

# **Assessment of the Effectiveness of the CAD eLearning Certificate at the University of Botswana**

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## **Abstract**

The introduction of eLearning in higher education has brought a challenge for institutions to train their faculty to equip them with the necessary skills needed to embark on eLearning activities. The University of Botswana (UB) first introduced eLearning in 2002 to enhance instruction and students' learning. eLearning at the University of Botswana has been defined as the "appropriate organisation of Information and Communication Technologies (ICTs) for advancing student-oriented, active, open, collaborative and life-long teaching-learning processes". (Educational Technology Unit, n.d.a)

To ensure that international standards of quality in eLearning are met, EduTech decided to follow a four-step approach to provide (1) extensive staff training through workshops, (2) one-to-one Instructional Design support (3) frequent monitoring of the eLearning design, development and delivery process and (4) assessment of the quality of the eLearning courses after course delivery through an external reviewer using a specially developed assessment instrument.

This study focuses on measure (1): the "Centre of Academic Development (CAD) eLearning Certificate", a workshop series on eLearning related topics that has been offered since 2003.

These workshops are conducted by the Educational Technology Unit (EduTech) in collaboration with UB staff. The four areas covered in the workshops include: Online Learning, Information and Computer Skills, Multimedia Production and WebCT Training. After completing a minimum requirement of eight workshops academic staff are required to produce a portfolio that demonstrates how they apply the skills and knowledge they acquired from the training before they are awarded the CAD eLearning Certificate. By July 2005 around 600 lecturers and support staff from UB and Affiliated Institutions have been attending one or more of these workshops.

The purpose of this study was to evaluate the effectiveness of the CAD eLearning Certificate and its individual workshops in relation to its objective, to promote more learner-centred, active, collaborative and lifelong teaching and learning. The study employed both qualitative and quantitative data collection strategies.

Results showed that the majority of lecturers participated in four or less modules. Around 16 % of the participants have been able to meet the requirements and were awarded the CAD Certificate by July 2005. Main reasons to participate in the Certificate were to acquire technological skills and the use of eLearning in Teaching and Learning. A high number of respondents also indicated the completion of the Certificate as a reason to participate in it. Workshops were perceived as useful and well done. Course Design,

PowerPoint and Introduction to eLearning scored the highest ranks, followed by Management Information Techniques and Online Information Management. A majority of 74% of respondents claimed to have applied skills and knowledge acquired in the workshops, mainly the use of PowerPoint, search engines and information management techniques. Only 13% had developed online courses. Non-completion of the Certificate is mainly due to time constraints and the heavy teaching load of lecturers.

The study provides recommendations on ways to improve the CAD eLearning Certificate. It is suggested to offer online learning and collaboration in addition to face-to-face workshops and continuous mentorship to best support lecturers and build a community of practice between staff active in eLearning at UB. The parallel development of an online course could also help in the immediate application of knowledge and skills acquired.

## **Introduction**

eLearning has played an increasingly important role in supporting the economic and educational growth of industrialised nations. It also offers opportunities for developing nations like Botswana to enhance their educational and economic development (Resta, 2005). There is a worldwide demand for educators to be well equipped with skills to prepare learners to be successful in a technology-infused, knowledge-based society. eLearning can play a vital role in preparing a new generation of educators as well as upgrading the skills of the existing teaching force to use 21<sup>st</sup> century tools and pedagogies for learning.

## **eLearning at UB**

The University of Botswana realizes the need and urgency to empower their academic staff with the necessary information, communication and technological (ICTs) skills that contribute to quality education. Based on UB’s vision of “developing a student-centred, intellectually stimulating and technologically advanced teaching, learning and research environment” (University of Botswana, n.d.b), the Educational Technology Unit (EduTech) in the Centre for Academic Development (CAD) has been mandated to infuse ICTs into teaching and learning. Hence eLearning at the University of Botswana has been defined as the “appropriate organisation of ICTs for advancing student-oriented, active, open, collaborative and life-long teaching-learning processes” (Educational Technology Unit, n.d.a)

After a slow start in 2002, the University has seen a rapid increase in the development of eLearning courses. While in 2002 seven lecturers were supported by EduTech, this semester (Semester 2/2005, 2006) 85 lecturers received support, out of which 26 were new to eLearning. The following table (table 1) shows the development of online courses over the last four years:

**TABLE 1 Online Course Development 2002-2006**

<b>Semester</b>	<b>eLearning courses</b>	<b>Increase from previous Semester</b>	<b>New Courses</b>	<b>“Reused” Courses</b>
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2/2005,2006	147	+21%	126 (86%)	21 (14%)
1/2005,2006	121	+90%	96 (79%)	25 (21%)
2/2004,2005	64	+ 50%	53 (83%)	11 (17%)
1/2004,2005	42	+ 100%	22 (52%)	20 (48%)
2/2003,2004	21	-1%	13 (62%)	8 (38%)
1/2003,2004	23	+ 1%	22 (96%)	1 (4%)
2/2002,2003	21	+ 200%	21 (100%)	0 (0%)
1/2002,2003	7		7 (100%)	0 (0%)
<b>Total Number of Courses:</b>	<b>446</b>		<b>340 (76%)</b>	

A steady increase in interested lecturers can be noticed, according to the eLearning support team. To date (May 2006), 146 lecturers are using eLearning at UB. This constitutes 18% of the total academic staff at UB, which is 827 (University of Botswana, n.d.a). The number of students enrolling in eLearning courses is also growing. This semester more than 13,000 students have been added to online courses, on average 90 students per course.

The following table (table 2) shows the number of lecturers using eLearning over the past four years:

**TABLE 2 Lecturers Using eLearning 2002-2006**

Semester	Designers	New Designers	Increase in New Designers
2/2005,2006	85	26 (31%)	-40%
1/2005,2006	82	43 (52%)	+168%
2/2004,2005	48	16 (33%)	-25%
1/2004,2005	35	20 (57%)	+1000%
2/2003,2004	18	2 (11%)	-90%
1/2003,2004	20	16 (80%)	+14%
2/2002,2003	16	14 (88%)	+100%
1/2002,2003	7	7 (100%)	+100%
<b>Total</b>		<b>146</b>	

(Giannini-Gachago, Molelu & Uys, 2005, Educational Technology Unit, n.d.b)

The focus of eLearning at UB is on a blended approach in which various modes, methods and media – traditional and innovative - are integrated and organised for appropriate learning. Lecturers embarking on eLearning are guided by the eLearning support team offering services in Instructional Design, Online Media Development and Graphic Design. To overcome resistance to technology by academic staff an extensive amount of support and coaching is required. This is especially crucial during the first steps a lecturer takes when venturing in the unknown eLearning environment.

To make sure that teaching staff have opportunities to build and develop necessary pedagogical and technological skills to implement eLearning, the Education Technology Unit (EduTech) at the University of Botswana is offering a wide range of training, from

novice to advanced skills levels. The unit works with departments, programs and individuals in an effort to integrate technology into teaching and learning. The primary goal is to improve instruction at UB by enhancing teaching and learning opportunities for lecturers and tutors. EduTech seeks to create and support robust environments for teaching, learning, and discovery for faculty, staff and students, which are grounded in sound principles of learning and in a thorough knowledge of integrating technology for effectiveness and efficiency of effort. Hence, EduTech, in an effort to reach this goal, developed a series of workshops in 2003 called the “Centre for Academic Development (CAD) eLearning Certificate”.

### **The CAD eLearning Certificate**

The CAD eLearning workshops have been designed to cater for the needs of academic staff embarking on eLearning at UB. The contents of the workshops have been carefully selected to guide, support and prepare for planning, development and implementing eLearning.

Workshops offered in the CAD eLearning Certificate cover four areas: eLearning, Information and Computer Skills, Multimedia Production and WebCT training. When the Certificate was introduced, little additional training was available for lecturers at UB. Therefore EduTech offered some topics that would normally belong to the IT department or the Teaching and Learning Unit, e.g., MS PowerPoint or training in Course Design and Innovative Teaching and Learning Methods.

The Certificate is based on attendance and application and is awarded when eight out of the 17 workshops have been completed and the participant can provide adequate evidence of the application of eLearning in his/her work. Adequate evidence refers to the use of eLearning in the context of the UB eLearning definition (see above). For a detailed description of the workshops see Appendix 1, CAD eLearning Certificate brochure.

The following table (table 3) shows the number of workshops and attendances from 2003 – May 2006. By July 2005, 603 lecturers and support staff from UB and Affiliated Institutions attended 166 workshops, out of which 66 (11%) completed the CAD eLearning Certificate.

**TABLE 3 Workshops and Attendance 2003-2006**

<b>Year</b>	<b>Number of workshops</b>	<b>Number of additional lecturers attending workshops</b>	<b>Number of attendances (attendance/workshop)</b>	<b>Number of completed Certificates</b>
2005/2006 (Sept – May)	42	77	597 (14.2)	
2004/2005 (Sep. – July)	61	175	1000 (16.4)	40
2004 (Feb. – July)	40	207	543 (13.6)	21
2003 (Feb. – Nov.)	65	221	552 (8.5)	5

<b>Total</b>	<b>208</b>	<b>680</b>	<b>2692</b>	<b>66</b>
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(Giannini-Gachago, Molelu & Uys, 2005)

All the workshops of the CAD eLearning Certificate are held in one of the eLearning SMART classrooms to provide the possibility for hands-on work. Facilitators try to balance theoretical input and practical activities, with an emphasis on practical work. Ample time for discussion and group activities is given. Part of the completion requirement, the evidence of application of eLearning, ensures that participants practice what they learnt during the workshop. Most of the workshops are half-day, offered both, during the semester and during the long semester break.

### **Purpose of the study**

The purpose of this study was to evaluate the effectiveness of the CAD eLearning Certificate in relation to its objective, which was a strategy to transform Teaching and Learning at UB using ICTs for more learner-centred teaching and learning. The Certificate was reviewed for the first time in July 2004. At that time 23 participants had completed the eLearning Certificate, but only 7 (30%) of those were running online courses.

It became evident, that although a great number of lecturers were attending the workshops, only a comparatively low number of lecturers were using eLearning in their teaching and learning. Therefore the completion requirements for the Certificate were changed in 2005 to include evidence of application of technology in teaching and learning, e.g., the presence of an online course or a PowerPoint presentation used in class. Nevertheless it was felt, that a more detailed study had to be carried out to investigate the usefulness and effectiveness of individual workshops and also the usefulness of the CAD eLearning Certificate as a whole for preparing lecturers to integrate eLearning in their Teaching and Learning.

The following research questions guide this study:

- What are the reasons staff attend the eLearning Certificate?
- Do participants apply knowledge and skills of the eLearning Certificate workshops? If yes, which skills? If no, why not?
- Is the way the Certificate is currently offered conducive to change lecturers' way of teaching and learning to reach EduTech's goal – to make Teaching and Learning more learner-centred, collaborative, active and lifelong?

### **Literature review**

Richardson (2000) explains that to understand how ICT could be implemented to foster learning in education, we first need to acquire knowledge of what is involved in the processes of studying, learning and teaching in higher education. Computer-aided instruction provides the means of reorganizing the learning environment and for changing the relationship between the learner, the learning content and the social organization of learning, respectively. Education is no longer about teachers and

teaching. Societal forces now demand that the focus be on learners and learning. In parallel, ICTs are opening up a varied supply of new and powerful possibilities for learners and learning. The 'sage on the stage' is giving way to the 'guide on the side' (Williams & Goldberg, n.d., p725). In Australia and UK, eLearning has become an increasingly significant part of the student learning experience, with substantial growth of around 60% since 2001 (averaged across all faculties). This pattern of ICT adoption in teaching and learning is similar to patterns described elsewhere in other countries and Universities. (Applebee, Ellis & Sheely, 2004).

University faculty who have braved the transition from the traditional classroom to become an eLearning instructor report many changes. Most describe the knowledge gained from the eLearning world as making them better teachers in all delivery venues. Some describe how their educational philosophy changed from being the dispenser of knowledge to becoming learner-centred (Kidney, 2004). This change is supported by Finn (2001) when she emphasizes the need to understand the power of new technologies, harness them for the purpose of learning, and begin to incorporate them in new, dynamic, and innovative ways into formal and informal learning.

A technologically and pedagogically appropriate use of eLearning needs proper staff training. Academic staff must not only learn how to operate within the learning management system (LMS) but also develop an informed critical perspective of their use of the LMS in their teaching (Weaver, 2003). It is not only important to have technical skills to use a LMS, but quality of content and a full exploitation of the benefits of eLearning, e.g., appropriate use of online communication tools to enhance a student's learning experience, also need to be ensured (Kent, 2003).

What remains quite a new research topic is how to best train lecturers for the use of eLearning. What are models that work? Lecturers are busy people and cannot afford to attend time-intensive training sessions. Could online learning be an alternative to face-to-face workshops and individual consultancy sessions?

The literature reveals a number of examples of how to integrate an online component into staff development of eLearning. At the most basic level, the Monash University e.g. offers a training program on WebCT combining workshops and online resources, and a set of accessible, easy to read manuals (Weaver, 2003).

The University of Birmingham developed a 10 week e-Learning in Higher Education module including online discussion and conferences, collaborative learning, open learning materials and learning journals for reflective practices. Assessment is done by portfolio. This module gives staff a unique opportunity to be developing online skills whilst participating in an eLearning environment and helps participants understand and sympathise fully with the students' potential online environment. Participants receive credits towards a degree in Higher Education Development. (Kent, 2003)

As an African example the Centre for Higher Education Development at the Durban Institute of Technology (DIT, most recently the Durban University of Technology, DUT) offers staff development on eLearning, based on the principles of skills, pedagogy, research and community. This intensive one-year training programme combines workshops with online activities and individual consultancy sessions with Instructional Designers. In the process of collaboration, a communal resource base (journals, papers, online classrooms, discussions etc.) is built. The outcomes of one year participation is

for a member to participate in an online class as a learner; design an online course; manage a class online; facilitate online learning for students; conduct action research into online learning; and interact with other online practitioners in a community of practice. This programme will be linked to a degree in Higher Education Development through Recognition of Prior Learning. (Pete, Fregone, 2004).

The University of Cape Town Centre for Educational Technology is following a multi-faceted staff development approach to integrating technology into University courses. Their focus is very much like DIT's on the development of a Community of Practice (COP), promoting the importance of mentorship, reflection, self-directed online learning in combination with workshops, weekly seminars, bi-annual show & tell sessions and research partnerships. (Cox & Carr, 2006).

Through the Partners@Work Programme at Tshwane University of Technology, lecturers are seconded for one semester to Telematic Education to develop an online course and conduct research in the field of eLearning. The Partners@Work programme proposes to focus on the development and consequent implementation of well-rounded technology-enhanced courses that address specific challenges such as low pass rates, geographically dispersed learners and large groups.

This extensive capacity building strategy involves block face-to-face session, weekly contact sessions, and a variety of online training courses. (Tshwane University, n.d.)

Looking at these examples one can identify a few key elements of successful implementation of staff development in eLearning: Structured programme, with a clear time frame / duration; Combination of skill workshops with online learning; Collaboration / developing of a community of practice; Peer support and mentoring; Possibility for research; Accreditation / recognition of prior learning.

## **Methodology**

### **Instruments**

This study is of quantitative and qualitative nature. It was carried out between May and July 2005 funded by the Office for Research and Development at UB.

To assess the individual workshops of the CAD eLearning Certificate, questionnaires handed out to participants after every workshop, have been evaluated. This instrument is a short questionnaire containing eleven (11) closed ended statements using a five point Likert-scale type and 2 open-ended questions. Participants were asked to indicate whether they agree or disagree with the eleven closed ended statements using a scale 1= strongly disagree, 2= disagree, 3= neutral, 4= agree, 5= strongly agree. The evaluation instruments are handed out to participants at the end of each workshop. The participants are requested to complete the questionnaire and leave it with the workshop facilitator(s). Hence, response rate generally depends on the participants present for each particular workshop. See questionnaire in Appendix 2.

To assess the CAD eLearning Certificate an electronic "eLearning Certificate Modules Effectiveness Questionnaire" was developed by the research team and was sent out to around 500 UB academic and support staff by e-mail (including academic staff at the

affiliated institutions who participated in eLearning Certificate workshops). Staff members were asked to fill in the questionnaire and send it electronically to one of the research team members. The questionnaire contained a total of 12 questions, which were simple, clear and straightforward. Questions were divided into 3 sections; Section A – demographic data, Section B – respondents' reaction to statements and Section C - respondents' comments. Generally, the questionnaire sought to obtain information on the demographic profile of the participants, their participation in and opinions on the effectiveness of the program, as well as their suggestions on what and how improvements could be made. See questionnaire in Appendix 3.

### **Data Analysis Procedure**

A total of 82 eLearning Certificate Modules Effectiveness Questionnaires and 771 eLearning Certificate Module evaluation questionnaires were used for data analysis. Quantitative data were coded and entered into SPSS v 12.0 for Windows. The data were analyzed using appropriate statistical procedures like frequency counts and percentages for applicable categorical and nominal variables. Statements from open-ended responses were grouped following content analysis to determine specific categories. These categories were used to confirm and/or explain findings from the quantitative data.

### **Findings**

#### **eLearning Effectiveness Questionnaire**

In this section, specific findings from the eLearning Certificate Modules Effectiveness Questionnaire are presented. A total of 82 eLearning Certificate Modules Effectiveness Questionnaires were returned and used for data analysis, a response rate of 16.4%, which is quite low and hence limits generalization of the study findings.

The respondents included 48 (58.5%) males and 33 (40.2%) females (one respondent [1.3%] did not respond to this question). The survey notes a high number of young staff with the majority of the respondents (79%) aged between 31-55 years, with one-third of these being in the age group of 36-40 years. Analysis of respondents according to faculty revealed that the Faculty of Science had the highest numbers of respondents (18.2%), followed by the Faculty of Education with 15.9%. The others Faculties included: Social Science 12.5%, Engineering and Technology 11.4% and Humanities 10.2% while Business had the lowest participation rate with only 4.5% of the respondents coming from this Faculty. The support staff comprised 18.2% ( $n = 16$ ) of the participants while 9% ( $n = 8$ ) were from the 15 affiliated institutions. Lecturers and senior lecturers formed the bulk of the participants accounting for 58.5% ( $n = 48$ ) of the respondents. Over 40% ( $n = 33$ ) of the participants had been employed by UB for 4 years or less. Only 5 respondents (6%) had been employed by UB for more than 15 years with two of these having worked at UB for more than 25 years.

The majority (63.4%,  $n=52$ ) of the participants had no training in eLearning prior to attending the eLearning Certificate workshops, while 36.6% ( $n=30$ ) had some sort of training.

Asked to indicate the number of modules they participated in, the following responses were given: Over forty percent (42.7%) only participated in four or less modules. Twenty eight percent ( $n = 23$ ) had participated in five to eight modules while 19.5% ( $n = 16$ ) had participated in nine or more modules (see table 4 below). However, only 13 (15.9%) of the total participants had completed the eLearning Certificate requirements. This corresponds with the general figure of around 11% of lecturers completing the Certificate.

**Table 4 Number of modules participated in by respondents (  $n = 74$  )**

	<b>n</b>	<b>%</b>
1-4	35	42.7
5-8	23	28.0
9-12	12	14.6
13-above	4	4.9

Participants were asked to indicate their reason for attending the eLearning Certificate modules. The predominant reason for attending was to “acquire technological skills” with 95.1% ( $n = 78$ ) of the participants choosing it. However, 81.7% ( $n = 67$ ) of the respondents indicated “the use of eLearning for teaching” as the reason why they participated in the workshops while 63.4% ( $n = 52$ ) indicated that they “wish to obtain the Certificate and 59.8% ( $n = 49$ ) said it was just “general interest”. The other reasons advanced for participating in the modules were:

- Personal development and advancement (part of learning) to be up to date with technological advances
- Innovative teaching
- Technology driven job description

A list of the 17 workshops that were offered by CAD was provided and participants were asked to select the three workshops they considered most useful by ranking them 1 to 3. The analysis of ranking per module was done to give an overall total score (table 5). Workshop 01 - Principles of Course Design, emerged as the highest ranked module with 59 points in total, while workshop 11 - Power Point Presentations ranked second with 58 points in total. Third ranked was workshop 2 - Introduction to eLearning (50 pts). Fourth ranked was workshop 6 - Management Information Techniques (49 pts), closely followed by workshop 7 - Online Information Gathering (46 pts). The least popular module was workshop 15 - WebCT Training getting a total of only 2 points, followed by workshop 03 - eModeration, receiving only 4 points in total. (eModeration has since been offered in a modified way, while the WebCT Training is still being offered but under review).

**Table 5 Ranking of eLearning Workshops**

<b>Position</b>	<b>Code</b>	<b>Title</b>	<b>Points</b>
#17	WS15	WebCT Trainings	2
#16	WS3	eModeration	4
#15	WS5	Video Conferencing	8
#14	WS10	Scanning	8

#13	WS14	Initial WebCT Training (replaced by WS15)	8
#12	WS8	Copyright and the Internet	10
#11	WS9b	Web Design (Advanced)	11
#10	WS12	Initial WebCT Training (replaced by WS15)	14
#9	WS9a	Web Design (Beginners)	25
#8	WS11b	PowerPoint (beginners)	32
#7	WS13	Initial WebCT Training (replaced by WS15)	32
#6	WS4	Teaching in SMART classroom	33
#5	WS7	Online Information Gathering	46
#4	WS6	Management Information Techniques	49
#3	WS2	Introduction to eLearning	50
#2	WS11a	PowerPoint (beginners)	58
#1	WS1	Course Design	59

The participants were asked to indicate whether the module(s) they had attended had met their needs; 53.7% ( $n = 44$ ) indicated “yes, very much”, 34.1% ( $n = 28$ ) said “yes” and only 4.9% ( $n = 4$ ) said “no”. These responses indicated that over 88% ( $n = 72$ ) of the respondents felt that the eLearning Certificate Modules met their needs. Some of the benefits cited by those who felt their needs were met included:

- Personal and professional development e.g. better computer skills, proficiency in presentations etc.
- Improved effectiveness in teaching/learning
- Easy management of large classes (putting the course online).
- More comfortable and efficient while searching the World Wide Web.

In addition, 74.4% ( $n = 61$ ) of the respondents indicated that they had put into practice at least some of the training they received from the eLearning Certificate Modules. Of these, 46.4% ( $n = 32$ ) had used PowerPoint presentations in class, conferences and elsewhere, while 18.8% ( $n = 13$ ) had used various search engines to gather information from the Web. Information management was also mentioned by 13.0% ( $n = 9$ ) of the respondents while at least 12 respondents (17.4%) had already put courses online, (i.e., using WebCT for teaching).

Other ways in which the training has been put into practice that were mentioned are: designing a website for a course, scanning, use of the smart classroom, instructional design and passing on knowledge about copyright use.

However, it is notable that 23.2% ( $n = 19$ ) of the respondents indicated that they had not put into practice any training they had received from the workshops. Some of the reasons given for not practicing these skills included:

- Time constraints
- Preference of traditional teaching/learning method.
- Limited facilities at faculty level.

- Limited accessibility to Internet for students.

As mentioned before only 13 (15.9%) of the total participants had completed the eLearning Certificate requirements. For those who had not completed the CAD eLearning attendance Certificate, 37.9% ( $n = 22$ ) had not been able to attend the minimum number of workshops required to obtain the Certificate. Of these, 36.2% ( $n = 21$ ) cited time constraints as the reason for not completing. The comments raised were that the timing/scheduling of the workshops clashed with other assignments and commitments, or their official workload was too much to get time to attend the workshops. Only one person (1.7%) complained that the workshops are always fully booked and only one respondent (1.7%) felt the eLearning Certificate is not necessary.

### **Individual eLearning Certificate Module evaluation**

Analysis of the individual eLearning module evaluation responses revealed that participants were generally happy with the structure and format of the workshops. A general analysis of the statements regardless of which workshop, facilitator or date of attendance yielded highly similar results. The majority of the participants (over 85%;  $n = 656$ ) agreed that the topics of the workshops were relevant to them and that they had interest in the topics prior to attending the workshops. These respondents also agreed that the pace of the workshops was good for them and that the facilitators did a good job in the presentation and they would recommend these workshops to others. In addition, the majority of respondents felt that the workshops were well done and valuable and that they were confident to use the technology and techniques covered during the workshops on their own. Most participants thought they would use whatever they learnt from the workshops in their own classes/work. More than 87% ( $n = 671$ ) on average thought that the material covered during the workshops was NOT difficult for them, though they were not familiar with the topics before attending the workshops.

Participants were asked to suggest ways to improve the eLearning Certificate modules. Though a majority of the participants felt that the workshops/modules were satisfactory, some very useful suggestions were made, some of which have since been implemented.

These suggestions included:

- More time especially for practical sessions
- Workshop schedules not to coincide with the busy times of the semester
- Increase the number of demonstrators per session to cater for slow learners
- For hands-on workshops, pair beginners with advanced users to maximize learning
- Avail the modules online with application notes so that participants can read ahead of the workshops
- Avail activities for practice in self-directed learning
- Run the workshops per department
- Update the Internet server for easy access
- Ensure that the labs has adequate working computers for each workshop
- Provide continuing refresher courses and follow up support
- If possible extend these workshops to students.

Additionally, the participants suggested other types of training that they felt would be useful to their careers. Some of the modules they suggested have already been implemented such as SPSS and MS Excel. Others modules suggested were Access, Office planner, production of teaching aids, GIS, desktop publishing, and document formatting.

Generally, there was an overwhelming consensus that the modules were very effective and beneficial to the participants. The participants felt that these workshops have helped improve their general technological skill and hence, have developed confidence in technology (dispelled their techno-phobia). The majority of respondents agreed that these workshops have helped them to become more innovative and improved the quality of their teaching which will improve the standards of the University as a whole. The participants also commended the facilitators for being very resourceful, helpful, organised and consistent. Almost all the participants (99.9%) felt that the workshops were/ are "a job worth doing and well done".

## **Discussion and Conclusion**

After the first two years of providing the CAD eLearning Certificate, these workshops have proven to be highly successful, and the number of lecturers putting their courses online is growing rapidly. Most of the academic staff members have found these workshops rewarding and have reported they are now able to integrate some form of eLearning to enhance their teaching and their students' learning experience.

One of the main reasons, this study was carried out was to analyse the gap between lecturers participating in the workshops and lecturers using eLearning. UB's eLearning definition is wide, it encompasses all use of ICTs, e.g., the use of a MS PowerPoint presentation during a lecture. Therefore, it is not surprising that many lecturers participating in the eLearning Certificate might not engage strictly in online learning, but are using some of the skills acquired in the workshops, e.g., finding information on the Internet, using PowerPoint in teaching and at conferences or managing their information better. These skills are also clearly reflected in the most preferred workshops by participants: course design, a very general introduction into how to design a course effectively and the use of PowerPoint. Introduction to eLearning only ranks on position number three, followed by Management Information Techniques (a workshop on how to create files and folders) and Online Information Gathering (a workshop on how to use search engines effectively). These findings show that there is a high demand for ICT related workshops, not necessarily eLearning specific ones. Since this is the reality on the ground, we need to cater for this demand. It is speculated that once the basic training needs have been covered, participants will be ready for advanced eLearning training, including new online communication and collaboration tools, like blogging or wikis. These results also show that lecturers are more interested in acquiring technological skills than in improving the pedagogical knowledge and skills, one of the major objectives of the eLearning Certificate.

However, 23.2% ( $n = 19$ ) of participants deny that they have put anything learnt through the workshops, into practice – quite a high figure. Even if lecturers blame time constraints and limited access to the Internet by students as main stumbling blocks to using technology, the content of the workshops need to be re-evaluated in this light.

As an immediate action, workshops high in demand will be offered on a more frequent basis and new workshops have already been added, e.g., SPSS and MS Excel, in collaboration with colleagues from the IT Department. Furthermore, “WS3 eModeration” has been slightly changed to an “Advanced eLearning” workshop, for lecturers who are already engaged in eLearning, to share experiences and best practices. Still, individual workshops need to be looked at very carefully to make sure, they are hands-on and content is immediately applicable to participants’ realities.

What is surprising is the lack of interest in the WebCT Refresher training. These training modules are offered as a weekly training course twice or three times a year, just before the start of a new semester. The poor rating of these modules could be explained by the nature of the skills acquired in the course. If participants do not apply these skills immediately, they will soon be lost. We often see lecturers coming back to us, when actually preparing an online course, with very little recall of these workshops, and therefore needing intensive individual WebCT refresher sessions.

What is also worrying is that 63.4% of participants stated the wish to obtain the Certificate as reason why they participate in the workshops.

One recommendation to address this problem is to link the development of an online course to the attendance of the workshops, so that participants can immediately apply what they learn in the workshop to their work and also people only interested in the Certificate and not in the application of technology will be encouraged to re-think their position. This means a complete re-structuring of the workshops, to be able to offer them in a meaningful way for parallel development of an online course.

The combination of workshops with online course development, with mandatory participation in the WebCT will allow these innovative teachers to gather first-hand experience as online learners. This initiative is also reflected in some of the recommendations of participants, who call for more independent practice material and additional resources on the Web for preparation and follow-up. This will also expose lecturers to more learner-centred methods of teaching and learning and might help them appreciate these methods.

With greater success in development of online learning material, other potential participants might be convinced to participate in more workshops regularly (the majority of respondents had participated in 1-4 workshops only). This strategy could also lead to the development of a Community of Practice of lecturers with a shared interest and a common goal – promoting eLearning at UB.

However, lecturers at UB are not unique in their complaints about time constraints as the main reason for not completing the Certificate and not using innovative techniques. If additional work is added to the completion requirements (evidence of application of eLearning techniques in teaching and learning), it might become even more difficult for teaching staff to complete. One of the major advantages of the Certificate so far, is its flexibility, and, any changes should be made with this flexibility maintained.

There have been suggestions to offer the modules at the departmental level, including the Head of Department to ensure managerial support. By raising awareness of the work involved in eLearning, management might ease the work load of lecturers embarking on eLearning and/or offer other kinds of rewards.

Clearly, there is much work ahead if the University is to fulfil its vision, of developing a student-centred, intellectually stimulating and technologically advanced teaching, learning and research environment (UB website, n.d.b). But with the continuous, collaborative efforts of all stakeholders involved, spearheaded by the Educational Technology Unit, it could certainly be achieved. However, the need for staff development is clearly seen through constantly increasing participant numbers. Now it's up to EduTech and other involved parties to ensure that the content and the format of the training is delivered in order to facilitate the UB to achieve its vision.

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## **Appendix 1 Description of Workshops**

### **WS01 Instructional Design Principles**

Provide basic educational theories, skills and attitudes to design instruction. Objectives include: Understand the relationship between curriculum and instruction, distinguish between instructor-centred and learner-centred learning, write clear, learner-centred learning objectives, select and implement appropriate strategies for instruction and evaluate instruction.

### **WS2 Introduction to eLearning**

Provide guidance in planning, developing and implementing eLearning at UB. Objectives include: Define eLearning in UB context, know benefits and challenges of eLearning, understand important eLearning terms, list examples of integrating eLearning in course delivery and understand the process of eLearning course development.

### **WS3 Advanced eLearning (former eModeration)**

This workshop aims at developing and sharing best practice models in eLearning at UB. What is best practice in eLearning at UB? How can students' participation in courses be improved using online communication tools like e-mail, discussion forums, chat, group presentations and student homepages. What are challenges encountered in eLearning and how could we overcome these challenges?

### **WS4 Teaching in the SMART Classroom**

Provide participants with knowledge and skills required to teach in UBs SMART classrooms. Tools used include PowerPoint and data projector, computer with Internet access and special software, e-mail, www, WebCT, Mimio and MS Netmeeting, audio, VCR, TV, digital still camera, digital video camera, Video Conferencing, document camera.

### **WS5 Video Conferencing**

Provide participants with the knowledge and skills required to conduct a lesson using Video Conferencing.

### **WS6 Information Management Techniques**

Provide participants with skills necessary to manage increased information flow. Objectives include: Manage Information overflow by organizing files and folders, searching for files and folders, cutting and pasting between applications, managing your mailbox and using filters.

### **WS7 Online Information Gathering**

Provide participants with the knowledge and skills required to conduct academic research using online resources like search engines, information gateways, directory portals, databases.

Objectives include: Understand more about the World Wide Web as an environment for finding information, explore strengths and weaknesses of different search tools, Learn to use tools properly and evaluate information found.

### **WS8 Copyright and the World Wide Web**

Provide participants with the knowledge required to use resources from the World Wide Web for teaching and learning in a legal, ethical and moral fashion. Objectives include:

Have an understanding & appreciation of Copyright and its application to the World Wide Web; relate the Copyright law to the academic environment.

**WS9 Creating a Website (I and II)**

Provide participants with knowledge and skills required to create a basic instructional website using MS FrontPage.

Objectives include: To distinguish website terminologies, to design a web page using MS FrontPage, to add graphics and other multimedia material, to link web pages and to publish a website on the Internet.

**WS10 Scanning (Digital Imaging)**

Provide participants with knowledge and skills required to create and formatting digital images and editable text.

**WS11 PowerPoint Presentation (I and II)**

Provide participants with knowledge and skills required to develop a multimedia presentation. (WS11a: animating text, objects and adding transitions, WS11b: adding sound and video clips, creating a self run kiosk presentation and converting a presentation into a web page).

**WS15 WebCT Trainings (a - e)**

Provide participants with skills required to publish online course information, use online communication tools, upload online content, create self-tests and quizzes and manage online courses using UB's eLearning platform WebCT.

**WS16 SPSS Basics (NEW)**

Provide participants/researchers with the knowledge and skills required to code variables, enter and analyze data and how to import data from WebCT to SPSS.

**WS17 MS Excel (NEW)**

Provide participants with the knowledge and skills to use a spreadsheet to perform simple calculations and analysis of data. Particularly the participants will learn how to enter data on the spreadsheet, perform calculations, format data, create charts and print information.

Appendix 2 Workshop Evaluation

**Topic: WS 15c: Self Tests and Quizzes**

Presenter:

Date:

Name: .....

*Please indicate your ranking for each statement below. Circle the number corresponding to the following scale to indicate your opinion. (1 strongly disagree – 5 strongly agree)*

	<b>Statement</b>	<b>Scale</b>
1.	I was interested in this topic prior to attending the workshop.	1 -- 2 -- 3 -- 4 --5
2.	I was familiar with this topic before attending the workshop.	1 -- 2 -- 3 -- 4 --5
3.	The topic of this workshop was relevant to me.	1 -- 2 -- 3 -- 4 --5
4.	The pace of the workshop was good for me.	1 -- 2 -- 3 -- 4 --5
5.	The material covered in the workshop was too difficult for me	1 -- 2 -- 3 -- 4 --5
6.	The workshop facilitator did a good job	1 -- 2 -- 3 -- 4 --5
7.	I will use something from this workshop in my own classes/work.	1 -- 2 -- 3 -- 4 --5
8.	I feel confident I could use the technology or techniques covered in this workshop on my own	1 -- 2 -- 3 -- 4 --5
9.	I still need more help and practice to be able to use the technology or techniques covered.	1 -- 2 -- 3 -- 4 --5
10.	Overall this workshop was well done.	1 -- 2 -- 3 -- 4 --5
11.	Overall, this workshop was valuable to me.	1 -- 2 -- 3 -- 4 --5
12.	I would recommend this workshop to others.	1 -- 2 -- 3 -- 4 --5

*One aspect that I would like to try in my teaching / work is*

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*Please take a moment to suggest how we might improve this workshop or offer any additional comments or concerns you might have.*

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## Appendix 3 eLearning Certificate Questionnaire

### Evaluation of the CAD eLearning Attendance Certificate

#### **SECTION A: Biographical Data**

Male:  Female:

Age: [click here](#)

Department: APRU (A-L)          Other (M-Z) Specify

Faculty/Centre

Job Title:

#### **Section B: Statements**

1. How long have you worked at the University of Botswana?

2. Have you had any training on eLearning before attending the **CAD eLearning Attendance Certificate**? YES:  NO:

3. In how many modules of the **CAD eLearning Attendance Certificate** have you participated at UB? [click here](#)

4. What are your reasons for attending the **CAD eLearning Attendance Certificate modules**? (Tick as many as are applicable)

- Acquire technological skills:
- Use eLearning in teaching:
- Wish to obtain the Certificate:
- General Interest:
- Other, please specify:

5. Among the 17 workshops listed on the dropdown menus below, select the **three** workshops you consider most useful, and rank them in the following way:

Place 1 (most useful) [click here](#)

Place 2 (very useful) [click here](#)

Place 3 (useful) [click here](#)

6. Have you completed the **CAD eLearning Attendance Certificate**?

Yes:  No: .

7. If your answer to question 4 is **NO**, please state the reason(s)

8. Have you put any of the training from the **CAD eLearning Attendance Certificate modules** into practice? YES:  NO:

9. Please, explain question # 8: If **YES**, which modules and explain how. If **NO** give (a) reason(s)

10. Have the eLearning modules that you have attended met your needs? [click here](#)

Please explain your response to question 10:

11. Suggest way(s) of improving the effectiveness of the **CAD eLearning Attendance Certificate modules** at UB:

12. Which other types of training in Educational Technology Unit would you find helpful?

**SECTION C: FEW PARAGRAPHS**

Instruction: In the space provided below, briefly tell us how **effective you found the CAD eLearning Attendance Certificate modules at UB.**