Course director's report

Exploring Places: Mapping Spaces   Getting the gist of GIS

Monday October 1- Wednesday October 3rd 2018
Unitec Institute of Technology, Auckland

Planning Committee:

Sally Brodie   Botany Downs Secondary College, Auckland

Nicky Hodson   Tauranga Girls College, Tauranga

Nick Page   Otumoetai College, Tauranga

Claire Thurlow   Eagle Technology, Wellington

TRCC Staff:

Eseta Fuli

Penny Kinsella

Christina Mitchell

Course Objectives

Were for participants to learn the basics or enhance their knowledge of GIS, explore where to find and collect data, how to add and manipulate data on a map and demonstrate how to setup and manage their school's ArcGIS online account. It was intended to address a need that became apparent in the responses to a Board of Geography Teacher's survey in 2017: professional development is required in the use of GIS as a teaching and learning tool.

Comments by participants while at the course, suggested that this course effectively met these objectives. Responses by participants to the pre and post course survey also indicated this.

> *By teachers, for teachers!! So accessible for all levels. Consolidated what i already knew plus added more in depth knowledge and new apps too. Links to research standards and just fun social studies things too are super valuable.*

> *All aspects were appreciated and added to my developing knowledge across use of and administration. Particularly useful was getting to grips with Survey123.*

> *Being exposed to a range of tasks and activities that can be applied in the classroom. Getting a chance to trial these for myself.*

> *Working with the software in a room full of like-minded people developing tasks for both senior geography and junior social studies*

The following graph also indicates that the course met these objectives.

A. Was the programme appropriate and effective?
   On a continuum scale of 1 (No) - 5 (Yes)

Was the programme appropriate and effective

| Rating	Value
1 - No	0
2	0
3	9
4	26
5 - Yes	69
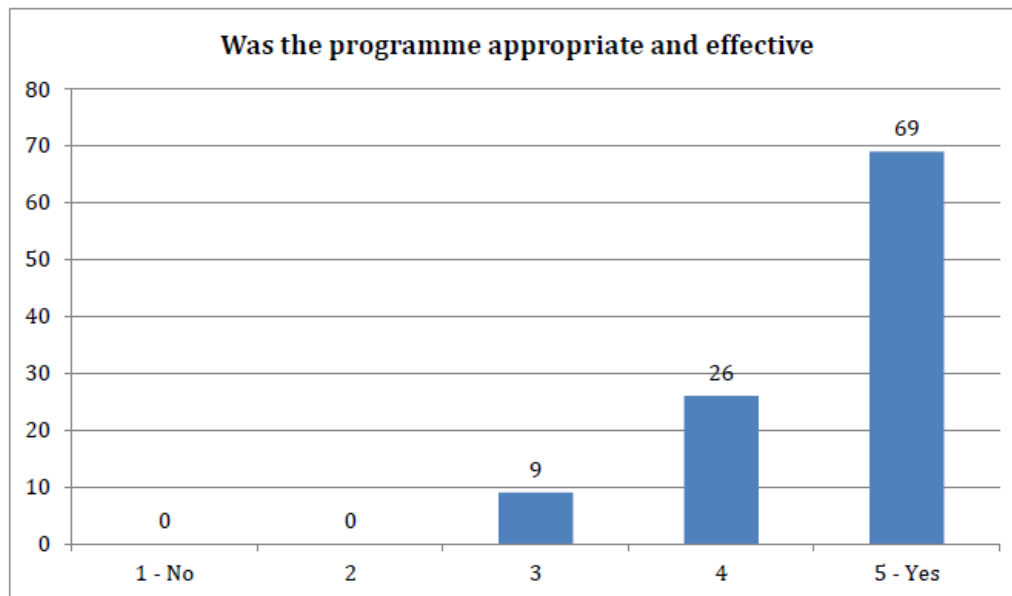
100% stated 3 or above. 95% stated 4 or above

Outcomes in relation to the MoE criteria and the level of shift towards key leadership outcomes for participants
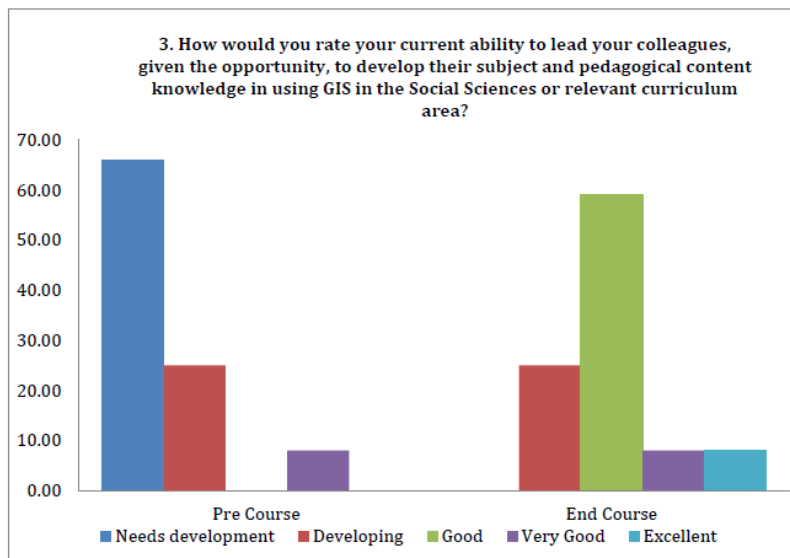
The following graphs clearly show a significant shift between pre and post course. Given that the focus was on leadership, for increasing leadership in the use of GIS as a teaching and learning tool to take place, participants need to feel that they have sufficient knowledge to lead their colleagues as well as feeling sufficiently confident in their own use of GIS. The graphs indicate a significant shift from "needs developing" or "developing" to feeling "good" or "very good". This provides reason for optimism that there will indeed be more use of GIS in classrooms around New Zealand.

1. How would you rate your current knowledge of GIS applications for use in a school setting?

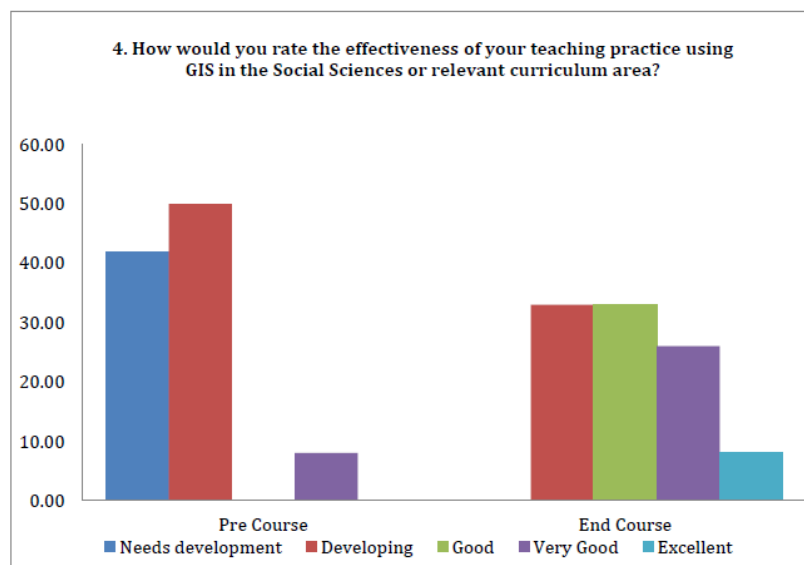Legend: Needs development, Developing, Good, Very Good, Excellent

- those answering needs development or developing reduced from 84% to 34%
- those answering good or above increased from 16% to 66%
- with those answering very good or above increasing from 8% to 33%

2. How would you rate your confidence in using GIS applications in a school setting?
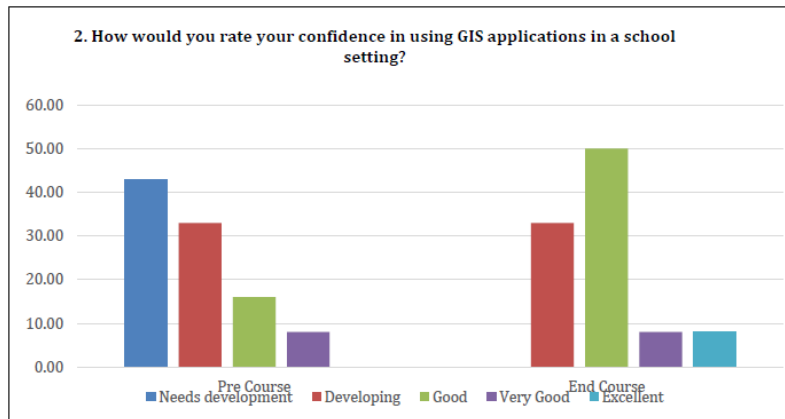
- answering needs development or developing reduced from 76% to 33%
- those answering good or above increased from 24% to 66%
- with those answering very good or above increasing from 8% to 16%

3. How would you rate your current ability to lead your colleagues, given the opportunity, to develop their subject and pedagogical content knowledge in using GIS in the Social Sciences or relevant curriculum area?

- those answering needs development or developing reduced from 91% to 25%
- those answering good or above increased from 8% to 75%
- with those answering very good or above increasing from 8% to 16%

4. How would you rate the effectiveness of your teaching practice using GIS in the Social Sciences or relevant curriculum area?

- those answering needs development or developing reduced from 92% to 33%
- those answering good or above increased from 8% to 67%
- with those answering very good or above increasing from 8% to 34%

General comments on the programme

The course was planned so that there was some variety in the types of activity offered. The programme, shown here, was colour coded to reflect this, with computer-based sessions in yellow, guest speakers in green and outside field work in mauve.

After some initial concerns that too much had been planned and insufficient time allowed for participants to just spend time completing tasks or getting to grips with what they had been shown, the timing and variety of activities worked out well.

Survey comments reflect this:

Networking. Range and pace of activities. Being given the resources and able to do some self-directed learning.

Talking to colleagues and having the time to be able to 'play' with the programme

Unitec proved to be a most suitable venue for this course with good access to several modes of transport, accommodation nearby and with several cafes also in close proximity. The room provided was well equipped, large and ideal for the activities. It also encouraged networking. Unitec staff Heather Stonyer and Sue-Ann Wang organised the venue and were most accommodating and efficient in working to ensure that the room, computer facilities, wifi and catering all happened as required. We enjoyed working with them.

	Day 1	Day 2	Day 3
8:30	Registrations	-	-
9am	**Welcome and Whakatau**	**Computer based GIS - processing fieldwork data**	**Introduction to ArcGIS Pro** Glenn Aguilar
9:30am	Early morning tea		**How to present your data**
10am	Registration		
		Morning tea/ network session 10:30 - 11:00	
11am	**Logging in and exploring ArcGIS online**	**Nuts and bolts 1**	**Nuts and bolts 2**
12:00	**Keynote: Young professiona**l Blair McCullough, Callum Smith	**What's already there?**	**How can I use this in my classroom away from the standards?** Christian Richardson
		Lunch - 12:30 - 1:15	
1:15pm	**Using ArcGIS Online: Practical computer based activity**	**Story Maps** Guest speaker **Practical activity: Make your own**	**Guest speaker**: Dan Exeter University of Auckland
2:15pm	**Examples of Student work**		**Geography Application: 1.8, 2.8, 3.8**
		Afternoon tea 3:00- 3:15 Day 3: No afternoon tea	
3:15pm	**Fieldwork 1: Survey 123**	**Fieldwork 2:Survey 123**	**2:45pm: Closing of the course Poroporoaki**
4:15pm	**Day closes**	**Day closes**	Participants depart
Evening programme	Free evening - people to provide their own dinner	Informally organised dinner in a local restaurants. People to provide their own dinner	-

Presenters

Sally Brodie, Nicky Hodson and Nick Page presented several of the sessions. Other guest presenters also contributed.

Presenter's name	Organisation	Purpose of presentation
Christian Richardson	Mount Maunganui College	How can I use this in my classroom away from the standards? A few ideas to play around with on your return to school
Blair McCullough	Eagle Technology	Participants will gain some appreciation of the career opportunities that exist in the geospatial industry.
Callum Smith	Aurecon	To provide teachers with information about career opportunities in the geospatial industries.
Alasdair Lean	Kaikoura High school	1. To show how easy it is to set up and run an ArcGIS course for year 9 and 10. 2. To highlight some of the issues and potential solutions. 3. To motivate people to take the opportunities offered by GIS to engage students. 4. To create a basic story map
Zorko Sostaric	Eagle Technology Group Ltd	Nuts and bolts: Participants should gain an understanding of how to set up classes to use ArcGIS Online, how to manage the credits, how to delete content from the school's online account, how to delete users and where to find data.
Dr Glenn D. Aguilar	Unitec Institute of Technology	participants will be introduced to ArcGIS Pro which is part of the GIS in Schools package.
Associate Professor Dan Exeter	School of Population Health at The University of Auckland	Mapping deprivation in your neighbourhood. Revisiting some cartographic principles Introduction to deprivation research Visualising landscapes of deprivation Using 'big data' to create deprivation indices

The intention was to have a variety of guests who would illustrate different aspects of GIS; from careers, to the nuts and bolts technical information, to academic use to benefit the health of our population to hands on activities from practising teachers.

All the presenters were well received. In particular, Alasdair and Christian, with participants' commenting on the relevance of their sessions as practicing teachers. However, participant comments also reflect the level of GIS expertise with which they arrived at the course. Several found Zorko Sostaric's sessions too technical, while others really enjoyed them and would like to have spent more time with him, learning more advanced techniques.

Digital learning space

A Google shared folder has been established with almost all of the printed course material, digital resources and power point presentations saved into it. Participants were emailed the link to this.

Suggestions and implications for future courses

This was the first time that a course of this nature has been run. It was a learning curve for the three presenters/directors/planning committee personnel. During the planning stage, there was discussion about offering split sessions to cater for beginner and also more advanced users of GIS. This did not eventuate, although we were ready to do this had it been clear that participants wanted it. However, offering sessions that had two choices running concurrently based on GIS expertise, is the most common remark in the post course survey. This would be worth implementing if another course advertised as relevant to both first-time users as well as more advanced users,

were to be run. However, several responses to the post course survey also make the point that this course should be run as it was:

> "*Same again and encourage as many teachers as is possible to show how they actually use it in the classroom.*"

> "*I think it would be best just to offer the same course again and get different/new people to attend*"

From a technical viewpoint, prior to another course, all participating schools need to ensure that they have their ArcGIS Online accounts activated and accessible by the participating teacher. This would make the nuts and bolts sessions more relevant and comprehensible to teachers new to GIS.

Conclusion

The hope was, that this course would attract teachers from around the country, in particular, from smaller schools in the smaller centres and rural areas. A minimum of 20 participants were required for it to take place and a maximum of 40 could be catered for.

These hopes were realised, with teachers attending from schools as far apart as Kaitaia College and South Otago High School in Balclutha. Three committee members/planners/presenters and 36 participants attended.

In planning this course, care was taken to try to make the GIS as accessible and as positive an experience as possible to teachers new to using it, or those with very little experience, while at the same time offering something new to people with more GIS experience. The post course survey results, and the very positive atmosphere throughout the three days of the course, would suggest that this worked.

Sally Brodie

Course Director