

The role of Open and Distance learning in Health Education, a case Study of Masters of Public Health, Distance Education Program (MPH, DE) of Makerere University.

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ABSTRACT

The Masters in Public Health, Distance Education Program (MPH, DE), and Makerere University was launched in October 2004. The need to sensitize the public about Primary Health care and the need to persuade the public to practice Primary Health care in all districts of Uganda prompted the need for training in public Health. The use of distance education which is accessible and convenient is justified because of convenience for medical officers in the decentralized districts of Uganda.

This paper content is from a survey of 37 out of 51(65%) of pioneer students at the end of their first face-to-face sessions semester one 2004, that sought to find out their experiences and benefits derived from the course. The paper demonstrate successful outreach in training doctors in Uganda who address health concerns, in the decentralized districts but cannot leave their jobs for full time courses but would like to take up masters programs.. The findings show that the majority of students were conversant with computers (51.4%) somewhat comfortable with computers, (94.3%) had ever used email. However only 5.4% had done online courses earlier, Other computer aided communication techniques of chatting, online discussion boards, videoconferencing, were new to more than 90% of the students.

Students' problems were limited time, limited access to computers and internet. Students indicated improvement of handling health care, acquiring knowledge of research techniques reflected in improved health data. They appreciate the continued education that keeps them within their working environment, as they apply the knowledge they acquire as they study, without depriving the society of the scarce medical human resource even if they were to study fulltime.

INTRODUCTION

Back ground and context

Makerere University Institute of Public Health (MUIPH) launched the Masters in Public Health Distance Education Program (MPH, DE) in October 2004. It is the first Masters Distance Education program to be offered at Makerere University and the first MPH, DE program in the region.

The development and implementation of program was sponsored by the Rockefeller Foundation. The rationale for the program is to increase the number of Masters Students trained per year for the country. Prior to the establishment of the MPH, DE only 20 students would be admitted on the program per academic year. The MPH, DE admitted 50 students initially. The MPH, DE seeks to increase access to Medical Officers upcountry to upgrade without necessarily leaving their workplace, and their families. The socio-economic factors on health related issue renders the The MPH, DE program relevant and adoptive to demands of the health workers' up-skilling needs.

Uganda suffers from widespread shortage of health workers of all cadres necessary for Primary Health Care. Uganda has 0.77 health care workers per 1000 population; approximately 30% of the minimum standard of 2.5 per 1000 identified by WHO. According to WHO, there are approximately 2,200 doctors and 16, 000 nurses working in Uganda

Less than half the population of Uganda live within 5 Km of a health care facility. Utilization of preventive services is lacking. Only 15% of women have access to modern methods of contraception Uganda Demographic Health Statistics (UDHS, 2006). There is a high burden of preventable diseases in the country. (Infant mortality rate is 76 per 1000 Live births, Maternal Mortality Rate is 435 per 100,000 Live Births, reflecting severe inadequacy in maternal health

services. Over 60% of the burden of disease is accounted for by preventable diseases (Prenatal and maternal conditions (20.4%), Malaria (15.4%), Respiratory Infections (10.5%), HIV/AIDS (9.1%) and diarrhea diseases (8.4%) (World Bank 1995)

Delivery modes on the MPH, DE program include:-

- Print material as core,
- face to face sessions per semester
- Online student discussions,
- online libraries, websites and journals (Medline and Pub med
- Online student support and,
- The use of mentors for students.
- Free and open access materials provided they have been vetted and found to be useful and of acceptable quality.
- A list of websites provided to students: African Academy of Sciences (<http://www.aasciences.org>), Directory of Open Access Journals (www.doaj.org), INASP – PERI (<http://www.inasp.info/peri/intro.html>) and HINARI (<http://www.healthinternetwork.org>).

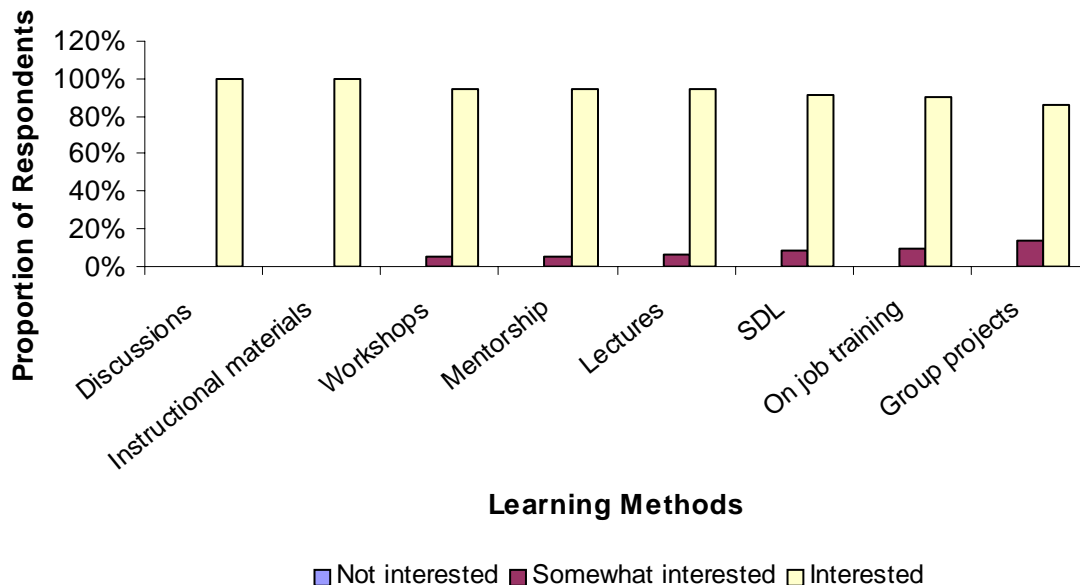
Also Students are encouraged to form their own discussion groups based on convenience and where they stay.

- Interact with fellow students in the full-time MPH Programme.
- Use available interactive software that supports their discussions e.g. Skype and Yahoo Messenger.

The study materials lead to independent study and the problem solving approach applied lead to a high degree of learner centeredness.

- Over view lectures are given during face-to-face sessions to introduce the different courses per semester. The ranking of some of those lectures is shown in table 3 below on a scale of 1-3 with 1 as not interested, 2 somewhat interested and 3 interested, as students responded to the survey conducted.

Figure 1: Proportion of respondents by ranking of different learning methods



All respondents (figure 3), were interested in learning through discussions with peers and reading instructional materials such as handouts/notes. 91% percent were interested in self-directed learning (SDL).

The study materials:

10 sets of Study materials covering 10 courses were developed, reviewed, edited and printed. There is continued review with the help of an instructional developer recruited on full time basis at the school of public health. Materials for one course are shared between institutions. The school has partnership with TUFTs University and a network of two other Universities in East Africa (Moi University – Kenya and Muhimbili University College of Health Sciences in Tanzania). Students from these institutions share materials on (Environmental Health) participate in an online discussion forum moderated by facilitators from these institutions.

The quality of the study materials is ensured through constant evaluation as indicated in table 1 below.

Table1: Students ranking of the quality of study materials for different courses

Course		Ranking (%)		
		Poor	Fair	Good
Biological basis of PH and Introduction to Community				
	Style of writing	6	23	71
	Content	3	16	81
	Ease of understanding materials	3	33	64
	Overview lectures	14	41	46
Applied Epidemiology I				
	Style of writing	0	5	95
	Content	0	0	100
	Ease of understanding materials	0	14	87
	Overview lectures	0	8	92
Applied Biostatistics and Informatics I				
	Style of writing	0	19	81
	Content	0	19	81
	Ease of understanding materials	3	32	65
	Overview lectures	3	19	78

N = 37 Source Kirunda (2004)

Table 1 above shows that the style of writing and content for all the courses is good. Over ¹/₄ of the respondents feel that Biological basis of Public Health (PH) and Applied Biostatistics and Informatics I study materials are not easy to understand showing the need to improve basically Biological basis materials.

Skills Assessment is catered for as indicated below:

1. Students are selected from health related organizations.
2. During the course of their study, students are supposed to conduct 4 short studies designed on a health field. These studies aim at assessing skills in applied research.
3. Students are required to submit field reports for each of these studies and a dissertation.
4. The dissertation has to be defended in a viva-voce. and a dissertation, showing a strong field component to cater for skills development and assessment.

Over the years, students have conducted numerous studies, but mostly in:

- High-burden Communicable Diseases (Malaria, Respiratory Infections)
- Chronic Diseases (TB, HIV Prevention and Mitigation)
- Environmental and Occupational Health (Sanitation, Hygiene and Outbreaks)
- Reproductive Health as well as Maternal and Child Health
- Health Systems
- Health Programme Monitoring and Evaluation including cost-effectiveness

Learner support

Limited resources prevent support from the field wherever they are though students are, though attached to doctors as mentors. The program coordinator identifies problems of the learners and deals with them instantly. The students do get a lot of feed back on line including their assignment marks and examination marks. Students are directed to key websites for further study. A lot of materials from the free and open source resources and from key websites are downloaded for them and some notes are printed for them to supplement their study materials. Students get orientation, and are supported using mobile phones and internet. Phones are only used for contacting students in case there is urgent information to communicate, or when there are sensitive issues to discuss, targeted to particular students. Students' results are also posted on the university web-site.

A lot need to be done to improve on student support since the program is becoming more popular. Staff have not yet been adequately involved and engaged to increase their virtual contact with the students beyond the face to face sessions and the progressive assessment. There is need to improve on the orientation of tutors towards increased support to students. There is also need to put in place the necessary e-learning infrastructure. The university wide blackboard facilities broke down, but were a key bench mark for the students, where they exchanged views on their study and the tutors chipped in to correct and advise them.

Key achievements

- Appreciation of the DE method of training in that the internal intake is reducing while external enrolment increases. (This is an indication of improvement in the delivery of distance education through continued enrolment of students on the course basically because doctors keep on job while upgrading.
- Research reports have addressed all areas of health care and are a contribution to the improvement of health care in the region.
- A lot of written literature is in place, a number of lecturers developed manuals (The revision of the modules however has been a painful exercise but with the competence of a fulltime person who was employed as instructional developer has made a lot of impact in the readability and richness of the modules students use and quality of study materials is significantly improving.
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- Increased enrolment on the MPH, DE course than was the case before and a remarkable retention of students within the distance education programs coupled with a very high demand for public health education by distance mode. This is shown in table 2 below which depict admission patterns, and retention rates.

Table 2: showing the program cohort admission distribution and retention pattern.

Item	Year of Cohort			Total
	2004/2005	2005/2006	2006/2007	
Total Number of Applicants	243	172	183	598
Number. of Admissions	51	74	36	161
Number of Students Reported at the Start of the Academic Year	49	62	30	141
Number of Students Currently Enrolled	47	57	30	134
Cumulative Drop Out rate (%)	3.92	6.76	0.00	10.68

Source: MPH, DE Annual Report (2007)

Whereas, it is estimated that the drop out rate is usually 50% in distance learning programs (Keegan 1990) the first cohort exhibit a 4% drop out rate and the second cohort a 7% rate (By the academic year 2006/2007). Students interviewed attributed this low drop out on their motivation to study on the course, the prospects of the course and the culture of care shown by the program coordinators, which make them persevere whatever the case.

The Impact of the program in communities

No follow up quantitative study has been conducted to assess the impact of the MPH, DE distance education students on the communities in relation to their places of work, because the programme is still in its infancy and our first batch of graduates have just completed (January 2008). Some qualitative indicators show that the course is having an impact. The majority of the short studies that students have undertaken are operational studies that directly address public health problems pertinent to their places of work and the communities that their organisations serve.

Students have come up with recommendations for improvement in service delivery in various interventions that their organisations undertake. There is evidence that some students have had career promotions and upgrades as they undertake this course. A sizeable number of students that have taken on international assignments in various countries including: Dafur in the Sudan, Kenya, Tanzania, Swaziland, and the United States.

According to the Health Sector Strategic Plan (2005), the current policy of the Ministry of Health is to have Graduates of Public Health running the District Health System and the Health Sub-districts (at county level) and this has led to an overwhelming demand for these specialised cadres. Our programme has contributed significantly to mitigating this need. Many of our trainees are currently running health sub-districts and District Health Offices, concurrently with their studies. They have also gained a lot of computer skills.

The challenges

- Due to insufficient resources (the Rockefeller Funding ended and the program depends entirely on fees) it is not possible to provide study materials, assignments and examination timetables on time.
- Web-based learning management systems are not yet adopted. The capacity for use of these systems has been build among some faculty members through trainings. However, the infrastructure for these systems has not yet been set up within the School of Public Health print
- The mass media though planned earlier is hardly used and mobile systems have not yet been tapped for use in materials delivery, because not many staff have not yet been trained or sensitized to use them.
- Capacity to use CD-ROMs and i-pods is yet to be developed. The community radios are not yet in use, though students do come from areas where community radio is already in use.
- Effective Implement-able strategies that improve overall quality of MPH, DE are not fully in place.
- There is not sufficient time to teach students ICT skills Gunawardena (1994) suggest the best way to up skill students who take up distance learning programs where technology is on orientation of students.
- Access to the internet in homes hardly exist in the Ugandan context Ayoo(2003)note that internet subscribers pay an average of US65\$ per month in service fees in addition to a telephone usage charge for the time one is online.
- Telephone prices are high in the country for any meaningful distance education support system initiative.
- Students are very busy at their places of work given the heavy schedules and the burden of disease shown earlier and find study time difficult to get. Moreover, they have to access internet only at their work place and this aggravates the matter.

Table 3: showing Students' suggestions on how the MPH (DE) can be improved

Suggestions	No.	%
Study materials, assignment and examination timetables should be given in advance	20	56
Lecturers should follow timetable and fully utilise the face to face period	5	14
Lecturers should be available for consultation	3	8
Lessons should be practical and not so medically oriented	3	8
Staff should visit groups regularly	2	6
Evaluated feedback to assignments required	1	3
Other	2	5
Total	37	100

N=37 source (Kirunda: 2004)

Table 3 above, indicates that the program has a long way to go as far as fundamentals of distance learning are concerned. Study materials are still a problem, small as the percentage on regular visit is concerned, it is an area that need attention, especially given the fact that the program is becoming more popular, and many more students upcountry are coming up.

CONCLUSIONS

1. The MPH, DE has contributed to
 - Development of human resource in the health sector, where the burden of disease overwhelm the human resource available by keeping doctors in their workplace while at the same time up skills them and increasing enrollment levels in the MPH, DE
 - Regional collaboration through sharing study materials which are used in the region of east Africa and central Africa. It is likely to spackle other related collaborations in the field of health
2. Given that the majority of the short studies students have undertaken are operational studies that directly address public health problems pertinent to their places of work and the communities, the products of the MPH, DE program would overtime lead to the improvement of quality of life in rural areas. This gives MSPH an edge on developing flexible, adaptive means of teaching public health and an indication that public health can be taught successfully through distance learning.
3. The MPH (DE) program managers should keep pace with modern distance learning deliveries making use of ICT to become more competitive in the region and to utilise facilities that are already in place such as blackboard for chatting but not being utilised.

RECOMMENDATIONS

- Makerere University Institute of Public Health (MUIPH) should equip the students with basic distance learning techniques of computing and online communication to enable them study well.
- Provide Internet services to all district training sites under the regular MPH program such that the MPH (DE) students can utilise these services at the nearest training site.
- In future easy access to computer and Internet services should be a prerequisite for admission to the MPH (DE) program.
- Give Group assignments to encourage regular meetings and discussions among students.
- At the beginning of each face-to face session, students should communicate to the field coordinator topics that were not clear to follow.
- The Government and Donors are encouraged to fund the MPH (DE) since it has proved capable of upskilling and upgrading physicians without removing them from their places of work.

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