

The Broader Impact of the PHEA ETI at University of Education, Winneba: Building Capacity

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INSTITUTIONAL BACKGROUND

The University of Education, Winneba (UEW) was established in 1992 as a university college that brought together seven training colleges under one roof. Initially the University of Cape Coast acted as a ‘mentor’, overseeing UEW’s academic programmes. In 2004, UEW was upgraded to a fully fledged, autonomous university.

The university currently serves about 50,000 students, some enrolled in face-to-face programmes and others studying at a distance, and has four campuses across Ghana’s central region, with the main campus in Winneba split across three locations. In addition, 20 service centres cater to the needs of the university’s distance education students.

The use of technology at UEW has grown in tandem with the expansion of the university. A computer centre was established in 1994; this was a services centre, rather than an academic department and, as such, its activities were restricted to training first-year students in computer literacy, and advising management on policy and procurement issues. The ICT in Education Department was established as an academic entity in 2008.

Growing student numbers over the years, while welcome, have presented a challenge for management. In the early 2000s, this was met by broadcasting lectures via the campus radio station. It was thus a natural progression – and a logical next step in the use of technology – for UEW to embrace e-learning to better serve the institution’s increasing student population.

Vice-chancellor Professor Akwasi Asabere-Ameyaw has been a staunch advocate of online learning at UEW, a fact that directly contributed to the success of the Partnership for Higher Education in Africa (PHEA) Educational Technology Initiative (ETI) at the institution. As Dr Issifu Yidana, the head of the ICT in Education Department and a PHEA ETI project leader at UEW, explains: ‘The PHEA ETI came directly through the VC – the first contact was via him. Right from the outset, he appointed a committee to look into the project. He initiated it: it is his baby!’

In fact, the use of educational technology also formed part of UEW’s 2003–08 and 2009–13 strategic plans. Finance Officer Theo Ackorlie explains: ‘Educational technology and the use of IT to enhance teaching and learning was fundamental in all our strategic plans. So we saw the PHEA ETI conformed to our strategy, and we were quick to embrace it.’

ICT in Education Department Head Dr Issifu Yidana, on the effect of the PHEA ETI in changing mindsets at UEW:

It’s been wonderful what the PHEA ETI came to do. There are many who were very pessimistic about what educational technology could do to modernize course delivery. But this has changed as a result of the VC’s direct involvement. Management are ready to motivate, provide resources, free up time.

PHEA ETI BACKGROUND

The PHEA ETI focused on supporting seven universities across Africa, one of which was UEW. The intention was to help the participating universities make more effective use of educational technology to tackle some of the underlying challenges facing the continent’s tertiary education sector.

At UEW, the ETI comprised the following three projects:

1. A baseline study to establish the existing use of educational technology at the university.
2. The introduction of the Moodle learning management system (LMS) as a teaching and learning tool.

3. Research documenting the implementation of Moodle to assess its impact on the academic system and learner environment.

The three projects were closely related, with Project 1 feeding into Project 2, and Project 2 feeding into Project 3. However, it was Project 2 that really took off, with the amount of training given to staff, as well as the number of courses mounted online, far exceeding the PHEA ETI goals. In addition, the enthusiasm with which Moodle was greeted by management, academics and students has resulted in the establishment of an Educational Technology Unit at UEW – an unexpected and lasting benefit of the ETI intervention. These and other success stories are the focus of this case study.

TECHNOLOGY CHAMPIONS

ICT in Education Department Head Dr Issifu Yidana



Dr Issifu Yidana, head of the ICT in Education Department and a PHEA ETI project leader at UEW

Dr Issifu Yidana has been at UEW since it was originally founded, in 1992. Prior to this, he worked at the Advanced Teacher Training College in Winneba – one of the seven colleges that were amalgamated to form UEW. As he puts it: ‘I’m older than the university!’

Yidana was initially a mathematics lecturer but was given the additional responsibility of becoming the ICT facilitator. He was the first coordinator of the computer centre in 2004, and headed up the ICT in Education Department from its establishment in 2008.

Yidana’s long-standing tenure at the university has meant that he has been involved in lecturing and mentoring many of his younger colleagues (whom he jokingly refers to as his ‘disciples’).

Given his experience in ICT in education, which includes a PhD in instructional design, he was the natural choice when it came to selecting someone to lead the PHEA ETI team at UEW.

For Yidana, implementing online learning has been crucial in helping UEW manage its large student numbers. He explains the rationale behind this:

The PHEA ETI was all about introducing the idea of a blended learning environment to address the lack of resources for students, who previously were depending mostly on lecturers’ notes and books in the library. The Moodle platform was supposed to help them diversify their sources of learning. Because of large class sizes – in the hundreds – students would sit outside to listen to the lecture; it’s better to put the material online.

ICT in Education Department Head Dr Issifu Yidana, on the change in mindset brought about by the PHEA ETI:

The immediate impact of this PHEA ETI intervention has been in the academic area. Many teachers were very sceptical about ICT in education. Before we rolled out the programme, we did conscientization workshops on the three major campuses. People got to know e-learning can work – if people are doing it elsewhere, we can do it here.

Finance Officer Theo Ackorlie

Theophilus ('Theo') Ackorlie has been at UEW for the past decade. Currently he is the university's finance officer, but when the Externally Funded Projects Office (EFPO) was established in 2006 he headed up this new division and in that capacity has part of the PHEA ETI committee at UEW.

Although Ackorlie's field is finance, not educational technology, his area of expertise has played a crucial part in securing the sustainability of online learning at UEW. In Ackorlie's view:

We are lucky that we have a finance person on the team. With the VC interested and somebody from the finance office at that top level, we've been able to make provisions in our annual budget for ICT support. We have a training budget to continue to train people; we have budget to replace equipment; we have budget to pay for bandwidth.



Finance Officer Theo Ackorlie

For Ackorlie, situated as he is within top management, the development of UEW's technological capacity – in terms of both management systems and online learning – means the university is able to deliver services on a platform suited to the needs and expectations of the 21st-century student. Ackorlie explains:

It's not like in my day, when mobile phones were not there. The students want exactly what we are giving them now. They are tired of paper; they are tired of writing on the board.

The students don't want to go to the bank to pay their fees, then walk to the finance office, then go to the faculty for registration. The students want to have their smartphones and sit in the comfort of their beds: they want to register for all their courses, and be able to see their grades, online. Their appetite for ICT is very high, so they fully embrace these technologies we have introduced into teaching and learning.

Finance Officer Theo Ackorlie, on the benefits the PHEA ETI has brought to UEW:
In terms of the money: it's a little. In terms of the expertise it gave us: it's massive. The expertise the PHEA ETI gave us was worth more than the US\$450,000; it was worth millions and millions!

Consultant JB Williams

JB Williams joined UEW in 2004 and retired five years later, when he turned 60. Since then, he has continued to work with the university in a consulting capacity. He has experience in using educational technology at both secondary and tertiary levels, due to time spent living in Los Angeles, where he was the senior director of technology in his school district and also worked with California State University.

In terms of the PHEA ETI, Williams headed up Project 2 – enhancing teaching and learning through using an LMS. He explains their approach to the project:

What happened is we were looking at technological ways of improving the teaching and learning at the university.



Consultant JB Williams

And, of course, there were so many areas we could have looked at. We put our heads together and we thought that if we could roll out an LMS within the institution it would help not only the students in their learning but also the lecturers in their teaching. So it was a two-pronged approach.

In addition to overseeing Project 2, post-PHEA ETI Williams continued to play a role in promoting online learning at UEW, working as an external consultant to mentor Jones Apawu, the coordinator of the newly established Educational Technology Unit.

Consultant JB Williams, on building on the platform provided by the PHEA ETI: One of our ongoing initiatives is to assist the Centre for Distance Education to also develop their courses and put them purely online.

Educational Technology Unit Coordinator Jones Apawu

Jones Apawu, a lecturer in mathematics education, has worked at UEW for the past three years. Since February 2013 he has also held the post of coordinator of the Educational Technology Unit. He was appointed to this position when it became evident that he was one of the technology champions to emerge from the PHEA ETI intervention at the university.

Apawu attended almost all the workshops and exhibited an aptitude for using online learning tools, as well as training others in how to do so. He was thus also selected to participate in an online course, 'Moodle for Teacher Administrators', to further develop his capacity.

The Educational Technology Unit was established with the express intention of continuing and maintaining the educational technology initiatives kickstarted by the PHEA ETI.



Jones Apawu, coordinator of the Educational Technology Unit

Educational Technology Unit Coordinator Jones Apawu, on educational technology at UEW:
I think it's going to fly high. UEW is always ahead in terms of technology among the universities in Ghana. We always strive for the best and we are not going to relent. We will move to the apex – and I hope that in future some of the courses will be run purely online, not in blended mode.

THE IMPACT OF THE PHEA ETI

The PHEA ETI had a slow start at UEW, with not much being achieved in the first two years. However, once the programme took off at the institution, it gained substantial momentum. As UEW is a teaching university, once the lecturers had gained the technical skills required to implement the open-source LMS Moodle, they were immediately able to grasp the pedagogical value of the tool. And, with management buy-in, the impetus contributed by the PHEA ETI led to much more ambitious goals than originally envisaged, including a dramatic increase in training staff on how to use the LMS, as well as employing online learning in the distance education programmes, among others.

Introducing Moodle – training and implementation

Although the results of Project 1 – the baseline study of where UEW stood with regard to the use of educational technology – were not yet ready by the commencement of Project 2, the team members had previous research to draw on when formulating their approach. In the early 2000s, an online learning pilot project had been run with the assistance of e-degree from South Africa. However, this initial foray into using Moodle was not a success. Williams enumerates the reasons for this: ‘There was very little training; the server wasn’t locally housed; there was very little advocacy; and it was limited to one small department, the Institute for Educational Development and Extension (IEDE).’

Learning from this experience, the Project 2 team reached a number of decisions regarding implementing an LMS at UEW, including the need to: house and maintain the Moodle server locally; conduct advocacy among academics and students to get their buy-in; and conduct extensive training.

The Project 2 team went to all three campuses – Winneba, Kumasi and Mampong (the university gained a fourth campus, Ajumako, after the start of the PHEA ETI) – to conduct advocacy. The aim of the exercise was to expose the academic staff to the idea of educational technology and using Moodle, as well as recruit early adopters, who would be the first to receive training.

As part of the advocacy initiative, Williams and Yidana identified two courses that were already running – ‘Introduction to ICT’ (first year) and ‘Computer Applications in Education’ (masters level) – and uploaded them onto Moodle. These courses served as pilots in the second half of the 2011/12 academic year, and enabled the team to show staff what the virtual learning environment looked like and how it worked.

Many academic staff filled out applications to be included in the first tranche of Moodle training, but initially only 20 were accepted, with the aim of developing 10 functioning courses. However, during the course of the PHEA ETI, more money became available for training and course development, and the university was able to extend its proposed online course output to 40 courses. Ultimately, 98 courses were developed as a result of the initial training, and the team chose the best 42 to submit to satisfy the project requirements.

Williams explains how UEW was able to significantly increase the number of online courses uploaded by its academic staff:

Where did we get the extra courses from? Well, we already had a lot of people who had expressed interest, and we had conducted training. Initially we held about five workshops – each workshop was about two days. One of them, in Kumasi, was big – it lasted nine days.

And Yidana expands on the subject of the institution's gains from its PHEA ETI involvement:

One gain, I think, is the overall conscientization. Many more academics now see online learning as the only way to meet their digital needs. The number of online courses developed is far beyond 42. That shows the enthusiasm that has been generated – well beyond the PHEA ETI target.

With this amount of training, it was clear the Project 2 team needed support. Five technical staff were identified and trained in how to use Moodle. However, this approach turned out to be problematic, as Williams explains: 'We identified technical staff to become the supporting staff, but that was a major mistake. We realised the technical staff did not have the *educational knowhow* to contribute to the training.'

The team then remembered that six UEW academic staff had previously been sent to Ohio University to do their masters in educational technology. These staff members were recruited to help train their colleagues in Moodle. Coordinator for Student Progress and Assessment in Distance Education Patricia Appiah-Boateng, who lectures in instructional technology, was one of the Ohio cohort.

She explains that she started out as a courseware developer and then became a mentor to help others in other faculties develop their courses. The project management team assigned mentors to specific people – Appiah-Boateng was responsible for supporting six others – so that each lecturer now had a direct contact person to whom they could turn if they were having difficulties with getting to grips with the LMS.

Appiah-Boateng saw this as hugely beneficial:

There was one particular lecturer who didn't have much interest initially. But with that kind of special attention, he realized, 'Oh, that's easy!' After [the extended workshop at] Kumasi he was calling me all the time. Any time I checked up on him he had made progress. He was so comfortable – it's got to do with the constant support.

Coordinator for Student Progress and Assessment in Distance Education Patricia Appiah-Boateng, on how the PHEA ETI has changed the UEW staff mindset: *You know, there's a saying, 'BBT – born before technology'. But most of the people, even the elderly people, were motivated and became attracted to the project. One step leads to another – touching the mouse, touching the keyboard, doing the uploading, doing the downloading, making sure the course is in shape. Aside from putting their courses online, the relationship between them and the computer has changed.*

Jim Weiler, the head of the Department of History Education, was one of the lecturers who underwent training, and has subsequently mounted three courses online. He appreciated the opportunity staff were given to increase their skills: 'The workshops were helpful: they gave us the time and the support needed. I liked the training because it really focused on making meaningful instruction, and I think they had the right attitude.'

The university's PHEA ETI involvement has not only enabled the lecturers to receive training in how to use an LMS, but has sometimes also delivered unexpected benefits. Ruby Hemson, a senior lecturer in chemistry education, explains how using educational technology – particularly accessing resources online – has enhanced her own learning. Not only do students gain access to additional resources to supplement the face-to-face instruction, but when Hemson set her students a research topic to be researched online, as she explains, 'they were able to come up with things even I didn't know, so I tapped into the knowledge they brought'.

ICT in Education Department Head Dr Issifu Yidana, on the capacity building brought about by the PHEA ETI:

Capacity to adopt educational technology has actually increased, and that was the overall goal. It's also very, very key, because if we don't have the local capacity to continue to build on what we have done, it's going to be a nine-day wonder. To me, that's been a very nice thing about the project.

Establishing an Educational Technology Unit

As already mentioned, one of the unexpected impacts of the PHEA ETI at UEW was management's decision to establish an Educational Technology Unit. This is currently headed by technology champion Apawu, who was mentored by Williams. The aim of the unit is to build on the platform created by the PHEA ETI in terms of training staff and presenting more classes online – specifically when it comes to distance learning.

In mid-2013 the new unit conducted its own Moodle training (outside of the PHEA ETI), where 215 lecturers gathered and developed 201 courses. (The training was in two parts, with the 2014 tranche focusing on quality assurance.) Apawu points to the rationale for this ongoing training:

Some lecturers were not able to be among the original technology champions, and the VC deemed it necessary for everybody to be able to use Moodle. The workshop was run on a massive cascading training basis. The response was good, but when you go to the platform, some lecturers have started their courses; some have left. That's why we want to do the follow-up.

The Educational Technology Unit has also taken advantage of the platform offered by Windy Bay FM, the campus radio station. Windy Bay FM is run by the university administration, and lectures are delivered on air, to cope with UEW's large student numbers. The station now also hosts a weekly programme (on Mondays from 7.20 am to 8.00 am) focused on online learning. The show presents discussions around educational technology and listeners are able to phone in and ask questions.

ICT in Education Department Head Dr Issifu Yidana, on what the establishment of the Educational Technology Unit means for UEW:

This unit will be consistently training and retraining to make sure online learning doesn't die. That's one gain of the PHEA ETI – getting the structures in place.

One tablet per student

UEW's distance education programmes are run by the Institute for Educational Development and Extension (IEDE). A major development in the 2013/14 academic year is that 10,000 of the distance education students received tablets, with the remainder set to receive them during the second semester. It is also anticipated that in due course the provision of tablets will be rolled out to the students enrolled in face-to-face programmes.

As Hubert Asior, network administrator and the acting head of IT Services, explains, the PHEA ETI was a catalyst for such a bold step, because although supplying tablets is 'a university-funded project', it is tied in to the institution's PHEA ETI involvement in the sense that it is designed to ease distance learning students' access to learning materials. Each tablet comes pre-loaded with learning material, and is able to run the chat function within Moodle to facilitate peer-to-peer learning. There is also an app that can read out the course notes to the user. In addition, UEW has negotiated a deal with Vodafone Ghana whereby the students pay only US\$5 a year and have

virtually free access to the UEW servers, including the Moodle server. They are also part of a closed user group, which means if a student phones another student or tutor in the group, they don't have to pay. As Ackorlie explains, after a distance education tutorial, for example, a student can hold a free conference call with up to five people.

Isaac Tete-Mensah, who works at the IEDE, on how the PHEA ETI has changed attitudes towards technology at UEW:

Previously I would've had a fear of even suggesting we use tablets. There would have been a lot of questions and it would have been difficult. Now we have a lot of people who can answer such questions. So the PHEA ETI has helped us.

Using online learning in distance education

IEDE's flagship online courses are the masters programmes in science, English, and mathematics. In addition, the Educational Technology Unit has prepared many more courses for uploading, for which it is awaiting the go-ahead. At UEW, the distance education courses comprise the same material as the face-to-face courses. IEDE Director Dr Kwame Asante explains: 'The modules are written by the lecturers who teach the 'regular programmes', and we use the course structure of the regular programmes, so there's no difference.'

However, there is a difference in the medium in which the courses are delivered, and this presents its own challenges. For example, not many lecturers have experience in tutoring online. Asante explains that his institute is taking steps to build capacity. This included hosting the vice president of the Commonwealth of Learning in December 2013 to give a lecture on ICT integration in distance education, and arranging for him to return to run workshops for staff on how to tutor online.



Raymond Boison, coordinator of the Student Records Office, and Hubert Asior, network administrator and acting head of IT Services

The impact of the PHEA ETI on distance learning at UEW has also tied in well with a previous project, funded by the Carnegie Corporation. Part of the funding was directed towards distance education, and there was an online learning component, but it had not been implemented due to the lack of requisite skills among the university staff. Ackorlie sums up how the capacity building undertaken as part of the PHEA ETI also impacted on the outcomes of the Carnegie project:

I am particularly grateful that the PHEA ETI came on board. Before the PHEA ETI we had some of these concepts in the Carnegie project. We had put them in our proposal and in our budget, but the technical knowhow and expertise wasn't there – how to do it wasn't there.

The PHEA ETI came and Andrew Moore [of Saide] was very, very helpful in training us in how to develop the courses.



IEDE Director Dr Kwame Asante

We thought: 'Okay, this is how we do it!' The PHEA ETI acted like a catalyst that stimulated all of us and taught us how to practically develop the courses. After the series of training that Saide put us through, we remembered, 'Let's go back to Carnegie!' We now had the skills; we could do it.

IEDE Director Dr Kwame Asante, on why UEW has embraced online learning:
The world is moving in that direction and we can't be left behind. Everything is technologically driven and I think education should also be. That doesn't mean that we'll do away completely with lectures, but we should at least deliver much of the content – and even practicals – through technology.

Growing the use of OER

The Centre for School and Community Science and Technology Studies (SACOST) has been the driving force behind promoting the use of open educational resources (OER) at UEW. The centre was set up by Dr Jophus Anamuah-Mensah, who previously served as UEW's VC, and its mission is to improve science and technology education in Ghana – and throughout Africa.

Anamuah-Mensah has long been an advocate of sharing educational resources; he was the VC when university management took over Windy Bay FM in 2001 and started broadcasting lectures. He explains how he believed the lectures should benefit not only students, but the broader community too:

I told the lecturers that the lectures would reach beyond the university boundaries; other people would listen. And indeed, that's what happened. One day somebody came to me and said, 'When somebody is not a student and asks a question, what do I do?' and I said, 'Respond to it.' That was very challenging for lecturers, but I thought it was good.

The same principle of openness applied when it came to accessing SACOST's resources. Initially the plan had been to sell them, but this was later changed so that they were marketed as OER. First, hard copies of the learning materials were given to the Ministry of Education to distribute to schools. Then the idea of mounting these OER on a website linked to OER Africa was born.

Emmanuel Kutorglo, the university webmaster, has been helping SACOST to build the UEW Open CourseWare website (<http://ocw.uew.edu.gh/>), which is under development. However, the seeds of using OER have been sown, and it is encouraging that UEW is committed to releasing its resources under an open licence.

As the website states:

Open CourseWare is a University of Education Winneba's open space that enables faculty, students, and others to share their educational resources and research with the global learning community. Here you can access a range of course materials, videos, software tools, student work and more. Download and remix our openly licensed educational resources (OER).

Anamuah-Mensah is an able advocate of learning through collaboration. As he says:

You don't need to develop a new course for something you are teaching: it is there. You can get it and adapt it to fit your system. That makes it very affordable. There's a newness that also comes, especially when you go to areas that have videos and audio that you can use. It gives you access to a whole range of pedagogy that you can use to improve learning.

SACOST Founder Dr Jophus Anamuah-Mensah, on the benefits of using OER:
OER are free – you pay for Internet access but you can download them, use them, mix them, change them. And because you can change them it makes you a creator also.

Management support

A crucial factor that enabled educational technology to take off at UEW during the course of the PHEA ETI was the strong support from top management. This support came on many levels: from factors already discussed, such as establishing the Educational Technology Unit and using tablets in the distance learning programmes, to others outlined below, including allocating funds to upgrade infrastructure and the VC attending the Moodle training workshops.

With the push towards online learning, it quickly became apparent that the university's technology infrastructure was not adequate to support connectivity for its staff and students. In 2009 the VC set up a committee to improve ICT facilities, with Ackorlie as the chair.

At the time, the bandwidth at UEW was a mere 6 MBps. After a technical and financial proposal from the committee, it has since been increased to 210 MBps – 155 up and 155 down. Ackorlie explains the reasoning behind the increase:

It was driven by a policy decision. We were taking on a lot of things that demanded bandwidth, like putting our student records, admissions, and fee payment online. Then we also came up with online courses. To do all these things you need bandwidth. If you have only 6 MBps, you'll jam up.

Students pay an annual levy of GH¢30 (about US\$15), which contributes to maintaining and upgrading the technology infrastructure at the university. And, while many students still complain of a lack of computers and patchy connectivity, there has been a marked improvement in the past few years. As Ackorlie elaborates: 'Every building is now connected through the LAN. We have 12-core fibre-optic [cables] in all the major buildings. Now almost everywhere you are you can access WiFi.'

Another challenge was the lack of reliable electricity; when the power went out, the Internet would go off too. However, as a direct result of the advocacy of the PHEA ETI team, in early 2013 the university purchased a standby generator to alleviate this problem.

Just as important as providing the necessary infrastructure was ensuring that all staff and students had access to basic technology – such as a UEW e-mail address. Yidana recalls that until recently this was not the case: 'The VC always quotes one thing: it came up that out of the lecturers who made themselves available [for the initial Moodle

training], four did not even have e-mail addresses.’ However, this situation has improved: each staff member and student now has an official UEW e-mail address, also accessible via the web.

Management’s role in fostering the growth of educational technology has not been restricted to providing the financial support to improve infrastructure. The VC himself has led from the front by actively participating in the capacity-building process. Says Yidana: ‘The VC as an individual sat as a reviewer of our research project and even attended some of the seminars and workshops. He was directly involved in this endeavour.’

Network Administrator and Acting Head of IT Services Hubert Asior, on the effect of management support on implementing educational technology:
I always say I am very fortunate to be here at this time. The previous management was, and the current management is, very supportive of ICT: anything that we propose to them is really taken up. The VC has been at many of the training sessions organized for the lecturers by the PHEA ETI team: this shows the kind of support he has for the project.

CHALLENGES AND FUTURE PLANS

A number of challenges pertaining to the development of educational technology at UEW have already been mentioned – most notably the erratic connectivity and the unreliable power supply. Further challenges include building sustainable management structures, Ghana’s strict procurement laws (which can, for example, cause delays in purchasing the required hardware and software), the need to attract more women to the field, and ensuring that, ultimately, the students of education are able to transfer their growing knowledge and skills in ICT to secondary school classrooms. Finally, keeping lecturers motivated is an ongoing challenge.

The local PHEA ETI support team realised that UEW needed an educational technology policy to guide all online learning initiatives. This draft policy is to be reviewed by a committee set up by the VC. Yidana explains why such a policy is necessary in terms of sustainability: ‘If we put it to our current VC that we need something, then if a new VC comes and he is not interested, we could “roll back”. Putting these structures in place will guard against this; it’s a big plus.’

Another challenge for the future is the strict and bureaucratic procurement laws in Ghana. For example, when the computer that the project team used as a server crashed in 2011, it took a long time to procure a new server and software. Owing to the fact that these are national laws, for now UEW will have to live with them and – as they did during the PHEA ETI – leverage the help of their international partners to help speed up the procurement process.



Patricia Appiah-Boateng, lecturer in instructional technology

When it comes to women in education – specifically in ICT education – UEW faces common hurdles. Kutorglo pointed out that while in primary school the gender ratio is roughly equal, by tertiary education level, females constitute only 37% of students. The Carnegie project, already mentioned, included gender mainstreaming as one of its objectives.

Appiah-Boateng is leading by example when it comes to women in ICT education. She explains the barriers she has faced and her commitment to changing these:

In Africa, specifically in Ghana, technology is a no-go area for women. And I think I should be an ambassador; I should be a role model to our women. It's not weird. It's not strange. It's not difficult: it's all about commitment and determination. If you can teach, if you can practise media, if you can do any job – then you can do technology.

Since UEW is a university for teachers, the seeds planted by the PHEA ETI have the potential to bear fruit at primary and secondary education levels, as well as in tertiary education. Hemson expressed the hope that her students will go to their schools and try to implement educational technology. She says: 'I'm thinking it might "go down the ladder" to the larger population. It seems like a distant dream, but: one day...'

While all the students interviewed expressed a desire to bring ICT into their classrooms, many of them also encountered practical problems, especially in rural schools. Kwesi Clifford has been a teacher for some years, and is now studying ICT education at UEW. He found it challenging to go back into the classroom for his teaching practical, as he was placed at a school without computers. He explains the difficulties of teaching ICT in this environment:

There were a lot of topics that I ought to teach, like using Microsoft Office and things like that. But you can just mention 'Microsoft Office' verbally. The students don't understand what you are teaching, because they have never seen anything like that before with their own eyes.

While the concept of using an LMS has captured the imagination of many UEW lecturers, several staff (and students) felt more needed to be done to motivate faculty to adopt online learning. Apawu believes motivation will be a key factor in ensuring the continual development of online learning at UEW. He says: 'We may have the infrastructure. We may have the connectivity. But it's the *motivation*; it's very time consuming to mount a course – sometimes you have to stay after hours.'

Yidana believes both intrinsic and extrinsic motivations are important. An intrinsic motivation would be continuing advocacy efforts so lecturers realise they need to use educational technology to reach the contemporary student. In terms of extrinsic motivations, many staff mentioned they would like to see their efforts in using Moodle rewarded when it comes to promotion.

In terms of future plans, UEW has a good base from which to build, and the capacity – in the form of the Educational Technology Unit – to do so. Williams likes to refer to the 'aftermath' of the PHEA ETI. He uses the word not in its common sense of the time following a disastrous event but instead takes its lesser-known meaning: of 'a second growth or crop in the same season, as of grass after mowing'.

This seems apt, as all of UEW's educational technology plans for the second half of the 2013/14 academic year – including further Moodle training, developing further online courses for distance learners, continuing to roll out tablets, and working on the OER website – are a direct or indirect result of the PHEA ETI. The ongoing work in this area will provide a 'second crop' from the seeds planted by the PHEA ETI.

Ackorlie is acutely aware of the need for UEW to continue expanding its educational technology and, moreover, to pick up the pace. With a finance director's concerns at heart, he pinpoints the challenge:

Technology is expensive, so you need to prepare a budget properly and get funding. You also need to start thinking of sustainability. Technology changes very fast, so you should be careful not to be obsolete in your discussions. Project implementation must be faster than it is currently.

KEY LESSONS LEARNED

Training environment: University staff are often extremely busy, and in some cases overcommitted. Thus, the nine-day retreat workshop held in Kumasi was successful because it took staff out of their everyday working environments and enabled them to focus on the task at hand.

Working with adult learners: At UEW, the students themselves are accustomed to teaching children, while their lecturers are used to teaching young adults. Appiah-Boateng says that being one of the workshop instructors has taught her a lot as far as mentoring more mature learners goes: ‘I have learned to be patient; I have learned to be diplomatic; I have learned to persevere.’

Technology is just a medium: Sometimes academics can feel threatened by or scared of new technology – and the accompanying jargon – but it is simply a medium for imparting knowledge. Yidana is firmly convinced that the success of the PHEA ETI at UEW is because the conceptual educational underpinning was already in place. He says: ‘In terms of the project itself and the attached research, we were successful because we are a teaching university.’

CONCLUSION

UEW was fairly slow in implementing its PHEA ETI projects, but when they began to achieve traction the energy created spread to other areas. Ackorlie is candid about the slow start, but speaks glowingly of the progress that followed:

Saide almost gave up on UEW – for two years we were not doing anything. But when we took off, the speed was so fast among the PHEA ETI institutions. At the beginning we were last, but when we took off the speed was amazing and I can assure you we are among the best.

The emphasis on training, more training, and retraining was crucial to UEW’s success in implementing online learning. Beyond the training, UEW also greatly benefited from its staff members’ capacity to transfer the new skills they learned to projects beyond the scope of the PHEA ETI. Among these was the initiative taken to integrate online learning into the distance education programmes run by the IEDE, and the subsequent rollout of tablets to students, as well as the application of principles learned during the Moodle workshops to the Carnegie project.

The PHEA ETI has given UEW a strong platform on which to continue to grow and expand its educational technology initiatives. As Yidana exclaims: ‘The PHEA ETI came and it was a miracle!’

Now it is up to the newly capacitated technology champions to continue in their role as ‘miracle workers’. In this regard, the establishment of the Educational Technology Unit, which will provide ongoing training and support to staff, certainly bodes well for the future.

ICT in Education Department Head Dr Issifu Yidana, on the impact of the PHEA ETI:
The overall aim of this project was to address certain institutional challenges. Some have been addressed. Moodle helped to increase learning and instructional resources. Students can access courses online and do their learning independently. Some of the instructors were able to use the virtual classroom provided by Moodle to interact with their students. That is very new in our environment here.

IEDE Staff Member Isaac Tete-Mensah, on the PHEA ETI's impact on distance learning at UEW:
With the PHEA ETI, a lot of awakening has been achieved insofar as using technology to move distance education forward is concerned. Presently we are in a situation where all the material is being prepared with a view to putting it online for students to access. Thanks to the PHEA ETI, we can now say some lecturers have what it takes to deliver courses online. And because some are doing it, others find it easier to put themselves forward to be trained.

Student Records Office Coordinator Raymond Boison, on how students have responded to using Moodle:
You have a number of students who are just so eager about educational technology. They do their assignments online; they do their tests online. They even use online learning as a key area to boast to students at other universities!

IEDE Director Dr Kwame Asante, on the pride UEW takes in being at the forefront of educational technology in Ghana:
We're a very young university but we are very ambitious. If I am not boasting or exaggerating: in terms of technology-driven education, we are among the top – if not at the very top.

ABBREVIATIONS AND ACRONYMS

ETI	Educational Technology Initiative
ICT	Information and Communication Technology
IT	Information Technology
IEDE	Institute for Educational Development and Extension
LAN	Local Area Network
LMS	Learning Management System
OER	Open Educational Resource/s
MBps	Megabytes per second
PHEA	Partnership for Higher Education in Africa
Saide	South African Institute for Distance Education
UEW	University of Education, Winneba
VC	Vice-chancellor



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