



*With Cultivate a consortium of Further Education and Training Colleges in the Western Cape has been able to rapidly develop engaging content and deploy technology in a transformative manner in the classroom.*

One, students in the FET sector need better and more relevant training in order to improve their socio-economic conditions and contribute to the economy of South Africa. Two, the use of ICT in a Blended Learning format can enable these goals, helping to engage students and increase retention. These were the strategic assumptions of the DASSIE project initiated by the Western Cape Education Department (WCED) in partnership with the German government's technical co-operation agency (GTZ)<sup>1</sup>.

An initial approach at creating content and embedding the purchased technology (an LMS) into the teaching and learning culture of the FET consortium had come up short. The right content just wasn't getting to the right people at the right time. The development cycle was too long. Adapting an entire text was a major undertaking. By the time the job was finished, the requirement had changed. In some cases the curriculum was updated. In others staff members would change, and a new text or approach was required.

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Crucial questions remained:

- How would lecturers be encouraged to adopt Blended Learning?
- How could the Blended Learning idea best contribute to actual learning outcomes across a variety of subjects?
- Who was best to be involved in the process of integrating students, lecturers, curricula and technology?

## **A new approach with people working collaboratively at its centre.**

A development of the approach was needed. The basis for this new direction came through Eiffel-Corp's ongoing 'Cultivate' research. The Cultivate development team found an idea set in Michael Schrage's seminal book on prototyping; *Serious Play*<sup>2</sup>. This now forms Threshold Four of the Cultivate Process.

Schrage advocates a process called 'Rapid Prototyping'. This is a process that:

**Demands the right people are fully involved.** The result, lesson plans and content in this case, is shaped by the participants' interactions around the prototype. This ensures there is no moment where a lecturer would say 'that's nice but not really what I need.'

<sup>1</sup> See paragraph 2.2 and 2.3 at <http://www.fetcolleges.co.za/fet-colleges.asp?TopLinkID=6&PageID=61> for the vision and mission statement of this project.

<sup>2</sup> Schrage, M. *Serious Play: How the World's best companies Simulate to Innovate.* Harvard Business School Press. 2000.

**Creates fast, hands on prototypes.** The faster the prototype the easier to revise, and the less precious the team will be about doing so. This frees them to focus on how well it fulfils its purpose of enabling learning, and how it will integrate into the student/lecturer/content relationship.

But how did this express itself in content development? In asking the first question ‘who are the right people to be involved?’ Cultivate consultants found that the lecturer is always the right person to be involved. Only they can define exactly what they need, in order to achieve what they want, in their way. This involvement and sense that the content is bespoke creates ownership and commitment. As False Bay College’s Carol Dwyer (Life Orientation) explains:

‘It’s [participating in this process] made me broaden my horizons in ways to teach. It’s made me think about the way I teach, and think about how to create learning opportunities that are exciting for the learners. Because for me that’s it, if they say ‘wow, that was so much fun’ then I know I’ve succeeded because I know they’ve still come out remembering the content because they’ve had fun.’

Lecturer involvement also creates confidence as Carina Vorster of South Cape College explains:

Without the one-to-one communication [with Andre Gouws, Cultivate Consultant] I couldn’t have succeeded. At first I wasn’t sure I was on the right path; I wasn’t sure I was going too deep into the content or not deep enough... It’s very important to have those face to face meetings to make sure you’re on the right path...

We also found that several other people are the right people to be involved. One of these is the e-Learning Manager. They are the focal point of on campus bringing technologists, media designers, pedagogy and the lecturer together. Like a good coach they encourage and exhort, and hold the direction of the Blended Learning project together on campus.

The remaining roles found in the right people to be involved have been wrapped up in Cultivate Consultant, in this case Andre Gouws. He has combined the roles of facilitator, media expert, and content designer. Having someone else to take care of these initially daunting technical aspects creates a safe space in which lecturers can focus their creative energies on designing the lessons.

## **The necessity of making the Blended Learning experience ‘safe’ for all.**

Granular technical support is critical for a lecturer to make this space feel safe enough for the lecturer to teach in a blended mode. For instance False Bay College provides a technician at any lecturers first blended session. This has two benefits: they can set the Open Learning Centre (OLC) up to avoid any nasty surprises – like pop-up blockers in the browsers, and they can be on hand to sort out any technical difficulties during the lesson itself. The lecturer off-loads their considerable fear of technical embarrassment onto the technician, freeing them to teach.

This ‘safe space’ both in the process of content creation and its implementation is a key barrier to entry. Without it, lecturers are unwilling to risk the security of their known teaching methods. Carina Vorster of

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South Cape College thinks this issue is critical.

Computer skills are very important not just for the skills sake, but for the lecturer's self-esteem. If you tell them they have to use Blended Learning, they get such a fright over the technology. They say 'I can't use the technology' and 'I can't create course material with this technology'. They can hand it to you on paper, but computer literacy is the thing that causes the most fear.

## The Process for the Rapid Prototyping of Content.

Thus the content creation design process has settled:

### Rapid Prototyping Process

The lecturer (as subject matter expert), eLearning manager (as co-ordinator and assessment expert) and Cultivate representative (as facilitator, technical expert, and media designer) meet. This is the core of the content creation process and involves:

- Identifying the 'nuggets' of content critical to course delivery. These are different for each lecturer.
- Finding innovative and engaging ways to deliver this content using Blended Learning. This is a critical process that involves all participants and will include:
  - ◇ Designing a content structure, including discussions, weblinks and any assessment. This can be done online in the design meeting live in the course as long as an internet connection is available.
  - ◇ Situating the material contextually. The team start with a storyboard on paper and design a pictorial narrative illustrating the content in a real world situation. As much of the FET's subject content is more vocational than academic, this is valuable: it's easier to show how to make a bed properly in hospitality services than it is to describe it using spoken or written words.
  - ◇ Finding other illustrative material, including simulations from the internet.
  - ◇ After the meeting the designer produces a slideshow from the storyboards. This is constructed using Eiffel Corp's Vizucate<sup>3</sup> characters, and background images taken using a digital camera. These then form narrative slideshows illustrating the content in a situated, not abstract manner.
- This content is then delivered to the lecturer as a non-editable flash file for insertion into their blended course.

## Life Orientation at False Bay College

Carol Dwyer is new to False Bay College having had an extensive background in teaching about HIV/AIDS to adults. Thinking about teaching young people raised a few questions in her mind:

Obviously the students I'm dealing with are different and the [Col-

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<sup>3</sup> See <http://www.vizucate.co.uk> for more details on these drag and drop characters that make creating narrative content simple.

lege's] structure is different. It's more structured than I'm used to... I was looking for something that would grab the kids, and for me, they're coming from such a technologically advanced generation that I felt that using computers was the way ahead for them.'

*This freedom from technical worry became a liberty to create.*

Carol was also daunted at the prospect of having to develop all the content herself. 'I felt very overwhelmed in the beginning, the reason being that I thought I would have to do the design.'

However when she realised that she would be part of a collaborative team creating the content, this would give her greater freedom her expectations changed. 'When I sat down with Andre [Gouws - Cultivate Consultant] and realised that I could be creative about how the course was delivered and he could do it technically, I felt a lot better', Carol said.

This freedom from technical worry became a liberty to create. She used a talk show format to discuss issues surrounding values and peer pressure. This was presented using Vizucate (Vizucate, an Eiffel Corp product see <http://www.vizucate.co.za>) 3D characters over a photographed background. The photographs were taken by Andre and Carol around False Bay College, situating the academic content in a context that learners could immediately relate to.

Carol then linked this content to the discussion facility within the Learning Management System. 'The mode of delivery was very exciting for me; they completely related to that talk show host. We also provided relevant video links they could go into. And we used anonymous online discussions either as a threaded discussion or as a blog at the end of each module.'

Then Carol would import the anonymous discussion content back into the face to face classroom sessions. Her students were talking about their own real-life challenges anonymously and learning from each other's responses.

## **The impact of this situated approach within Blended Learning resulted in Carol's first 100% assignment return.**

Overjoyed, she puts this down to bringing the technology medium to the students:

The technology has actually allowed them [students] to express themselves. They don't worry about spelling. They're a lot more self-conscious when they're physically writing something down. I actually think the technology gave them the confidence to express themselves which is critical in life orientation.

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## **Mechatronics False Bay Westlake Campus**

Eugene Williams teaches a Mechatronics course in the Engineering faculty at False Bay's Westlake campus. Fresh from industry he entered education in order to have a positive influence on young people. However he found students were dissatisfied.

'I found a lot of them saying 'Sir, I've left school already; it feels like I'm back there'. When I saw this [Blended Learning] I thought, 'this is what they need'. This generation are technologically advanced, far more than we were in the day, and so you have to fill that need. And this [rapid proto-

typing with technology] is a brilliant way to fill that need; maybe it's the only way to fill that need'.

Eugene is now overcoming some of the challenges with his teaching with the available technology tools. For instance, he worked on a lesson to explain how a Micrometer works. This used to cause problems.

'I had to stand in front of the class with that page and try and tell the whole class how a micrometer works. You can imagine how hard it is to try and explain how the thing works word by word without having the tangible item with you.'

With Marian Theron, False Bay's e-learning manager and Andre Gouws they found an online simulation of a micrometer, which could then be placed within the narrative for that module. This is why the Rapid Prototyping approach works so well. Eugene is able to communicate and specify the need most clearly in partnership with the designer (Andre) and manager (Marian). A simulation is found within minutes and then Eugene can see if it meets his pedagogical needs. If not, the team can try something else. Through a morning Eugene's involvement means he gets closer and closer to what he wants and in doing so becomes more and more committed to the output, a media rich, and engaging module.

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## **The Rapid Prototyping Process starts to address some of the fundamental issues within FETs**

This implementation of blended teaching and learning, with rapid prototyping of content has started to address some of the concerns identified as key obstacles to FET's progress. In a recent report by FETI<sup>4</sup>, examining the reasons for the poor performance of FET College Learners in NCV 2 and NCV 3 level programmes in 2007–8, researchers found that students typically expected much more practical work than theoretical, and made comments about content such as: the lecturer could not teach well or transfer knowledge, the lecturer cannot explain content in a simple way, that College is boring and makes them want to go home. On the other hand lecturers commented that students were unmotivated and ill-disciplined and struggled with the theory. Whilst this way of implementing blended teaching and learning won't solve all the problems identified in the report it has brought an uncommon wholeness to the relationship between lecturer, student and content which takes them into learning and away from blaming each other for a failure to learn. As Andre Gouws says:

'When we introduce a lecturer to blended teaching we consistently get two responses. The first is 'I can't believe my students were engaged for that amount of time' (and some of those lessons have been doubles); the second is 'In all my years of teaching my class has never been this quiet.'

## **Where next?**

The courses here are just the beginning. e-Learning Manager Marian sees a clear progression

'We're still at the handholding phase though. Next time Eugene comes to rapid prototyping he'll be in front of the computer. That's

<sup>4</sup> 'GETTING THE RIGHT LEARNERS INTO THE RIGHT PROGRAMMES': AN INVESTIGATION INTO FACTORS THAT CONTRIBUTED TO THE POOR PERFORMANCE OF FET COLLEGE LEARNERS IN NCV 2 AND NCV 3 PROGRAMMES IN 2007 AND 2008 – REASONS AND RECOMMENDATIONS – Report prepared by Dr Joy Papier, FET Institute, UWC, June 2009.

our model, consult, help and assist with a lecturer, then with us there for backup they can do it, then they can do it on their own.'

And what would be the impact if the programme were withdrawn? For Marian: 'Frustration, by default. We realised how short this year is and wanted to achieve so much and Rapid Prototyping is the only way to do it.' In fact the programme has been so successful Marian has plans to bring the e-learning and ICT departments together in the same building to be better integrated to provide support to lecturers.

## **The Rapid Prototyping process is driving organizational change behind the goal of improved outcomes.**

Lecturer Carol knows the impact of not having access to a Rapid Prototyping process would be negative,

'I would have to go back to the old way of teaching. I could come up with creative lessons, but there's no way I'd be able to deliver in the way I can now. I just wouldn't have the time. Also I don't think the students would be exposed to as much information as now. They're being exposed to such a broad base of learning, whereas if the programme were to go I'd have to go back to a very narrow base, text book teaching.'

Carina Vorster has expectations that the benefits she's seen in her pilot programmes will deliver both retention and course performance in other courses at South Cape College.

I'm expecting a big difference. In some of the pilot work I've already done the students have really enjoyed using the technology. I've given the students the learning material on PowerPoint presentations, and then I've tested them with questions after that. They enjoyed that and we discussed the questions afterwards. They then went back to the presentations and the assessments and tried to get better and better marks.

Student demand will also drive the distribution of Blended Learning. Students who encounter Blended Learning in level one and two courses (typically where the efforts have been focussed) will demand it in levels three and four. And they will demand its delivery from other lecturers. To cope with this increased demand the team is working on the sustainability of this approach. Establishing e-learning managers in each College is critical for the co-ordination and momentum of the project. Andre Gouws sees the future as bright 'we're moving from inertia to momentum; every rapid prototyping session is a tiny victory', he said.

If you would like to know more about Cultivates engagement with the Western Cape's FET Colleges, or of their progress in implementing Blended Learning then please contact us, and how this might be of assistance to you please do not hesitate to contact us.

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