Practical models for computer training of Indigenous Adults in Outback Australia

It is raining, really raining and the water is now two feet deep rushing through the runway shelter as we stand on the seat. We joke about how we can climb onto the roof and at what point the light plane loaded with all the computers, will wash away. We are 1000 kilometres from the nearest town. That is okay but what is not, is that we have only 2 days emergency food with us and THE shop in the next community of 200 people we land at, 400 km away, will be closed for the weekend. It's only 4 weeks into a gruelling 5 month journey across 22 remote Indigenous communities in the most northern and isolated part of Australia.

Holistic thinkers do not relate to the common training models

In Australia as elsewhere in the world, there is a view that adult training, especially about technology, requires pages of step-by-step instructions and boring exercises about all the features of software in some weird order totally unrelated to practical tasks. The presumptions about this model of learning are flawed. It can never work for second and third language speakers, for people with little text literacy, or those who do not relate to linear lockstep thinking (which includes most of us). In spite of all the flaws of this training model, we still see training institutions pump out thousands of software courses for adults and young pre-vocational workers, even for teachers who will then impose this model of learning on their students.

In our experience, step by step software skills training certainly does not work for Indigenous children or adults. Indigenous peoples world over, especially those with close connection to land and country, see the world in holistic ways; the interconnectedness of things governed by natural laws and spirit create a view of the world western Caucasian people do not achieve. The Indigenous view of the world is holistic while activity must be purposeful for today and have significant real results. Australian Indigenous people from the oldest living culture on earth, have a close strong connection to their culture and clans, thinking about their world in much the same way now as they have for 40,000 years. In so many ways it is at the opposite end of the thinking spectrum to westerners. Yet linear models of software training, designed and run by westerners continue to dominate the training available to Indigenous people. A decade of failed training programs in remote Indigenous Australia demonstrates the opportunity to rethink training models.

Lockstep training models probably do not suit western learners either. If training is about work skills or about using technology for real tasks, the analytical dissection of packages into minute skills is nonsensical. The idea that on Monday you do cut and paste, Tuesday you do spell checking and Wednesday you can mail merge, is not like any work related tasks I know. Likewise, that you can not add images and format them before you have learned bold and italics further distances training from any work or learning reality. Indigenous people must be very tolerant if they have put up with such models of learning for the last decade.

Look for us on Google Earth!

(General areas: Arnhem Land, Cape York, Torres straits in Australia)
Specific communities: Oenpelli, Northern Territory; Minyerri, Northern Territory; Boigu Island, Queensland; Lockhart River Queensland)

The shameful history of disastrous treatment of Indigenous Australians has resulted in Indigenous communities being concentrated in the most far flung corners of the continent. Services including housing and health are extremely poor with life expectancy, job success and literacy rates well below national standards. These remote communities have been the last to obtain telecommunications services. In the last 2 years, some remote indigenous communities (with between 200 and 500 people) have at last obtained a cell phone service and along with it capacity for Internet access. There still remains 750 communities of less than 50 or 100 people who have no phone (or electricity service). Most of the year, it is only possible to fly into larger communities by light plane and many small communities can not be reached at all, even by 4WD, for half of the year. After travelling to these remote places in the last few years, it is easy to understand why people love living there. Western urban people are so many layers removed from land, sea, forest and food and perhaps culture, that an urban world seems like a virtual reality game. The reality of catching dinner seems more natural in these wilderness landscapes, so steeped in traditional history. The impact of telecommunications and the Internet is intriguing and the take up of this communication network is awesome.

Bridging the gap

The Commonwealth Government response to the determination to "Bridge the Gap" between the quality of life between Indigenous Australians and mainstream Australian included providing contemporary communications namely satellite television and mobile phone networks including Internet-capable services. A training program to assist people to use computers was also offered to communities. In the first year of the program, 45 communities received training. We were lucky enough to support 21 training programs throughout Cape York in Queensland, Torres Straits between the Australian mainland and New Guinea, and Arnhem Land in the far North of the Northern Territory. We visited each community twice and one three times hosting 45 workshops for 622 people.

Note: "Bridge the Gap" was an election promise of the new prime minister and Government. The term "community" throughout this article is used to refer to small Indigenous villages.

The tender for the training asked trainers to conduct lockstep beginner computer training for 6 hours per visit and develop a step-by-step training manual with lots of pictures. We were expected to provide a one page laminated "Getting Started" sheet for people to take away, (maybe to use as placemats). Presumably we were expected to help people undertake all the steps in our manual. We were asked to test if people retained their "knowledge" and report on how we did this and what we found. We were asked to only run three hours of training at once because it was believed that people would not concentrate after that. We were expected to return and run refresher training as soon as possible on our circuits of travel. We were not asked to take a printer. We were expected to show people Government web sites.

So ignoring all that, our goal was to help people experience a digital lifestyle through authentic personal projects rather than to be trained in case they got one. We did not know what projects people would want to do and did not have any prescribed course of tasks or instructions on how to do them. In this project we aimed to raise awareness of digital lifestyles, help people learn to exploit the computers they had available to them, and excite them about using digital devices. We also

worked on the belief that a digital lifestyle would be beneficial to people living in remote communities, especially since now many more remote communities have access to the Internet.

In educator terms, our approach was like task-based learning, by building tasks on the run. The experience of rebuilding Nauru's education system completely with Rich Tasks through productive pedagogy dominated our thinking about helping people learn. It made sense that using computers enables people to

- learn about using computers by simply using them, exploring and playing
- work with local images, knowledge and artefacts (not text books or manuals)
- build products people want to use/keep or just make (not what the trainers pre-design)

Note: Nauru is a tiny country in the middle of the Pacific Ocean. The New Basics Curriculum in Australia which uses task-based learning and productive pedagogies evolved from the Authentic Pedagogy research from of Fred Neumann *and his colleagues at the University of* Wisconsin *Centre on the Restructuring of Schools.*

Working in practical ways

We find local and personal tasks appeal to people who have had poor experiences of schooling and who did not enjoy learning previously. Tasks can also be achieved by people with little to no literacy, which is the case for most Indigenous people. We use digital images as the basis for story telling and we ensure people produce a good looking product within the first hour. We are not sure why people get hooked using this model, but it has never failed. Sometimes it takes a while to find the hook, but there is always one. For men, Google Earth and looking at fishing spots and country is popular. For women, family portraits or personal portraits are the hook. Once the buy-in has occurred, people can make many different things trying new ideas for as long as we keep the doors open. Instead of running 6 hours of workshops per visit over 2 days, we averaged 22 hours per visit (Some communities we opened up the doors for 4 days).

Two other factors are highly significant. Firstly, we have a high expectations of what people can achieve, assume their determination to complete products will keep people engaged for up to 12 hours a day (we could not close up some nights) and that everyone has capacity to learn. Secondly, we build strong relationships with the people we are supporting. Through their photos, they let us into their lives and we respect the trust given to us. It is amazing that after a few hours people drop home and bring back photos of lost family or old precious photos and then ask us to help them restore the photos. The trust is established and strong enough to share the highs and lows of their lives.

In participants' terms, they look at samples of what other indigenous people have developed and then take our cameras away for an hour or more and take photos of their local families. We trust immediately and have never lost anything, in spite of dire warnings from the Balandas (white people). We give people two-three hints about taking good photos and send them off. On their return, people make a folder with their name on it and put their photos into the

Principles to facilitate learning by Indigenous Adults

Practical tasks

Successful product immediately

High expectations

Engage people through their interests and personal ownership

Trust and respect as people and learners

Learn new skills only if you need to

folder. Ownership is high and thus so is motivation. At the end of the workshop, we give people back all their work from their folder onto a memory stick and a CD.

We do not teach much

Our model for helping people learn is so unlike training as we seen elsewhere, as chalk is to cheese….

> Skills are gained when people need to learn them. There is no order to developing skills and people are encouraged not to feel daunted simply because they have not developed the skills before they begin.
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> Each individual works at their own pace, which is more related to when they attend than anything. People come and go between family, community and work commitments and so lessons in the normal description, are impossible anyway.
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> Very few people want to read and won't read (text) but shown where something is on the screen, they don't forget. The icons, even ridiculous ones in the Microsoft products (When was the last time you saved on a disk?) work to help people figure out what to do. Having all the tools scattered about suits Indigenous learners who like to see things in a landscape before they use them.
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> People will be interested in different things. Indigenous people are very individual and all contribute different things to their community, so they will want to learn different things to their cousin-brothers and sisters.
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> We begin with two rules: "No shame; only respect" and "Its your project; what would you like to do?". We have been disappointed at the few times, we seen this philosophy adopted by white trainers.
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> The complexity of the projects changes and the complexity of skills does not necessarily change in tandem. It is of no consequence if some people do not learn many of the skills in Powerpoint or Movie Maker or equivalents. They love their projects and will make many of them increasing the size, quality and complexity each time.

We do not teach much. We simply help participants complete projects they want to do, when they want to do them. We run more of a chaotic boot camp than an orderly classroom. When one person develops confidence , they are encouraged to help others in home language. "Click im udder side, fat belly rat." is a famous loudly called out instruction from one of our participants to her mother in pigeon English, that had us in stitches.

We have a favourite story we like to tell, that one lady sat and watched her cousin-sister all day . I could not get her to touch a camera or the mouse. I had to go to the shop for a while and when I came back she was sneaking a look at the pictures on the laptop, but facing the corner. She wanted privacy to try in private in case she failed. She was sitting looking at our poster – "No shame, only respect!" when I found her. She had watched so many people use Picasa, she knew what to do. She took the camera home that night and brought back 30 or so photos of her family to make a family calendar.

The quality of products people make is astounding though often heart breaking or unusual. People do projects like:

- Family videos of significant events – funerals, culture events, weekends camping . One team decided to photograph everyone in town and build a video.
- How to or motivational videos – from how to skin a bullock to how to look for illegal fisherman or do weed control in the National Park.
- Making videos as a profile for artists and people applying for jobs
- Family portraits set in frames and backgrounds, even of deceased children
- Mapping salt licks on a cattle station with GPS locations
- Applications for small business grants
- Spreadsheets of the callouts for the night patrol teams who look out for children who are out too late or disorderly behaving people
- Email and web albums to share with their children at Boarding school
- Moving photos, music and contacts between phones and computers
- Searching the Internet for information about the sale of their art work (Indigenous artists workshops)
- Researching land claims and information about support for Indigenous projects

We use very visual tools and use very ordinary tools in visual ways. We use

- Picassa to store, organise and edit photos and videos plus make photo collages.
- Photostory 3 and sometimes Movie Maker 2 to make videos
- Powerpoint as a visual production tool – often converting graphical slides to jpeg images to import into a movie
- Microsoft or Open Office Suite with people who need to use these tools for their tasks
- Templates in word and publisher for products – calendars, cards, letters etc
- Google Earth, Google search tools and Cool Iris to look at and collect images.
- Itunes

Although we do not focus on skills, most participants develop an incredibly broad range of skills in a very short space of time. The participants become adept in their specialisations often beyond our knowledge and experience. In response to a Balanda (white person) comment that her Indigenous work-partner could not “even use Word”, we mapped out the list of digital skills with her partner and embarrassed the superviser who could only confess to half the skills of her Indigenous co-worker.

We found, to our delight, that when we revisted communities, people just came in and got on with the job, as if we had not left, even though usually our workshops were a month apart. Apart from file management skills needing revisiting, people were amazingly ready to take on new and exciting tasks they had talked about between our visits. We knew people had reproduced skills, and that our data on their skills had integrity and reliability. The model of learning was working from our perspective and most importantly, we had repeat participation at

> “I would have come yesterday if I knew it wasn’t training”
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> Comment from a young lady who confessed she did not come the first day, because her experiences of training and trainers were so awful and she assumed this would be the same.

a higher rate than achieved before in these communities and people worked diligently for many more hours than we could cope with, exceeding the stereotypical low expectations of our program managers. We know people actually enjoyed this model of learning.

Our conclusions

The pedagogy of how people are supported to learn is a conversation about training models that needs to occur. This discussion will change what is taught and how students' skills are assessed and recorded. For example, a discussion about using authentic tasks to engage learners and develop their skills and knowledge in a holistic way within a locally-important context will alter the course content and structure and put the traditional ways of describing courses under close scrutiny. The discussion centres on the key questions, the central problem, which skills and knowledge is truly important and how that knowledge is integral to the quality of the product.

The characteristics of authentic tasks focus on a usable product for a real audience, rather than a project which might ask a learner to gather information on a topic for an audience of one, a teacher. This alters what students and their teachers do together to prepare for this real audience. This then changes the very essence of the assessment. The students are judged by what they can do for the audience of their products, a far more powerful motivation to learn and strive for excellence or craftsmanship than grading them on what they can not do or have not achieved yet. For often what people can do with their skills and talent is a much more powerful statement about the qualities of a learner than a set of ticked off competencies on a sheet of paper, which they may never need to be a successful worker or person.

Indigenous learners and particularly adults need an alternative to the traditional lockstep text-based model for training. School failed them in so many ways, so any resemblance of schooling in the training models is most likely non-functional. In our experience, task-based learning not only enables Indigenous people to show us what they can do, it matches much of how they approach their lives. The holistic models of learning and thus assessment make sense and people become excited about demonstrating their capabilities in ways that we rarely see in traditional institutionalised learning. Task-based learning as a pedagogy naturally blends what people know and can do into contexts which matter locally and people can develop their passions through success. When the trainers let go of their lockstep thinking and go with the flow, Indigenous people do so well, the training will result in more learning outcomes more quickly than any other model.

Training about using technology is a fertile place in which to try alternative models. Most people who use technology for their livelihoods and pleasure were not trained in what they can do. They learned what they needed to do through open-ended experimentation and colleague help. Technology educators will understand project-based learning and task-based learning because it fits with making technology products and using technology as a process. We all know that step by step instructions, dummies guides and learner manuals are ineffective and inefficient learning devices. We must stop writing them, buying them and selling them. We must think about ways we do tasks and how we figure out the effects of various software features on our products. We need to design pedagogical approaches which allow learners to work the same way. Training needs a rethink in what is taught, what is assessed and how judgements are made. We need to engage our learners.

We undertook a small exploration in helping Indigenous adults participate successfully in a training model, particularly groups who had not sustained any successes in previous training models. Using technology is motivational and we found Indigenous adults of all ages (and many children) wanted to explore digital activities. It would be interesting to follow up some of those who witnessed this engagement in remote Australia and see if it changes attitudes and practices in the communities we worked in. We certainly demonstrated the power of an alternative model of training but education and training has been very resistant to change for a very long time and has a great amount of resources and ownership invested in the traditional competency-based analytical approach to training. Change will come eventually and our project will be a small influence on that change but it will take concerted leadership from the trainer community, the leadership of training institutions and Government policy to initiate and embed sustainable change in training pedagogy.

Remote Australians, especially Indigenous Australians, deserve not to be set up for failure by using boring training strategies in what will be the most exciting and influential impact on Indigenous Culture, using technology and the Internet while adopting digital lifestyles.