

# DigiCon 2016 Presentation

## Unit 3 Software Development Review

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James Vella - Digital Technologies Learning Area Leader/eLearning Leader - MacKillop College

# Details of this session

1. We will look at what three Software development teachers have done for Outcome 1 and 2 in Unit 3:
  - Chris Bucknell (Haileybury College)
  - Phil Feain (St. Kevin's College)
  - James Vella (MacKillop College)

Specifically we will look at:

- What each did in their classes
  - What worked and what didn't work
  - What they'll do for 2017
2. Panel discussion with questions from audience

# Phil Feain - What we did for Unit 3

## Outcome 1 - Programming language was Visual Basic.Net

I delivered the Outcome initially the same way I have always approached programming

- get the students working on exercises to build up the skills for Outcome 1
  - exercises on control structures, arrays, calculations, records, modules, files, searching, formatting output
- delivered classes on theory against the Key Knowledge for background
- students completed one software module per week for last three weeks of Term 1 and first two weeks of Term 2
- gave the students five software modules to complete and add together for a set of marks out of 100
  - Folios 1 to 4 - out of 15 marks
  - Folio 5 - out of 40 marks (more complex)

## Outcome 2

I set out for the idea of teach, learn, assess and feedback spread out over the milestones given - wanted this to be different to the way we used to complete SACs

- spent the last four weeks of Term 1 using the double each week on each of the four criteria so students could get background for holidays
- Criterion 4 – Project Plan completed first due 29 April - had students print off in colour and tape together - good for Criterion 8
- Criteria 1 & 2 – Software Requirements Specification completed next due 23 May - had students present as SRS report with appendices
- Criterion 3 – Design Folios completed last due 6 June - had students present as hard copies

# Phil Feain - What worked and what didn't

## Outcome 1 - What worked

- students enjoyed working on separate tasks and having their marks add up to 100
- students liked getting the rubrics in advance
- separated out the students in terms of their results

## Outcome 1 - What didn't

- felt awkward going into Term 2, but had to due to having a shorter Term 1
- found I still hadn't covered everything by the time I got further into the term for assessment - had to teach a few things as I changed my mind
- originally I thought students would only need one period per task, but realised they really needed two - different with them interpreting designs with a case study - it does take them time

## Outcome 2 - What worked

- I went for the idea of teach, learn, assess and feedback spread out over the milestones given
- this made marking a quite easy - I could mark a criterion in one day

## Outcome 2 - What didn't

Students struggled with:

- working outside of class time
- having significant detail in their responses to address the descriptors
- not reading the criteria carefully or referring to it as a final checklist before submission
- getting the detail required from their identified need or opportunity to then tease out the analytical diagrams

It just felt a little bit rushed

# Phil Feain - What I'll do in 2017

## Outcome 1

- I want to complete the outcome in Term 1
- Not sure whether to complete in the first 7 to 8 weeks just focussing on Outcome 1 only at the time or for the full term and spend some time each week on Outcome 2 as well
- I will do five folio tasks again

## Outcome 2

- I do like the idea of teach, learn, assess and feedback, but will modify as I want to commence the SAT at the start of the year
  - Criterion 4 – Project Plan due around late Term 1
  - Criteria 1 & 2 – Software Requirements Specification due around mid-May
  - Criterion 3 – Design Folios due around early June
- handout a template/checklist for students to identify and document their need over the summer
- more time discussing how students can turn their identified need into a case study in order to identify analytical tools and requirements – many struggled with this
- encourage students to be more realistic in their software solutions – clearly understand what is required in the criteria

# James Vella - What we did for Unit 3

## Outcome 1 & 2 - Blended approach

I delivered Outcome 1 initially in a similar way to Phil

- exercises and practice programs that looked at a variety of SD techniques
- Theory and sample exam questions (from previous years) as necessary
- Incorporated some independent learning tasks in relation to programming
- gave the students four software modules to complete and add together for a set of marks out of 83

Outcome 2 was delivered in relation to the due dates of the SAT.

- Theory, practice activities and sample exam questions from previous years as required.

The SAT was delivered in the following way:

- Planning - started prior to Xmas break and got everything sorted for T1
- Criterion 4 – Project Plan completed first due prior to the T1 break
- Criteria 1 & 2 – Software Requirements Specification completed next due 3rd week of T2 - had students present as SRS report with appendices
- Criterion 3 – Design Folios completed last due 3 June - had students present as hard copies

# James Vella - What worked and what didn't

## Outcome 1 - What worked

- Starting the outcome early and getting a lot done over the holidays
- Delivering content in a blended way broke it and kept things interesting for the kids

## Outcome 1 - What didn't

- spread the outcome over too large a timeframe
- Some students didn't like the blended approach - nor some of the independent learning tasks

## Outcome 2 - What worked

- Starting the project early (in November)
- Delivering content in a blended method from March
- Giving students a regular time to meet and discuss their project

## Outcome 2 - What didn't

- similar to Phil, but also
  - submission of Crit 1 and 2 together - didn't allow for students to make corrections
  - Meetings were too regular - took away from teaching time

# James Vella - What I'll do in 2017

## Outcome 1

- Start working on Outcome 1 late Term 1- early Term 2
- Provide more practice programming tasks

## Outcome 2

- Start the year with Outcome 2 - in order to ensure that the deadlines can be better spread over the semester
- Adjust SAT submission dates
  - Criterion 4 – Project Plan due around mid Term 1
  - Criterion 1 - Analytical tools due before the T1 holidays
  - Criterion 2 - SRS due mid-late April
  - Criterion 3 – Design Folios due around late May - early June
- encourage students to be more realistic in their software solutions
- Provide document templates for submission of tasks - found student submissions to be very disorganised



# Chris Bucknell - What we did for Unit 3

## Outcome 1 - Programming language was Visual Basic .Net

Like Phil and James I delivered the Outcome in a similar way as I have taught programming in the past.

- get the students working on exercises to build up the skills for Outcome 1
  - exercises on control structures, arrays, calculations, records, modules, files, searching, formatting output
- students completed one software assessment task every three to four weeks from late in Term 1 (first task in last week of term) till late in Term 2
- gave the students three folios tasks to complete and add together for a set of marks out of 100
  - Folio 1 – 25 marks
  - Folio 2 – 35 marks
  - Folio 3 – 40 marks

## Outcome 2

Like Phil teach, learn, assess and feedback spread out over the milestones given - wanted this to be different to the way we used to complete SACs

- spent the last three weeks of Term 1 going over the SAT and the four criteria, and gave my milestones to the students the second last week of term.
  - Criterion 4 – Project Plan completed first due end of third week of Term 2 – submission date pushed back till second week (a sign of things to come)
  - Criteria 1 & 2 – Software Requirements Specification submission week 6
  - Criterion 3 – Design Folios completed due end of week 8 – only milestone not moved.

# Chris Bucknell - What worked and what didn't

## Outcome 1 - What worked

- Starting the outcome early and getting a lot done over the holidays (some students did others didn't - not enough did)
- Delivering content in a blended way broke it and kept things interesting for the kids

## Outcome 1 - What didn't

- Seemed to drag on, spread the outcome over too large a timeframe
- Some students seemed to forget the skills they learnt and had to relearn each time we looked at coding – wasting time.
- Students needed at least two periods for assessment tasks so three tasks took more time than one bigger task

## Outcome 2 - What worked

- Teach, learn, assess and feedback spread out over the milestones given
- Made marking easy - I could mark a criterion in one day

## Outcome 2 - What didn't

(As Phil said) Students struggled with:

- working outside of class time
- detail in their responses to address the descriptors
- not reading the criteria carefully or referring to it as a final checklist before submission
- Students would prioritise SAC for other subject over SoftDev as they were not spread-out over a large timeframe.

**This year has been the busiest I have ever had teaching Software Development, I feel I'm always playing catchup**

# Chris Bucknell - What I'll do in 2017

## Timing of Tasks ... I'm undecided yet.

- But I'm effectively I'm looking to do either Phil's or James plan. At the moment I'm leaning towards something similar to Phil's plan.
- I'm planning to do Programming practice in a block (5 weeks) with assessment done over a single week at the end of the block.
- I want to spread the SAT out more with the:
  - Project plan being due mid to late Term 1 – Criteria 4
  - SRS due late Term 1 to very early Term 2 – Criteria 1 & 2
  - Designs due early to mid May – Criteria 3

Questions

# Outcome 1

What software did you use?

How many tasks did you do?

When did you do them?

Did you teach all the outcome and do the assessment in one hit or did you teach, assess, feedback between tasks?

# Outcome 2

Did you start Outcome 2 late? ie, in Term 2

How did your students go with each of the criteria?

How did you go marking each of the criteria?

Do you feel that U3 O2 has prepared your students for U4 O1 or are they now making adjustments?