

# Effective Reporting of Quantitative Data

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**It's easy to get lost  
in the details**

# Who are we writing for?

- Government
- Colleagues (journal article)
- Stakeholders

**Do they want the big picture?**



**Some detail?**

**Lots of detail?**



**Or something  
else completely?**

# The best presentation of quantitative data

- encourages the reader to think about the substance of the data
- helps the reader make sense of large amounts of data
- integrates statistical and verbal descriptions
- uses graphics that reveal data
- presents data honestly



# **An example of greatness**

- Napoleon's invasion of Russia
- Reproduced from Tufte

# References

- Tufte, Edward  
*The Visual Display of Quantitative Information*
- Few, Stephen  
*Show Me the Numbers*

# General Principles for Communication

- Highlight the data
  - Reduce the non-data ink
  - Enhance the data ink
- Organise the data
  - Group the data
  - Prioritise the data
  - Sequence the data
- Integrate tables, charts and text

# Visual Perception

- Preattentive processing
  - Automatic and unconscious
  - Colour
  - Location of objects in 2D space
- Short term memory
  - Temporary
  - Limited capacity (between 3 & 9 chunks)

# Preattentive Processing

- 9873497902756479028947286240924060  
3707057027090728032080290073025012  
7023700837408207872027200708324780  
2602703793775709707377970667462097  
0947027809279797097230972309795927  
5092727979873497260802698734979027  
5647902894728624092406037070570270  
9072803208029007302501270237008374  
0820787209873490705702709072803208  
0290073025012702370083740820787201

# Preattentive Processing

- 98734979027**5**6479028947286240924060  
37070**5**702709072803208029007302**5**012  
7023700837408207872027200708324780  
260270379377**5**709707377970667462097  
094702780927979709723097230979**5**927  
**5**092727979873497260802698734979027  
**5**647902894728624092406037070**5**70270  
9072803208029007302**5**01270237008374  
082078720987349070**5**702709072803208  
029007302**5**012702370083740820787201

# Preattentive Processing

- Form
- Colour
- Spatial position
- Motion

**Warning:**

Too many variations are distracting

# Gestalt Principles of Visual Perception

- Proximity
- Similarity
- Enclosure
- Closure
- Continuity

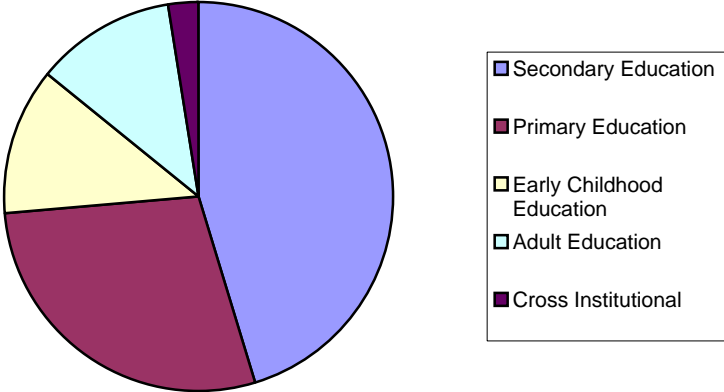


# Table or Chart?

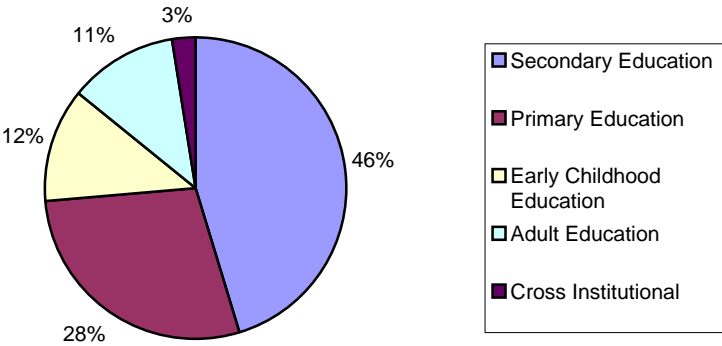
- Tables ideal for large quantities of data where specific items are looked up
- Charts ideal for presenting comparisons and trends

**Let's get to work  
on some examples**

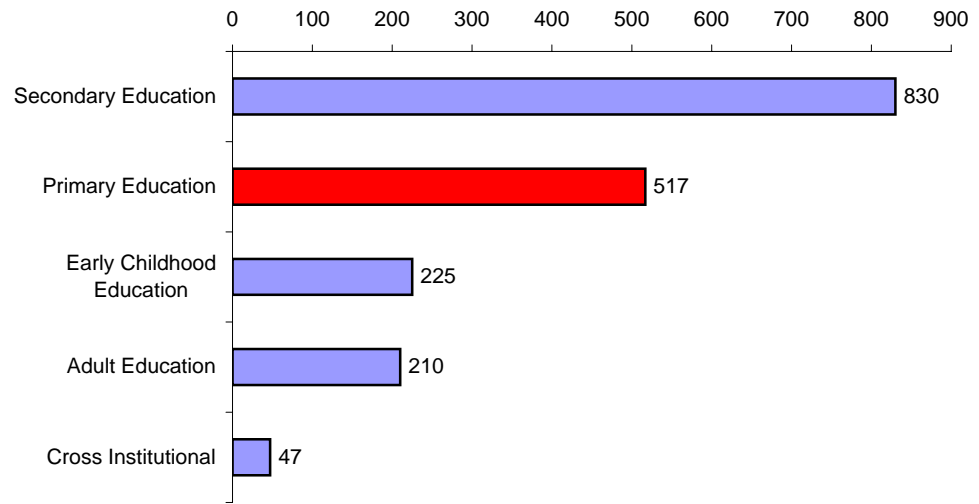
**Education Enrolments**



**Education Enrolments**



### Education Enrolments







TEST101

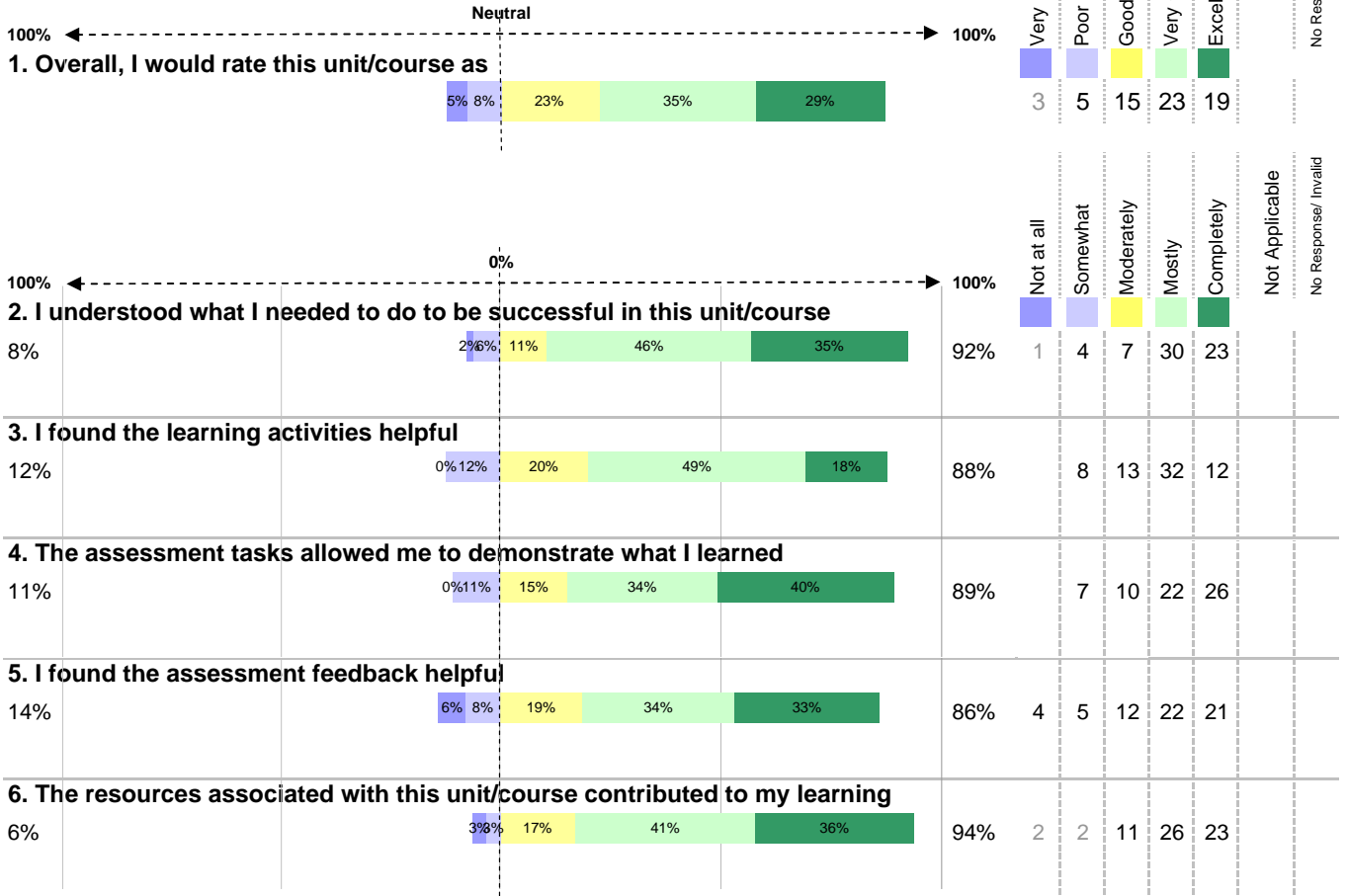
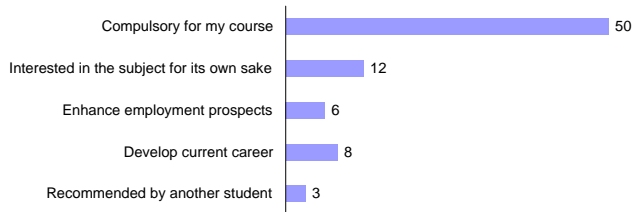
Subset of the LEX Trial S2 2007

Enrolment: 85

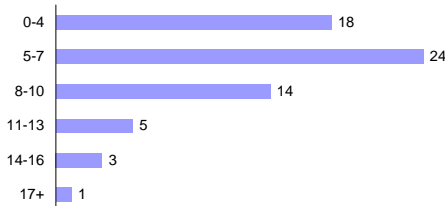
Total Responses: 64

Response Rate: 75%

Students enrolled in this subject because:



7. How many hours per week did you spend working on this unit/course?



The three things I would recommend for this unit are:

Make other units more like this one	40 x%
Change nothing – it was great	37 x%
Include a greater variety of assessment tasks	33 x%
Provide opportunities for practice without penalty	13 x%
Present material more clearly	11 x%
Improve the sequence of learning	10 x%

8. The amount of work I was required to do was appropriate

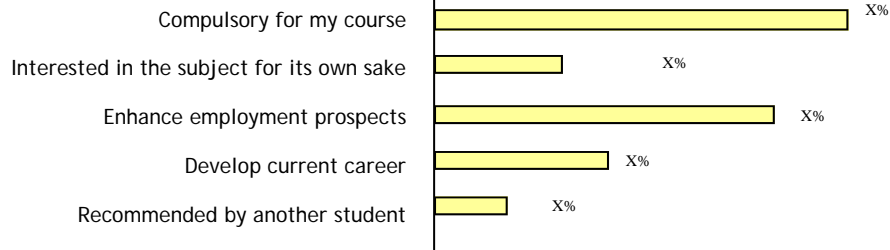






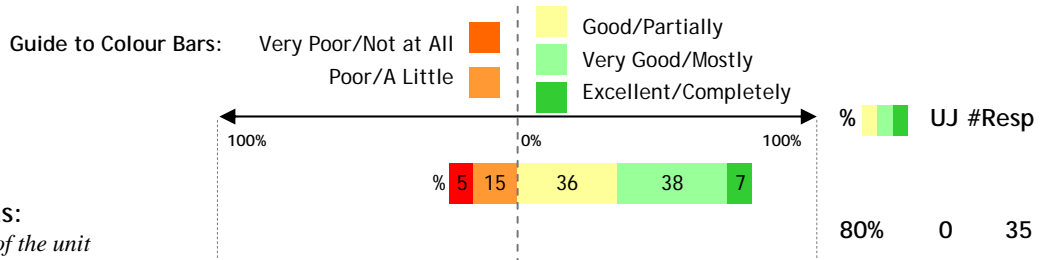
Responses: 35  
Survey Group: 100 (All students S1 2008)  
Response Rate: 35%

**1. Why did you decide to do this unit?**



**2. Overall, I would rate this unit as:**

*Overall refers to your personal experience of the unit*



**3. I understood what I needed to do to be successful in this unit:**

*Success could be achieving a particular grade on assessment tasks, completing learning activities, or achieving your personal learning goals*



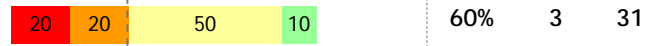
**4. I found the learning activities helpful:**

*Learning activities are anything for which marks were NOT allocated. These might include lectures, tutorials, lab sessions, intensive school, fieldwork, excursions, reflective questions or discussion board participation*



**5. The assessment tasks allowed me to demonstrate what I learned:**

*Assessment tasks are anything you were asked to do for which marks were allocated.*



**6. I found the assessment feedback helpful:**

*Assessment feedback refers to all comments about your assessment tasks*



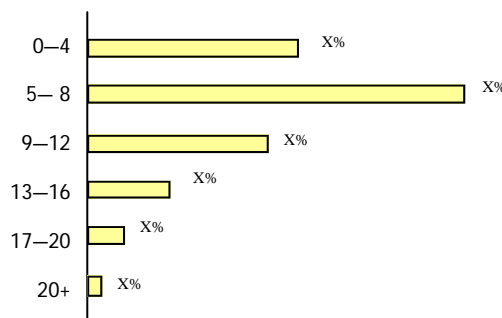
**7. The resources associated with this unit contributed to my learning:**

*Resources may include any of textbook, handouts, study guide, CD-ROM, online materials and discussion board, audio or video recordings, e-reserve, or other library resources*



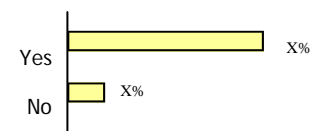
**8. How many hours per week did you spend working on this unit?**

*Include all time spent on learning activities such as class time (lectures, tutorials, lab sessions etc), reading, reflecting, online, private study, field trips, excursions and intensive schools as well as time spent on assessment tasks*



**9. I feel the amount of work I was required to do was appropriate:**

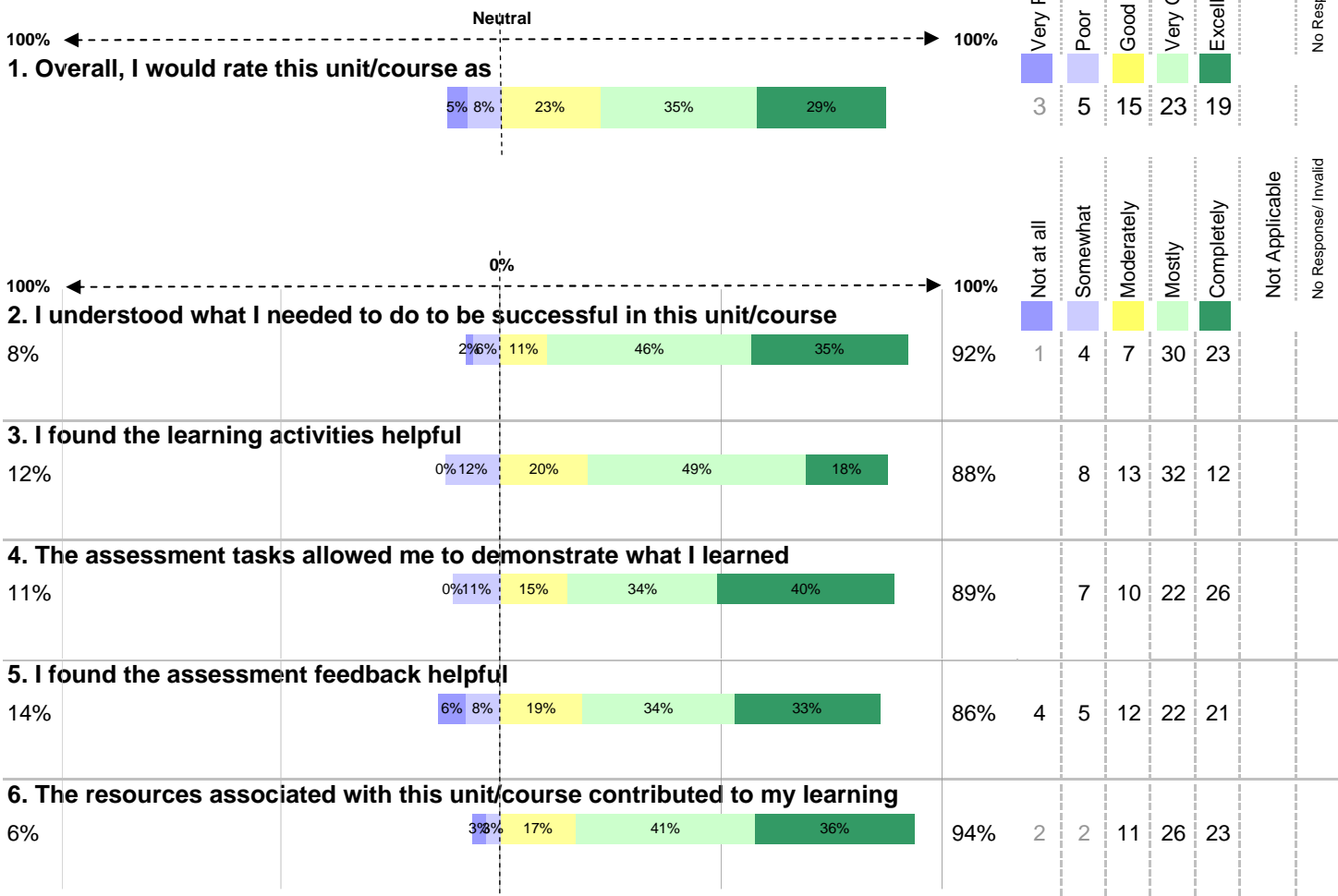
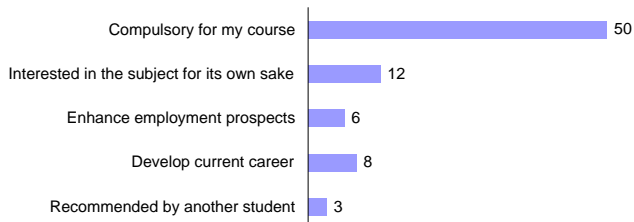
*Compare the workload with other units in the discipline*



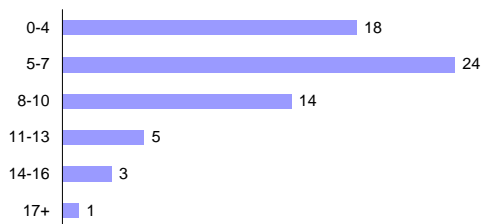
TEST101 Name of a Sample Unit for this Report

Enrolment: 85  
Total Responses: 64  
Response Rate: 75%

Students enrolled in this subject because:



7. How many hours per week did you spend working on this unit/course?



The three things I most want to tell other students about this unit are:

- I'd like more units to be more like this one 40 x%
- It was great - I hope they don't change anything 37 x%
- Lectures were a waste of time - don't bother going 33 x%
- Lectures were clear and to the point - don't miss them! 13 x%
- The topics didn't build on one another 11 x%
- The topics built really well on one another 10 x%
- Something else 1 3 x%
- Something else 2 2 x%
- Something else 3 1 x%
- Something else 4 1 x%
- Something else 5 1 x%

8. The amount of work I was required to do was appropriate



School of Education

Code	Title	2004	2005	2006	2007	2008
EDUC101	Introduction to Primary Education	74	78	80	83	85
EDUC102	Childhood Development	74	75	75	74	75
EDUC111	Introduction to Year 7-10 Education	65	66	68	70	68
EDUC112	Adolescent Development	69	75	73	76	77
EDUC201	Understanding how Primary Aged Children Learn	70	72	73	72	
EDUC202	Inclusiveness in the Primary Classroom	72	71	64	69	
EDUC211	Understanding how Adolescents Learn	76	79	71	78	
EDUC212	Inclusiveness in Years 7-10	82	83	84	86	

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<b>200 Level</b>						
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EDUC201	Understanding how Primary Aged Children Learn	70	72	73	72	
EDUC202	Inclusiveness in the Primary Classroom	72	71	64	69	
<b>Average</b>		<b>72.5</b>	<b>74</b>	<b>73</b>	<b>74.5</b>	<b>80</b>
<b>Secondary Education</b>						
EDUC111	Introduction to Year 7-10 Education	65	66	68	70	68
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<b>Average</b>		<b>73</b>	<b>76</b>	<b>74</b>	<b>77.5</b>	<b>72.5</b>

## School of Education

### Overall Rating Percentage Agreement 2004-2008

<b>Code</b>	<b>Title</b>	<b>2004</b>	<b>2005</b>	<b>2006</b>	<b>2007</b>	<b>2008</b>
<b>Primary Education</b>						
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EDUC201	Understanding how Primary Aged Children Learn	70	72	73	72	
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<b>Average</b>	<b>Primary Education</b>	<b>72.5</b>	<b>74</b>	<b>73</b>	<b>74.5</b>	<b>80</b>
<b>Secondary Education</b>						
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EDUC212	Inclusiveness in Years 7-10	82	84	84	86	
<b>Average</b>	<b>Secondary Education</b>	<b>73</b>	<b>76</b>	<b>74</b>	<b>77.5</b>	<b>72.5</b>

Overall rating percentage agreement = % of students selecting 3, 4 or 5 on a 5 point scale.



## School of Education

### Overall Rating Percentage Agreement 2004-2008

Units rating less than 75 for more than 3 years 2004-2008 highlighted.

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<b>EDUC201</b>	<b>Understanding how Primary Aged Children Learn</b>	<b>70</b>	<b>72</b>	<b>73</b>	<b>72</b>	
<b>EDUC202</b>	<b>Inclusiveness in the Primary Classroom</b>	<b>72</b>	<b>71</b>	<b>64</b>	<b>69</b>	
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