy is to make for changes in programme configuration that enable students to study modules outside their home discipline. Other innovative techniques like the introduction of "compulsory electives", and "General Education Modules" (GEM) has given rise to large cohorts of students studying a particular module, a situation that makes the mixed mode delivery not only practicable but desirable as well. As well as increased class sizes, there has been substantial reductions in contact time, and a consequent big extension of resource-based and independent learning. This helped free up staff time to work on a growing number of other projects like research and consultancies that support income generation.
It is an agreed policy at the University that modules attracting large cohort of students should be taught on mixed mode. In practice, it means any module attracting more than 120 students should be delivered on D.E. mode.

> **Gradual, not abrupt, change**

Modularisation and creditisation were not introduced to the whole campus overnight. Conscious that it was entering relatively uncharted territory, University of Mauritius adopted the "praxis" approach – that is modifying hypotheses, assumptions and policies in the light of assessment for ongoing practice, rather than stubbornly sticking to a single approach. Modularisation and creditisation were introduced into one Certificate Programme; in the light of experience, changes were made to the practice, which was eventually extended to other programmes. In fact, it took almost five years to modularize and creditise all Courses on Campus.

Lessons Learnt

It is important to adopt a gradual and incremental approach, rather than a one-off drastic one. Semesterisation, modularization and creditisation are key complementary strategies in any D.E. adventure. Academics are more inclined to adopt practices that have worked, and so great attention needs to be given to the early phase of the project.

Quality Assurance

Given the institutional set-up and prevailing culture at the time, academics, students and parents viewed distance education offering as no match to the traditional, face-to-face lecture-led instruction. In other words, they viewed distance education offering as of inferior quality in terms of outcomes, quality and development. Thus, the major task facing the protagonists was to demonstrate that quality that only has not been compromised, but that it has, in fact, improved. This stand, it is believed, would reduce the inherent resistance towards the move towards non-traditional approaches.

Team–approach is adopted in Course development. This strategy ensures that whatever is developed is peer-reviewed, to maintain accuracy in contents and relevance. In addition, the materials, while being developed, are pre-tested on groups of students for feedback purposes, on an informal basis.

After each semester offering, students are requested to complete a feedback questionnaire. This enables the Centre to assess the materials and to propose improvements. Tutors are also encouraged to keep a "correction sheet" in which they record their observation on aspects that are ambiguous, particularly difficult or obscure. The feedback questionnaire from the students, together with the tutor's "correction sheet" provide valuable input in improving the materials. Copy of the student feedback materials is attached at Annex 1.

Writing the materials is one exercise; the materials need to be revised from time to time to take into account the changes occurring in the mega-environment. The frequency of contents revision depends on the nature of the module. For example, a manual on Information Technology may need frequent updating; one in Mathematics may need revision when changes in the syllabus are undertaken. As a general rule, manuals are revised every three years. Changes occurring between revision times are compiled in an addendum and handed to the students. This ensures that the students are updated regularly.

Strategies Used

➢ **A Strict adherence to State of the Art**

Apart from the staff training strategy adopted, the Centre sees to it that course development and course delivery are undertaken according to strict standards. Thus, adherence to the State of the Art instructional design methods was continual, training programmes for course developers and tutors were instituted, course materials were professionally packaged with a "corporate" look, and the University tradition of common final examinations were maintained. The employment of an instructional designer at that time (the figure stands at 3 now), has been an important quality control procedure. Consistency in course design and adherence to defined standards and norms became the guiding principles. Regular communications with those involved in management of the project and tutors, module co-ordinators and tutors were maintained, to ensure best practice.

> ➢ We usually adopt the Course **team approach**. A team is constituted for each module to be developed. It comprises the gross of instructional designers (their permanent component) and the team of academic staff, the temporary component.

The Trigger to mixed mode delivery

Unacceptable rate of failure

Prior to the introduction of the mixed-mode delivery, Introductory Mathematics Course was offered to many students from many departments.   It was **delivered** under the traditional, lecture-led method, with a class of about 92 students, at the rate of 3 hours per week. In one particular year, the rate of failure in Introduction Mathematics was alarmingly high. Finally, upon inquiry into the matter by the Dean, it was found that:

(i)   the lecture-led mode of delivery was one way only, so that meaningful interaction between the academic and the students was virtually nil.
(ii)   Large class size.
(iii)   Each lecturer approaches the topics differently.
(iv)   The emphasis was on "number crunching", rather than intelligent assimilation of concepts.

Strategies Adopted

> ➢ **Distance Education**
> It was in the early 90's, and there was much talk about the potential of distance education as an alternative educational strategy. Under a Commonwealth of Learning (COL) founded project, in which University of Victoria and University of Waterloo were involved, some training programmes were conducted for potential tutors and module   developers. Under the Scheme, University of Maur 1 1.ive educationaf7utmese was vWaterloo were involved,pa 0 TD -040c 0.1875 Tw (-) Tj 3.75 0 TD -

Financing of the mixed mode delivery

Tertiary education for school leavers (full-time students) in Mauritius is virtually free, mostly all of the financing is through government grants. However, students do pay for some administrative costs, like examination fees, library fees and registration fees. There are no tuition fees. Part-time students do pay tuition fees and administrative fees.

With this scenario, full-time students do not pay any tuition fees when they enroll for modules that are offered on mixed mode delivery. Part-time students, on the other hand, pay the same tuition fees that they pay for face-to-face modules.   Presently, it is at 27 US $per credit.

Tutors who provide tutorial services for mixed mode delivery are compensated with 30 hours of teaching load for each 45 hours module on D.E. mode of delivery. Part-time tutors are paid 300 US$ to tutor one module, as against 675 US$, which is paid for face-to-face sessions.
(Exchange rate now: 1 US$=30 Mauritian Rupees)

Strategies Used

The mixed mode delivery is a very heavy consumer of stationery. It is logical that students should pay for the paper-based resources that are given to them.   Very often, they have also supplementary materials, like audio and video, for which they have to pay as well. The price of a self-instructional manual depends upon the size of the material. In-fact, the price is calculated on the basis of the paper used, depreciation of machinery, over time payments, payment to the module developer and a small proportion of overhead. The manual is offered at Cost Price to the students. This strategy enables the University to recoup all variable costs, including course development fees.

Lessons Learnt

➢ All variable cost incurred on module developments can be recouped, as the material that has been developed has a life-time of 5 years, before any major revision.
➢ It is important to compensate tutors who agree to service any module run on mixed mode delivery. In the same way, as an incentive, academics who develop modules to be offered on mixed mode delivery need to be compensated.

Management Issues

All the management procedures of the JBCDL fall within the centralized bureaucratic administrative structure of the University. Little administrative autonomy is however, given to the Centre to function.

This is in spite of the fact that, for any Distance Learning Project to succeed and expand, there is need for full autonomy, which allows for an innovative and proactive management style. Admittedly , there is a need for control, for Quality Assurances purposes, but having grown out of such a system, the Centre found itself stifled by the bureaucratic fetters that delayed action.

More than that, all programmes fall within the five Faculties, that decide which module will be offered on the mixed mode delivery. Therefore, it is very important for the Centre not to antagonize Faculties.

The Centre has, up to now, explored fields not covered so far by the existing Faculties. For example, it launched, in 2001, a Post-Graduate Certificate/Diploma/MSc in Teaching and Learning in Higher Education, for the benefit of the academic staff.

Any new projects are launched with close collaboration of the existing Faculties. For example, full programmes like BSc (Hons) Police Studies, BSc (Hons) Nursing and BA Library Studies have been launched under the aegis of the different Faculties, with strong input for the Centre.

The extremely good support received from top management enables many bureaucratic hurdles to be overcome. For example payment for tutors, expenses incurred on repairs and maintenance of machinery and other similar expenses are sent directly for approval by the Pro-Vice-Chancellor responsible for Distance Education. This informal and fluid arrangement has enabled the Centre to function quite satisfactorily so far.

Lessons Learnt

It is difficult for a distance education center to function in a bureaucratic set-up devised for traditional, face-to-face set-up. Support for top-management is crucial for the development of such Centre.

THE CHANGES

To adequately demonstrate the changes, and sustainability of these changes, a 'before and after' picture is drawn.

The 1990/91 SNAPSHOT	THE 2003/2004 SNAPSHOT
In 1992, some 2437 applicants applied for admissions to the University. 1975 of these were qualified (81%). Of these 943 were admitted (48%).	In 2003/2004 some 4200 applicants applied for admission. 3800 were qualified, and 1650 were admitted. This figure represents a 75% increase over the 1990/91 figure.
Total enrolment was 1658, with 1128 male and 530 female.	nrolment touched the ceiling of 6275, with 3012 male and 3263 female. Shows an increase of 278%.
The academic components of the University were composed of four academic Units, namely, School of Agriculture, Engineering, Law, Management and Social Science and Science	The University has 5 Faculties, the J B Centre for Distance Learning, the Virtual Centre for Innovative Learning Technologies, and other Support Centres.
There were 82 distinct programmes.	There are 166 undergraduate programmes, and 33 postgraduate programmes.
There was no Distance Learning Centre.	A functioning Centre for Distance Learning with 15 staff members. Hybrid Mixed mode courses are designed, developed, produced and delivered through the Centre. The system of offering courses using mixed mode is administered through the Centre.
No Distance Education Centre available.	The University now offers, through the mixed mode delivery, the following courses: (i) BSc (Hons) Police Studies (ii) BSc (Hons) Nursing (iii) BA Library Studies Very soon, a Postgraduate Course in Port Management and Shipping Administration will be launched.

All modules were taught in traditional ways.	32 modules are taught on mixed mode delivery.					
The University has the appearance of a very traditional British University, where students "read" for a degree. All teaching was in form of traditional lecture-led lectures.	All faculties are committed to non-traditional approaches to teaching and learning and resistance is significantly reduced.					
All lectures were conducted by lecturers, some part-time and some full-time.	Lecturers are also tutors, and the breakdown is as following:					
	P /T			**F/T**		
	M	F	T	M	F	T
	33	29	62	23	29	52

CONCLUSIONS

Critical Success Factors

➢ Strong and unflinching support for top management.
➢ Top management must be fully convinced in the project.
➢ At the initial stage, it is desirable to work with volunteers/peers/friends to ensure its success.
➢ Should be introduced gradually, retaining elements of both old worlds and new worlds.
➢ A vast array of incentives to be offered.
➢ Training, at different levels and of different kinds to be undertaken to change attitude towards D.E.
➢ A champion (Leadership) needs to be identified to affect the change, and get the project through.
➢ Medium and long-term benefits should guide actions, and not short-term benefits.
➢ Staff are much more likely to adapt to innovative technologies when the latter is clearly a solution to problem, rather than innovative technologies in search of problem to solve.

THE AUTHOR

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He has been involved in setting up the CDL on the campus right from the start, and has been intimately associated with its growth over the years. He has first-hand experience as regards difficulties, constraints and problems that the Centre faced in its growth and development.

He is a "chargé de Programme" for a Project known as (CAERENAD), which is run in partnership with six countries. He presented a paper at the "Creating New Leaders for the E-Culture Conference", on "from the Brick University to the Click University" in 2001. He was a key resource person for the workshop organized by BREDA (UNESCO) in developing guidelines for Distance Education in Tertiary Institution.

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