

## FIGURES

### Figure 1: Public attitudes to defining 'the arts'

Extracts from McDonnell, J.S., *Public Attitudes to the Arts 1994*, Australia Council, February 1995, pp23,25.

#### 'What types of activities would you include in 'the arts'?

[unstructured question - no suggestions were made]

|                                | 1988<br>total | 1992<br>total | 1994<br>total | 1994<br>left<br>school<br>up to<br>15yrs | 1994<br>left<br>school<br>15-17<br>years | 1994<br>left<br>school<br>17yrs<br>plus |
|--------------------------------|---------------|---------------|---------------|--|--|---|
|                                | per cent      | per cent      | per cent      | per cent                                 | per cent                                 | per cent                                |
| Painting, sculpture, galleries | 65%           | 65%           | 56%           | 47%                                      | 57%                                      | 70%                                     |
| Plays, ballet, dance           | 60%           | 64%           | 61%           | 50%                                      | 61%                                      | 77%                                     |
| Music, concerts, opera         | 54%           | 43%           | 50%           | 38%                                      | 49%                                      | 68%                                     |
| Literature, books, poetry      | 14%           | 11%           | 11%           | 6%                                       | 10%                                      | 18%                                     |
| Crafts, pottery, weaving       | 11%           | 9%            | 9%            | 10%                                      | 9%                                       | 9%                                      |
| Films, cinema, movies          | 11%           | 9%            | 12%           | 6%                                       | 11%                                      | 24%                                     |
| Museums, science museums       | 5%            | 5%            | 7%            | 4%                                       | 7%                                       | 9%                                      |
| Photography, exhibitions       | 5%            | 2%            | 5%            | 4%                                       | 5%                                       | 9%                                      |
| Architecture, design           | 4%            | 3%            | 5%            | 4%                                       | 4%                                       | 8%                                      |
| Sport                          | 3%            | 3%            | 2%            | 1%                                       | 3%                                       | 2%                                      |
| Other                          | 3%            | 12%           | 7%            | 5%                                       | 7%                                       | 9%                                      |
| No idea                        | 9%            | 13%           | 19%           | 27%                                      | 20%                                      | 9%                                      |

#### 'Which of the following activities would you *not* include in 'the arts'?

|                                    | 1994<br>per cent |
|------------------------------------|------------------|
| Painting, sculpture, art galleries | 4%               |
| Plays, ballet, dance               | 7%               |
| Music, concerts, opera             | 6%               |
| Literature, books, poetry          | 10%              |
| Crafts, pottery, weaving           | 14%              |
| Films, cinema, movies              | 18%              |
| Photography, photo exhibitions     | 9%               |
| Architecture, design               | 27%              |
| No idea                            | 46%              |

**Figure 2: Public attitudes to the value of the arts**

Extracts from McDonnell, J.S., *Public Attitudes to the Arts 1994*, Australia Council, February 1995, pp5, 7, 9, 13.

**'Which of the following subjects do you think are important for children to learn at school?'**

|                 | 1990 total | 1994 total | 1994 left school up to 15ys | 1994 left school 15-16 years | 1994 left school 17yrs plus |
|-----------------|------------|------------|-----------------------------|------------------------------|-----------------------------|
| Economics       | 78%        | 78%        | 76%                         | 81%                          | 76%                         |
| Current affairs | 64%        | 68%        | 70%                         | 67%                          | 68%                         |
| Politics        | 52%        | 53%        | 53%                         | 51%                          | 58%                         |
| Religion        | 38%        | 41%        | 45%                         | 38%                          | 39%                         |
| Arts            | 51%        | 59%        | 56%                         | 57%                          | 68%                         |
| Law             | 71%        | 78%        | 77%                         | 78%                          | 78%                         |
| Don't know      | 3%         | 3%         | 7%                          | 2%                           | 1%                          |

**'Please tell me if you personally agree or disagree with - all live theatre, opera and ballet companies and public art galleries should be made to survive on their ticket sales alone.'**

|            | 1990 total | 1994 total | 1994 capital cities* | 1994 other places | 1994 left school up to 15yrs | 1994 left school 15-16 years | 1994 left school 17yrs plus |
|------------|------------|------------|----------------------|-------------------|------------------------------|------------------------------|-----------------------------|
| Agree      | 38%        | 33%        | 29%                  | 40%               | 43%                          | 31%                          | 24%                         |
| Disagree   | 55%        | 56%        | 60%                  | 49%               | 38%                          | 61%                          | 70%                         |
| Don't know | 5%         | 11%        | 11%                  | 12%               | 19%                          | 8%                           | 7%                          |

**'Please tell me if you personally agree or disagree with - things such as museums, theatres and orchestras make the community a better place for me to live in.'**

| 1994 -     | total | capital cities* | other places | blue collar occupations | white collar occupations |
|------------|-------|-----------------|--------------|-------------------------|--------------------------|
| Agree      | 88%   | 89%             | 86%          | 84%                     | 92%                      |
| Disagree   | 8%    | 7%              | 10%          | 11%                     | 5%                       |
| Don't know | 4%    | 3%              | 4%           | 5%                      | 2%                       |

**'Please tell me if you personally agree or disagree with - professional artists reflect what life is really like.'**

| 1994 -     | total | capital cities* | other places | men | women |
|------------|-------|-----------------|--------------|-----|-------|
| Agree      | 37%   | 36%             | 40%          | 34% | 41%   |
| Disagree   | 50%   | 52%             | 47%          | 53% | 48%   |
| Don't know | 13%   | 12%             | 14%          | 13% | 12%   |

\* capital cities = Sydney, Melbourne, Brisbane, Adelaide, Perth

**Figure 3: Total supply and final demand for cultural goods and services, Australia 1989-90**

Source: Australian Bureau of Statistics, *Australian National Accounts Input-Output Tables, 1989-90* (unpublished data), reproduced in Australian Bureau of Statistics & Department of Communications and the Arts, *Cultural Trends in Australia - No. 1: Statistical Overview*, May 1994, p16.

| <i>Commodity item</i>                         | <i>total supply<br/>basic<br/>values</i> | <i>inter-<br/>mediate<br/>usage,<br/>basic<br/>values</i> | <i>final<br/>demand,<br/>basic<br/>values</i> | <i>final<br/>demand<br/>purch-<br/>asers'<br/>prices</i> |
|---|--|---|---|--|
|   | \$ million                               | \$ million  | \$ million                                    | \$ million   |
| Publishing and printing                       | 5,450.8                                  | 3,700.3   | 1,750.4                                       | 3,452.3  |
| Signs and advertising displays                | 254.3                                    | 253.1   | 1.2   | 1.2  |
| Musical instruments and strings               | 94.7                                     | 2.4   | 92.3  | 215.4  |
| Architectural services                        | 1,607.9                                  | 771.4   | 836.6   | 836.6  |
| Library, museum & art gallery services        | 598.0                                    | 30.5  | 567.4   | 567.4  |
| Motion picture production                     | 564.8                                    | 553.2   | 11.6  | 11.6   |
| Film hiring services                          | 115.7                                    | 115.7   | -   | -  |
| Motion picture theatre services               | 298.6                                    | 5.9   | 292.7   | 292.7  |
| Radio and television station services         | 2,368.4                                  | 1,796.6   | 571.8   | 571.8  |
| Live theatre, orchestra and band services     | 503.6                                    | 164.4   | 339.1   | 339.1  |
| Creative artistic services                    | 337.2                                    | 193.0   | 144.2   | 174.5  |
| News reporting services                       | 104.0                                    | 102.0   | 2.0   | 2.0  |
| Parks & zoological garden services            | 439.0                                    | 33.8  | 405.2   | 405.2  |
| Photography services not elsewhere classified | 218.2                                    | 114.6   | 103.6   | 103.6  |
| <i>Total</i>                                  | <i>12,955.2</i>                          | <i>7,836.9</i>  | <i>5,118.1</i>                                | <i>6,973.4</i>   |

**Figure 4: Total household expenditure on cultural goods and services, Australia, 1984 & 1988-89**

Source: Australian Bureau of Statistics, *Household Expenditure Survey 1984 & 1988-89* (unpublished data), reproduced in Australian Bureau of Statistics & Department of Communications and the Arts, *Cultural Trends in Australia - No. 1: Statistical Overview*, May 1994, pp17-18.

|  | 1984<br>\$ million | 1988-89<br>\$ million |
|--|--------------------|-----------------------|
| Televisions  | 385.2              | 557.4                 |
| Video cassette recorders & equipment                     | 573.9              | 511.6                 |
| Video cassette tape hire                                 | 172.9              | 327.9                 |
| Audio-visual equipment repairs                           | 68.1               | 131.5                 |
| Blank video cassettes                                    | 65.1               | 67.8                  |
| Television aerials                                       | 13.1               | 51.9                  |
| Pre-recorded video cassette tape purchase                | 10.5               | 39.9                  |
| Television hire  | 44.5               | 36.8                  |
| Video cassette recorder hire                             | 36.7               | 31.8                  |
| Audio-visual equipment repair insurance                  | 10.5               | 13.1                  |
| <i>Subtotal: television and video</i>                    | <i>1,380.9</i>     | <i>1,769.6</i>        |
| Books  | 440.2              | 705.5                 |
| Newspapers   | 435.0              | 577.0                 |
| Magazines and comics                                     | 204.4              | 339.4                 |
| Other printed material                                   | 10.5               | 18.8                  |
| <i>Subtotal: literature</i>                              | <i>1,090.1</i>     | <i>1,640.6</i>        |
| Radio, stereo and hi-fi equipment                        | 293.5              | 469.8                 |
| Records and CDs  | 115.3              | 174.7                 |
| Audio-cassettes and tapes                                | 97.0               | 166.5                 |
| <i>Subtotal: music listening (home)</i>                  | <i>505.8</i>       | <i>810.9</i>          |
| Live theatre admission                                   | 178.2              | 258.0                 |
| Cinema admission   | 138.9              | 198.9                 |
| National Park and zoo admission                          | 15.7               | 23.0                  |
| Art gallery and museum admission                         | 7.9                | 13.7                  |
| <i>Subtotal: admission fees to cultural venues</i>       | <i>340.7</i>       | <i>493.6</i>          |
| Cultural & other non-sporting lessons                    | 123.2              | 205.8                 |
| Cultural & other educational institution fees            | 10.5               | 38.6                  |
| <i>Subtotal: cultural education</i>                      | <i>133.7</i>       | <i>244.4</i>          |
| Cultural & other (excl. sports) clubs & associations     | 104.8              | 166.0                 |
| Musical instruments and accessories                      | 125.8              | 138.4                 |
| Studio & other professional photography                  | 55.0               | 101.3                 |
| Paintings, carvings and sculpture                        | 55.0               | 63.0                  |
| Misc. electronic components, eg TV cable, radio earplugs | 28.8               | 29.4                  |
| <i>Subtotal: other culture</i>                           | <i>369.4</i>       | <i>498.1</i>          |
| <i>Total cultural goods and services</i>                 | <i>3,820.6</i>     | <i>5,457.2</i>        |
| <i>Total commodity/service expenditure</i>               | <i>94,816.0</i>    | <i>141,695.6</i>      |
| <i>Cultural as per centage of total</i>                  | <i>4.0%</i>        | <i>3.9%</i>           |

**Figure 5: Time spent on religious, social and leisure activities, Australia 1992**

Source: Australian Bureau of Statistics, *How Australians Use Their Time* (unpublished data), reproduced in Australian Bureau of Statistics & Department of Communications and the Arts, *Cultural Trends in Australia - No. 1: Statistical Overview*, May 1994, pp40,42.  
n.f.d. = not further defined.

| activity  | average time - minutes per day |             |             |                             |                |             |                     |             |
|---|--------------------------------|-------------|-------------|-----------------------------|----------------|-------------|---------------------|-------------|
|   | main activities                |             |             | all activities <sup>1</sup> |                |             |                     |             |
|   | male                           | female      | total       | emp. full time              | empl part time | unemployed  | not in labour force | total       |
| religious activities                                    | 5                              | 6           | 6           | 4                           | 5              | 8           | 8                   | 6           |
| socialising: visiting, going to clubs etc.              | 70                             | 84          | 77          | 71                          | 84             | 95          | 80                  | 78          |
| seeing movies, plays                                    | 2                              | 2           | 2           | 2                           | 3              | 2           | 2                   | 2           |
| visiting libraries, art galleries, museums              | 0                              | 1           | 1           | 0                           | 0              | 1           | 1                   | 1           |
| attending concerts, mass events                         | 2                              | 2           | 2           | 2                           | 3              | 1           | 2                   | 2           |
| attending sports events                                 | 3                              | 2           | 2           | 3                           | 3              | 2           | 2                   | 3           |
| other social life & entertainment <sup>2</sup>          | 16                             | 18          | 17          | 16                          | 19             | 21          | 16                  | 17          |
| hobbies, arts & crafts etc.                             | 4                              | 11          | 8           | 8                           | 13             | 13          | 20                  | 13          |
| sport, exercise & outdoor activities                    | 35                             | 20          | 27          | 27                          | 29             | 43          | 33                  | 31          |
| indoor leisure activities                               | 6                              | 5           | 6           | 6                           | 7              | 13          | 13                  | 9           |
| reading books   | 6                              | 8           | 7           | 7                           | 9              | 15          | 13                  | 10          |
| reading newspapers                                      | 11                             | 7           | 9           | 15                          | 12             | 15          | 20                  | 16          |
| other reading   | 6                              | 8           | 7           | 12                          | 14             | 11          | 20                  | 15          |
| watching TV   | 114                            | 92          | 103         | 139                         | 152            | 216         | 212                 | 172         |
| watching videos & movies<br>n.f.d.                      | 5                              | 4           | 5           | 7                           | 8              | 9           | 5                   | 6           |
| listening to radio                                      | 4                              | 3           | 4           | 107                         | 96             | 93          | 97                  | 101         |
| listening to records, tapes, CDs & music<br>n.f.d.      | 2                              | 1           | 1           | 18                          | 25             | 29          | 17                  | 19          |
| other leisure activities <sup>3</sup>                   | 56                             | 72          | 64          | 173                         | 201            | 191         | 203                 | 189         |
| <i>total religious, social &amp; leisure activities</i> | <i>348</i>                     | <i>346</i>  | <i>347</i>  | <i>618</i>                  | <i>684</i>     | <i>718</i>  | <i>763</i>          | <i>691</i>  |
| <i>other activities</i>                                 | <i>1092</i>                    | <i>1094</i> | <i>1093</i> | <i>1284</i>                 | <i>1319</i>    | <i>1175</i> | <i>1161</i>         | <i>1238</i> |
| <b>TOTAL</b>  | <b>1440</b>                    | <b>1440</b> | <b>1440</b> | <b>1902</b>                 | <b>2004</b>    | <b>1952</b> | <b>1924</b>         | <b>1929</b> |

1. The 'all activities' columns double count where respondents were involved in more than one activity simultaneously. Thus for example respondents, on average, spent 101 minutes per day listening to radio, but only 4 minutes per day listening to radio as their main activity.
2. mainly travelling time to attend social activities.
3. includes activities such as relaxing, thinking, resting, talking and travelling time.

**Figure 6: 'Work' and hobbies in selected cultural activities, 1993**

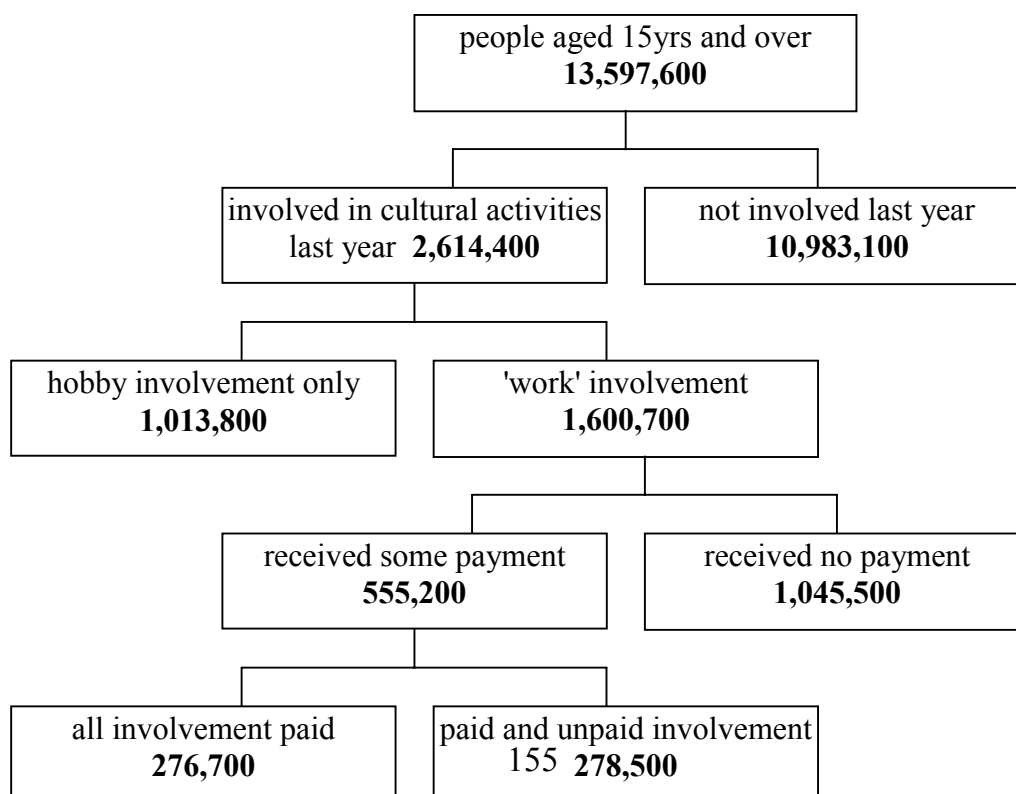
Source: Department of Communications and the Arts & Australian Bureau of Statistics: *Cultural Trends in Australia, No 1: a Statistical Overview*, 1994 (ABS catalogue no. 4172.0), & Australian Bureau of Statistics, *Work in Selected Culture/Leisure Activities - Australia, March 1993* (ABS catalogue no. 6281).

The population sampled was people aged 15 years and over. 'Work' was defined as being involved in an activity, for the benefit of someone outside the respondent's family, whether paid or unpaid, *at least once* during the sample year (12 months to March 1993). Thus a fulltime school teacher and a volunteer helper at an annual fete each counted as one 'work' involvement. 'Work' involvements are detailed further in Figure 7. Involvement entirely for the benefit of the respondent or their family was called 'hobbies' and (other than the total count given below) was beyond the scope of the study.

**Persons involved in selected cultural activities, Australia 1993**

The activities sampled are listed in Figure 7.

|  | males            |                                 | females          |                                 | all persons      |                                 |
|--|------------------|---------------------------------|------------------|---------------------------------|------------------|---------------------------------|
|  | number involved  | number as % of total population | number involved  | number as % of total population | number involved  | number as % of total population |
| 'work' only                              | 584,800          | 8.5%                            | 672,700          | 9.8%                            | 1,247,500        | 9.2%                            |
| both 'work' & hobby                      | 130,000          | 1.9%                            | 223,200          | 3.3%                            | 353,200          | 2.6%                            |
| <i>total involved in 'work' capacity</i> | <i>704,800</i>   | <i>10.5%</i>                    | <i>895,900</i>   | <i>13.1%</i>                    | <i>1,600,700</i> | <i>11.8%</i>                    |
| hobby only                               | 371,300          | 5.5%                            | 642,500          | 9.4%                            | 1,013,800        | 7.5%                            |
| <b>TOTAL</b>                             | <b>1,076,100</b> | <b>16.0%</b>                    | <b>1,538,400</b> | <b>22.4%</b>                    | <b>2,614,400</b> | <b>19.2%</b>                    |



**Figure 7: Paid and unpaid 'work' in selected cultural activities, 1993**

Source: Department of Communications and the Arts & Australian Bureau of Statistics: *Cultural Trends in Australia, No 1: a Statistical Overview*, 1994 (ABS catalogue no. 4172.0), & Australian Bureau of Statistics, *Work in Selected Culture/Leisure Activities - Australia, March 1993*. (ABS Cat. no. 6281). The population sampled was people aged 15 years and over. 'Work' was defined as being involved in an activity, for the benefit of someone outside the respondent's family, whether paid or unpaid, *at least once* during the sample year (12 months to March 1993). Thus a fulltime school teacher and a volunteer helper at an annual fete each counted as one 'work' involvement. Most 'work' involvements were short-term and part-time, involving 13 weeks or less in the year and less than 10 hours per week. The number of 'work' involvements (2,674,700) exceeds the number of people involved (1,600,700 - see Figure 6) because many people are involved in more than one cultural activity. Involvement entirely for the benefit of the respondent or their family was called 'hobbies' and was beyond the scope of the study.

|                             | number of 'work' involvements ('000) |               |               |               |             |                             |
|-----------------------------|--------------------------------------|---------------|---------------|---------------|-------------|-----------------------------|
|                             | paid only                            | unpaid only   | paid & unpaid | total         | % of total  | 'unpaid only' as % of total |
| museums                     | 5.0                                  | 25.5          | 2.1           | 32.6          | 1.2%        | 78.2%                       |
| art galleries               | 4.3                                  | 20.4          | 3.6           | 28.3          | 1.1%        | 72.1%                       |
| libraries or archives       | 36.6                                 | 35.5          | 13.7          | 85.8          | 3.2%        | 41.4%                       |
| heritage organisations      | 3.6                                  | 42.3          | 2.3           | 48.1          | 1.8%        | 87.9%                       |
| arts organisations/agencies | 9.7                                  | 50.9          | 9.0           | 69.6          | 2.6%        | 73.1%                       |
| organising art/craft shows  | 7.9                                  | 113.2         | 12.9          | 134.0         | 5.0%        | 84.5%                       |
| organising fetes/festivals  | 13.2                                 | 411.4         | 17.2          | 441.8         | 16.5%       | 93.1%                       |
| fulltime sec'y teachers     | 43.6                                 | 0.0           | 0.0           | 43.6          | 1.6%        | 0%                          |
| other teaching              | 67.2                                 | 120.3         | 53.2          | 240.8         | 9.0%        | 50.0%                       |
| radio                       | 10.0                                 | 49.6          | 5.8           | 65.4          | 2.4%        | 75.8%                       |
| television                  | 19.6                                 | 15.1          | 3.6           | 38.3          | 1.4%        | 39.4%                       |
| film/video                  | 28.3                                 | 44.9          | 9.1           | 82.4          | 3.1%        | 54.5%                       |
| design                      | 33.6                                 | 30.3          | 22.9          | 86.8          | 3.2%        | 34.9%                       |
| drawing                     | 24.6                                 | 48.0          | 22.7          | 95.4          | 3.6%        | 50.3%                       |
| painting                    | 20.5                                 | 36.3          | 24.2          | 81.1          | 3.0%        | 44.8%                       |
| sculpture                   | 3.7                                  | 9.6           | 5.7           | 18.9          | 0.7%        | 50.8%                       |
| photography                 | 15.9                                 | 43.2          | 17.6          | 76.6          | 2.9%        | 56.4%                       |
| pottery/ceramics            | 10.2                                 | 11.9          | 9.4           | 31.2          | 1.2%        | 38.1%                       |
| print-making                | 14.2                                 | 14.8          | 7.7           | 36.7          | 1.4%        | 40.3%                       |
| textiles                    | 16.5                                 | 55.6          | 23.3          | 95.5          | 3.6%        | 58.2%                       |
| jewellery                   | 8.3                                  | 6.5           | 4.1           | 19.0          | 0.7%        | 34.2%                       |
| furniture/wood crafts       | 14.5                                 | 16.6          | 13.5          | 44.6          | 1.7%        | 37.2%                       |
| glass crafts                | 2.0                                  | 3.1           | 2.3           | 7.4           | 0.3%        | 41.9%                       |
| other art/craft             | 11.0                                 | 27.8          | 12.7          | 51.5          | 1.9%        | 54.0%                       |
| writing, publishing         | 72.1                                 | 140.0         | 61.1          | 273.3         | 10.2%       | 51.2%                       |
| music as a live performer   | 16.5                                 | 142.7         | 39.4          | 198.6         | 7.4%        | 71.9%                       |
| other music                 | 6.0                                  | 20.7          | 5.8           | 32.5          | 1.2%        | 63.7%                       |
| perf. arts as a performer   | 8.1                                  | 114.8         | 12.0          | 134.8         | 5.0%        | 85.2%                       |
| other performing arts       | 7.0                                  | 65.7          | 7.5           | 80.2          | 3.0%        | 81.9%                       |
| <b>TOTAL</b>                | <b>533.5</b>                         | <b>1716.8</b> | <b>424.4</b>  | <b>2674.7</b> | <b>100%</b> | <b>64.2%</b>                |



**Figure 8: Yr 12 enrolments in tertiary-accredited subjects, Aust. 1988 & 1993**

Source: *National Report on Schooling in Australia 1993 - Statistical Annex*, p25-6.

**Enrolments:** ‘per cent’ = number of enrolments in the subject area a percentage of total enrolments in all subjects. ‘m/f%’ = male and female as percentage of total enrolments in the subject area. **Participating students:** ‘no.’ = number of students studying at least one subject in the subject area. ‘per cent’ = number of students studying at least one subject in the subject area, a percentage of all students. ‘m/f%’ = number of boys (girls) studying at least one subject in the subject area, as percentage of all boys (girls). **In each subject area** the excess of enrolments over the number of students participating gives a guide to the number of students studying more than one subject from that subject area. **‘Creative and performing arts’** are further subdivided in Figure 9. n.a. = not applicable.

| 1988                        |         | enrolments |           |         | students participating |       |  |
|-----------------------------|---------|------------|-----------|---------|------------------------|-------|--|
| subject area                | number  | per cent   | m/f%      | number  | per cent               | m/f%  |  |
| English                     | 137,882 | 19.3%      | 44.9/55.1 |         |                        |       |  |
| maths                       | 125,513 | 17.6%      | 53.0/47.0 |         |                        |       |  |
| humanities & soc. sciences  | 116,280 | 16.3%      | 44.9/50.1 |         |                        |       |  |
| economics & business        | 75,254  | 10.5%      | 39.5/60.5 |         |                        |       |  |
| biological & other sciences | 74,662  | 10.5%      | 65.2/34.8 |         |                        |       |  |
| physical sciences           | 77,191  | 10.8%      | 50.0/50.0 |         |                        |       |  |
| creative & performing arts  | 37,547  | 5.3%       | 27.8/72.2 |         |                        |       |  |
| languages                   | 19,990  | 2.8%       | 30.4/69.6 |         |                        |       |  |
| home science                | 17,219  | 2.4%       | 8.4/91.6  |         |                        |       |  |
| physical education          | 11,189  | 1.6%       | 93.4/6.6  |         |                        |       |  |
| technical studies           | 11,779  | 1.7%       | 55.7/44.3 |         |                        |       |  |
| computer studies            | 3,362   | 0.5%       | 65.6/34.4 |         |                        |       |  |
| agriculture                 | 4,011   | 0.6%       | 68.2/31.8 |         |                        |       |  |
| other                       | 1,639   | 0.2%       | 47.1/52.9 |         |                        |       |  |
| total Yr 12 enrolments      | 713,518 | 100%       | 47.1/52.9 |         |                        |       |  |
| total Yr 12 students        |         |            |           |         |                        |       |  |
| 1988                        |         | enrolments |           |         | students participating |       |  |
| subject area                | number  | per cent   | m/f%      | number  | per cent               | m/f%  |  |
| English                     | 174,357 | 19.2%      | 46.2/53.8 | 169,277 | 89%                    | 88,93 |  |
| maths                       | 167,328 | 18.4%      | 52.2/47.8 | 145,856 | 78%                    | 81,75 |  |
| humanities & soc. sciences  | 126,367 | 13.9%      | 44.0/56.0 | 90,481  | 48%                    | 43,53 |  |
| economics & business        | 85,785  | 9.4%       | 42.0/58.0 | 80,349  | 43%                    | 37,49 |  |
| biological & other sciences | 78,946  | 8.7%       | 62.4/37.6 | 55,580  | 30%                    | 37,23 |  |
| physical sciences           | 101,523 | 11.2%      | 46.7/53.3 | 74,847  | 40%                    | 38,42 |  |
| creative & performing arts  | 51,808  | 5.7%       | 34.3/65.6 | 45,778  | 24%                    | 20,29 |  |
| languages                   | 22,598  | 2.5%       | 33.5/66.5 | 27,262  | 15%                    | 17,13 |  |
| home science                | 19,289  | 2.1%       | 11.0/89.0 | 22,887  | 12%                    | 14,10 |  |
| physical education          | 23,618  | 2.6%       | 80.5/19.5 | 21,758  | 12%                    | 8,15  |  |
| technical studies           | 23,384  | 2.6%       | 56.5/43.5 | 20,046  | 11%                    | 17,5  |  |
| computer studies            | 3,623   | 0.4%       | 67.3/72.7 | 18,096  | 10%                    | 2,17  |  |
| agriculture                 | 28,371  | 3.1%       | 54.8/45.2 | 3,461   | 2%                     | 3,1   |  |
| other                       | 2,838   | 0.3%       | 38.1/61.9 | 2,789   | 1%                     | 1,2   |  |
| total Yr 12 enrolments      | 909,835 | 100%       | 47.8/52.2 |         |                        |       |  |
| total Yr 12 students        |         |            |           | 186,916 | n.a.                   | n.a.  |  |

**Figure 9: Year 12 enrolments in selected tertiary-accredited arts subjects, Australia, 1985-1993**

Source: Dept of Employment, Education and Training derived from data supplied by state secondary accreditation authorities: submission 130 p1614. m/f % = male and female as percentage of total enrolments.

|  | 1985                    |       | 1986                     |       | 1987                     |       |
|--|-------------------------|-------|--------------------------|-------|--------------------------|-------|
|  | no.                     | m/f%  | no.                      | m/f%  | no.                      | m/f%  |
| art  | 15,587                  | 31/69 | 16,708                   | 30/70 | 18,269                   | 30/70 |
| textiles/design                                      | 1,662                   | 2/98  | 1,970                    | 2/98  | 2,259                    | 3/97  |
| performing arts                                      | 1,753                   | 19/81 | 2,433                    | 20/80 | 2,940                    | 21/79 |
| music  | 4,925                   | 34/66 | 5,656                    | 33/67 | 6,321                    | 34/66 |
| other visual/perf. arts                              | 1,662                   | 33/67 | 2,174                    | 32/68 | 2,743                    | 31/69 |
| total arts enrolments                                | 25,589                  | 29/71 | 28,941                   | 28/72 | 32,532                   | 28/72 |
| total Yr 12 enrolments                               | 568,156                 |       | 597,977                  |       | 655,491                  |       |
| arts as % of all enrolments                          | 4.5%                    |       | 4.8%                     |       | 5.0%                     |       |
|  | 1988                    |       | 1989                     |       | 1990                     |       |
|  | no.                     | m/f%  | no.                      | m/f%  | no.                      | m/f%  |
| art  | 21,101                  | 30/70 | 22,923                   | 31/69 | 22,841                   | 32/68 |
| textiles/design                                      | 2,919                   | 2/98  | 2,955                    | 2/98  | 2,816                    | 3/97  |
| performing arts                                      | 3,227                   | 21/79 | 3,648                    | 20/80 | 3,641                    | 20/80 |
| music  | 7,053                   | 34/66 | 7,373                    | 35/65 | 6,949                    | 38/62 |
| other visual/perf. arts                              | 3,247                   | 31/69 | 3,903                    | 33/67 | 4,085                    | 32/68 |
| total arts enrolments                                | 37,547                  | 28/72 | 40,802                   | 29/71 | 40,332                   | 30/70 |
| total Yr 12 enrolments                               | 713,518                 |       | 754,131                  |       | 756,978                  |       |
| arts as % of all enrolments                          | 5.3%                    |       | 5.4%                     |       | 5.3%                     |       |
|  | 1991                    |       | 1992                     |       | 1993                     |       |
|  | no.                     | m/f%  | no.                      | m/f%  | no.                      | m/f%  |
| art  | 24,344                  | 33/67 | 25,816                   | 36/64 | 24,591                   | 37/63 |
| textiles/design                                      | 2,341                   | 3/97  | 2,235                    | 3/97  | 2,113                    | 4/96  |
| performing arts                                      | 4,137                   | 22/78 | 6,609                    | 23/77 | 7,722                    | 23/77 |
| music  | 7,716                   | 39/61 | 7,754                    | 41/59 | 7,591                    | 44/56 |
| other visual/perf. arts                              | 4,686                   | 32/68 | 9,791                    | 38/62 | 9,791                    | 37/63 |
| total arts enrolments                                | 43,224                  | 31/69 | 52,205                   | 34/66 | 51,808                   | 34/66 |
| total Yr 12 enrolments                               | 866,387                 |       | 939,922                  |       | 909,835                  | 48/52 |
| arts as % of all enrolments                          | 5.0%                    |       | 5.6%                     |       | 5.7%                     |       |
|  | % increase<br>1985-1993 |       | % of total arts,<br>1985 |       | % of total arts,<br>1993 |       |
| art  | +58%                    |       | 61%                      |       | 47%                      |       |
| textiles/design                                      | +27%                    |       | 6%                       |       | 4%                       |       |
| performing arts                                      | +340%                   |       | 7%                       |       | 15%                      |       |
| music  | +54%                    |       | 19%                      |       | 15%                      |       |
| other visual/perf. arts                              | +489%                   |       | 6%                       |       | 19%                      |       |
| total arts enrolments                                | +102%                   |       | 100%                     |       | 100%                     |       |
| total Yr 12 enrolments in<br>tertiary accr. subjects | +60%                    |       | -                        |       | -                        |       |

**Figure 10: Year 12 enrolments in arts subjects and participation in arts ‘courses’ correlated to other characteristics of the enrolled students**

Source: Ainley J & others, *Subject Choice in Years 11 and 12*, Department of Employment, Education and Training and Australian Council for Educational Research (ACER), November 1994. Figures exclude Tasmania, ACT and Northern Territory unless noted. Figures are for 1993 unless noted.

**Arts subjects:** arts subject enrolments as percentage of total subject enrolments.

**Arts ‘courses’:** number of students taking an arts-based ‘course’ (an arts-dominated combination of subjects, as defined in the study) as percentage of total students. Twelve ‘course types’ were defined (pp23,25). Other students take arts subjects as subsidiary elements in other course types. 24 per cent of 1993 Year 12 students took at least one arts subject (see Figure 8 above).

**Interstate comparisons** need to allow for the number of subjects students take, since in a system where students commonly take more subjects participation in any one subject will naturally be lower. Average numbers of fullyear equivalent subjects studied by each student in each state/territory are shown on the bottom line.

|                         | by sex 1990  |                   |                        |                | by sex 1993  |                      |                      |               |
|-------------------------|--|-------------------|------------------------|----------------|--|----------------------|----------------------|---------------|
|                         | male   | female            | total                  |                | male   | female               | total                |               |
| arts subjects           | 5.3*   | 7.7*              | 6.6*                   |                | 6.6/5.9 <sup>1</sup>                                       | 8.3/7.8 <sup>1</sup> | 7.5/6.9 <sup>1</sup> |               |
| arts ‘courses’          |  |                   | 5.5                    |                | 4.4  | 6.9                  | 5.7                  |               |
|                         | by socio-economic status                                   |                   |                        |                | by parents’ education                                      |                      |                      |               |
|                         | low  | low mid           | upp mid                | high           |  | mid sec.             | full sec.            | higher        |
| arts subjects           | 6.5  | 6.9               | 6.5                    | 6.9            |  | 6.9                  | 6.5                  | 6.3           |
| arts ‘courses’          | 6.2  | 5.2               | 5.2                    | 5.6            |  | 5.3                  | 5.6                  | 4.5           |
|                         | by home language   |                   | by parents’ birthplace |                | by ATSI background   |                      |                      |               |
|                         | Engl.  | other             | Engl. speaking         | other          | ATSI <sup>2</sup>  |                      | other                |               |
| arts subjects           | 6.9  | 5.1               | 7.0                    |                | 6.1  | 10.0/11.3            |                      | 6.8           |
| arts ‘courses’          | 5.7  | 2.7               | 5.8                    |                | 4.2  | 8.8/9/3              |                      | 5.6           |
|                         | by early school achievement in numeracy, 1992 <sup>3</sup> |                   |                        |                | by early school achievement in literacy, 1992 <sup>3</sup> |                      |                      |               |
|                         | lowest Qtile   | 2nd Qtile         | 3rd Qtile              | highest Qtile  | lowest Qtile   | 2nd Qtile            | 3rd Qtile            | highest Qtile |
| arts subjects           | 9.5  | 7.2               | 5.3                    | 4.8            | 7.6  | 8.2                  | 6.1                  | 4.7           |
| arts ‘courses’          | 10.4   | 5.6               | 3.7                    | 2.4            | 7.0  | 7.0                  | 4.3                  | 3.5           |
|                         | by location  |                   |                        | by school type |  |                      |                      |               |
|                         | cap. city  | other over 25,000 |                        | other          |  | govt                 | catholic             | other         |
| arts subjects           | 6.9  | 6.3               |                        | 6.7            |  | 8.0                  | 4.6                  | 5.4           |
| arts ‘courses’          | 5.5  | 5.4               |                        | 5.1            |  | 7.0                  | 3.3                  | 3.3           |
|                         | by state   |                   |                        |                |  |                      |                      |               |
|                         | NSW  | Vic               | Qld                    | SA             | WA   | Tas                  | ACT                  | nt            |
| arts subjects           | 5.3  | 7.3               | 8.2                    | 6.6            | 8.5  | 8.2                  | 7.9                  | 5.0           |
| arts ‘courses’          | 3.2  | 6.7               | 7.2                    | 4.3            | 10.0   | 3.8                  | 6.3                  | 0.6           |
| <i>subjects/student</i> | 5.9  | 5.0               | 6.1                    | 4.9            | 6.0  | 4.2                  | 4.7                  | 4.9           |

1. First figure described as ‘Board data’. Second figure (and all unmarked figures) are from the sampling survey carried out for the study.
2. ATSI (Aboriginal & Torres Strait Islander): first figure is main sample, second figure is a supplementary sample taken in view of the small number in the main sample.
3. Data from ACER *Youth in Transition* research project.

### Figure 11: Reasons for Year 12 students' choice of subjects

Source: Ainley, J & others, *Subject Choice in Years 11 and 12*, Department of Employment, Education and Training & Australian Council for Educational Research (ACER), Canberra, November 1994, p143ff. Respondents were asked, in respect of each subject in which they were enrolled, to give their *main* reason for taking the subject. 17 prompts were provided. The table shows the number of responses mentioning each reason, as a percentage of all responses. The first seven responses are detailed in the second table.

|   |      |  |     |
|---|------|--|-----|
| subject is one which I enjoy                | 16.0 | parents &/or teacher wanted me to        | 0.2 |
| subject is one which I find interesting     | 13.0 | many of my friends chose it              | 0.0 |
| relevant to the work I want to do in future | 14.4 | taught by interesting/ good teacher      | 0.6 |
| necessary for studies after leaving school  | 12.2 | could not do the subject I really wanted | 2.9 |
| compulsory                                  | 14.5 | part of recommended program of study     | 1.9 |
| find subject useful and practical           | 5.6  | requirement to study from a given group  | 2.3 |
| one in which I usually get good marks       | 5.9  | no readily stated reason                 | 3.6 |
| helps get good tertiary entrance score      | 2.8  | other                                    | 1.4 |
| marks used in tertiary entrance selection   | 2.4  | total reasons                            | 100 |

The next table shows the breakdown of reasons given for each subject. For example, of those who studied English, 8.2 per cent gave 'enjoyment' as their main reason. For each subject area, the most often cited reason is shown in bold.

| subject area               | enjoy       | interest    | relevant to work | further study | compulsory  | useful/practical | get good marks | other reasons |
|----------------------------|-------------|-------------|------------------|---------------|-------------|------------------|----------------|---------------|
| English                    | 8.2         | 3.6         | 8.4              | 10.6          | <b>54.2</b> | 2.3              | 3.7            | 9.0           |
| maths                      | 8.4         | 4.0         | 13.1             | <b>24.3</b>   | 8.4         | 6.9              | 9.6            | 26.3          |
| humanities & soc. sciences | 19.8        | <b>28.5</b> | 5.3              | 2.7           | 1.9         | 5.3              | 9.3            | 27.2          |
| economics & business       | 12.9        | 17.8        | <b>23.0</b>      | 8.8           | 0.3         | 10.5             | 6.0            | 20.7          |
| religion/pastoral care     | 1.3         | 2.2         | 0.5              | 0.3           | <b>88.8</b> | 0.5              | 1.4            | 5.0           |
| biological/other science   | 14.7        | <b>25.0</b> | 13.0             | 10.5          | 1.9         | 4.7              | 4.7            | 25.5          |
| phys. sci.                 | 7.5         | 12.7        | 18.3             | <b>32.1</b>   | 0.1         | 2.9              | 3.3            | 29.1          |
| arts                       | <b>47.6</b> | 12.1        | 19.2             | 5.6           | 0.1         | 2.4              | 3.6            | 9.4           |
| languages                  | <b>28.8</b> | 12.9        | 14.6             | 3.8           | 0.6         | 7.8              | 16.6           | 14.9          |
| technical st.              | <b>32.2</b> | 13.9        | 29.0             | 4.2           | 0.1         | 8.5              | 4.2            | 7.9           |
| computer st.               | 17.4        | 15.7        | <b>24.2</b>      | 8.5           | 0.1         | 14.3             | 5.5            | 14.3          |
| home sci.                  | <b>26.3</b> | 17.8        | 20.6             | 9.5           | 0.1         | 7.3              | 5.3            | 13.1          |
| agriculture                | 19.2        | 14.6        | <b>23.6</b>      | 2.3           | 0.0         | 8.5              | 7.3            | 24.5          |
| phys. ed.                  | <b>47.1</b> | 14.0        | 14.0             | 4.8           | 2.0         | 5.3              | 2.9            | 9.9           |
| health                     | 20.4        | 23.7        | <b>25.0</b>      | 5.9           | 3.5         | 5.9              | 4.6            | 11.0          |
| all subjects               | 16.0        | 13.0        | 14.4             | 12.2          | 14.5        | 5.6              | 5.9            | 18.4          |

**Figure 12: University enrolments in arts subjects, 1989 & 1993**

Source: Department of Employment, Education and Training Higher Education Students Statistics Collections. Submission 130 p1635-6. Numbers are Equivalent Full Time Student Units (EFTSU), rounded to the nearest unit. Percentages rounded to .1%.

m/f% = male and female enrolments as percentage of total enrolments.

|                             | 1989    |       |                 | 1993    |       |                 |
|-----------------------------|---------|-------|-----------------|---------|-------|-----------------|
|                             | EFTSU   | m/f % | % of arts EFTSU | EFTSU   | m/f % | % of arts EFTSU |
| visual & performing arts    | 2,643   | 30/70 | 22.1%           | 3,098   | 31/69 | 18.9%           |
| cons. arts & cult. material | 93      | 30/70 | 0.8%            | 127     | 20/80 | 0.8%            |
| crafts                      | 668     | 26/74 | 5.6%            | 610     | 29/71 | 3.7%            |
| dance                       | 238     | 10/90 | 2.0%            | 374     | 16/84 | 2.3%            |
| dramatic arts               | 696     | 40/60 | 5.8%            | 863     | 40/60 | 5.3%            |
| film & photo. arts          | 251     | 55/45 | 2.1%            | 653     | 48/52 | 4.0%            |
| fine arts                   | 2,614   | 33/67 | 21.8%           | 4,038   | 34/66 | 24.6%           |
| graphic arts & design       | 1,749   | 37/63 | 14.6%           | 2,471   | 41/59 | 15.1%           |
| music                       | 2,646   | 45/55 | 22.1%           | 3,362   | 45/55 | 20.5%           |
| other visual/perf. arts     | 369     | 21/79 | 3.1%            | 816     | 19/81 | 5.0%            |
| total arts EFTSU            | 11,967  | 35/65 | 100%            | 16,411  | 36/64 | 100%            |
| total not-arts EFTSU        | 338,161 | 48/52 |                 | 433,013 | 46/54 |                 |
| total uni. EFTSU            | 350,129 | 47/53 |                 | 449,425 | 46/54 |                 |
| arts as % of total EFTSU    | 3.41%   | -     |                 | 3.65%   | -     |                 |

**University enrolments in arts subjects, Australia, 1989 & 1994.**

Source: supplementary information supplied by Dept of Employment, Education and Training. 'The courses shown in this table are those that can be identified as having a primary 'art' focus. It is not possible, for example, to identify students majoring in creative writing or other literature-based 'art' courses. The enrolments in 'art' focussed courses also excludes the very large number of students enrolled in teacher education courses who undertake units in art education, as data for enrolments at the unit level are not collected.'

'no' = enrolments. EFTSU = Equivalent Full Time Student Units.

|                             | 1989    |         | 1994    |         | per cent change |       |
|-----------------------------|---------|---------|---------|---------|-----------------|-------|
|                             | no.     | EFTSU   | no.     | EFTSU   | no.             | EFTSU |
| visual & performing arts    | 2,926   | 2,543   | 3,345   | 2,869   | 14%             | 13%   |
| cons. arts & cult. material | 105     | 89      | 156     | 110     | 49%             | 24%   |
| crafts                      | 730     | 651     | 683     | 618     | -6%             | -5%   |
| dance                       | 238     | 225     | 377     | 335     | 58%             | 49%   |
| dramatic arts               | 720     | 677     | 905     | 846     | 26%             | 25%   |
| film & photo. arts          | 312     | 247     | 831     | 703     | 166%            | 185%  |
| fine arts                   | 2,785   | 2,567   | 4,707   | 4,065   | 69%             | 58%   |
| graphic arts & design       | 1,779   | 1,673   | 2,763   | 2,636   | 55%             | 58%   |
| music                       | 2,607   | 2,309   | 3,859   | 3,428   | 48%             | 48%   |
| other visual/perf. arts     | 376     | 360     | 889     | 802     | 136%            | 123%  |
| total arts                  | 12,578  | 11,340  | 18,515  | 16,410  | 47%             | 45%   |
| total university            | 397,469 | 312,819 | 515,318 | 394,486 | 30%             | 26%   |

**Figure 13: Compulsory teaching hours of primary music education in preservice teacher training programs in New South Wales**

Source: D. Russell-Bowie, *The State of Primary Music Education in New South Wales and its Implications for Teacher Educators*, Proceedings from the National Conference of the Australian Teacher Education Association, June 1992.

| Institution  | 1980 | 1987 | 1992 |
|--|------|------|------|
| University of Newcastle<br>formerly Newcastle CAE primary course                 | 130  | 130  | 96   |
| University of Technology, Sydney<br>formerly Kuringai CAE                        | 60   | 60   | 66   |
| Charles Sturt University<br>formerly Riverina CAE                                | 64   | 68   | 52   |
| University of New England<br>formerly Northern Rivers CAE                        | 52   | 64   | 60   |
| Wollongong University  | 111  | 91   | 45   |
| University of Sydney<br>formerly Sydney CAE                                      | 48   | 48   | 36   |
| Macquarie University<br>formerly Institute of Early Childhood Studies            | 107  | 60   | 28   |
| Australian Catholic University<br>formerly Catholic College of Education, Sydney | n.a. | 108  | 24   |
| Charles Sturt University<br>formerly Mitchell CAE                                | n.a. | 39   | 24   |
| University of Western Sydney, Nepean<br>formerly Nepean CAE                      | 117  | n.a. | 22   |
| University of Western Sydney, Macarthur<br>formerly Macarthur CAE                | 68   | 60   | 16   |
| University of New South Wales<br>formerly St George Institute of Education       | n.a. | 52   | 4    |

n.a. = not available

## **Figure 14: The Mayer Key Competencies**

Extract from E. Mayer, *Putting General Education to Work - The Key Competencies Report*, no date [1992], p3.

**KEY COMPETENCIES**  
**for effective participation in the emerging patterns of work and work organisation**

**Collecting, Analysing and Organising Information**

The capacity to locate information, sift and sort information in order to select what is required and present it in a useful way, and evaluate both the information itself and the sources and methods used to obtain it.

**Communicating Ideas and Information**

The capacity to communicate effectively with others using the range of spoken, written, graphic and other non-verbal means of expression.

**Planning and Organising Activities**

The capacity to plan and organise one's own work activities, including making good use of time and resources, sorting out priorities and monitoring one's own performance.

**Working with others and in Teams**

The capacity to interact effectively with other people both on a one-to-one basis and in groups, including understanding and responding to the needs of a client and working effectively as a member of a team to achieve a shared goal.

**Using Mathematical Ideas and Techniques**

The capacity to use mathematical ideas, such as number and space, and techniques, such as estimation and approximation, for practical purposes.

**Solving Problems**

The capacity to apply problem-solving strategies in purposeful ways, both in situations where the problem and the desired solution are clearly evident and in situations requiring critical thinking and a creative approach to achieve an outcome.

**Using Technology**

The capacity to apply technology, combining the physical and sensory skills needed to operate equipment with the understanding of scientific and technological principles needed to explore and adapt systems.

**Figure 15: The weightings of the Relative Funding Model for university teaching costs (1990)**

Source: the Hon. Peter Baldwin (Minister for Employment, Education and Training), *Assessment of the Relative Funding Position of Australia's Higher Education Institutions*, August 1990, p13.

|   | undergraduate subjects/<br>weightings |     | 'other postgrad' subjects/<br>weightings |     | higher degree research /<br>weightings |     |
|---|---------------------------------------|-----|--|-----|--|-----|
| 1 | accounting                            | 1.0 | accounting                               | 1.4 | accounting                             | 2.0 |
|   | admin/economics                       | 1.0 | admin/economics                          | 1.4 | admin/economics                        | 2.0 |
|   | law                                   | 1.0 | law                                      | 1.4 | computing                              | 2.0 |
|   | other humanities                      | 1.0 | other humanities                         | 1.4 | education                              | 2.0 |
|   |                                       |     | education                                | 1.4 | law                                    | 2.0 |
|   |                                       |     | maths/statistics                         | 1.4 | maths/statistics                       | 2.0 |
|   |                                       |     | other social studies                     | 1.4 | nursing                                | 2.0 |
|   |                                       |     |  |     | other built envir't                    | 2.0 |
|   |                                       |     |  |     | other health                           | 2.0 |
|   |                                       |     |  |     | other humanities                       | 2.0 |
|   |                                       |     |  |     | other languages                        | 2.0 |
|   |                                       |     |  |     | other social studies                   | 2.0 |
|   |                                       |     |  |     | visual/perf. arts                      | 2.0 |
| 2 | behavioural science                   | 1.3 |  |     |  |     |
|   | education                             | 1.3 |  |     |  |     |
|   | maths/stats                           | 1.3 |  |     |  |     |
|   | other social studies                  | 1.3 |  |     |  |     |
| 3 | computing                             | 1.6 | computing                                | 1.8 |  |     |
|   | nursing                               | 1.6 | nursing                                  | 1.8 |  |     |
|   | other built envir't                   | 1.6 | other built envir't                      | 1.8 |  |     |
|   | other health                          | 1.6 | other health                             | 1.8 |  |     |
|   | other languages                       | 1.6 | other languages                          | 1.8 |  |     |
|   | visual/perf. arts                     | 1.6 | visual/perf. arts                        | 1.8 |  |     |
| 4 | engineering                           | 2.2 |  |     |  |     |
|   | science                               | 2.2 |  |     |  |     |
|   | surveying                             | 2.2 |  |     |  |     |
| 5 | agriculture                           | 2.7 | agriculture                              | 3.0 | agriculture                            | 4.7 |
|   | dentistry                             | 2.7 | behavioural science                      | 3.0 | behavioural science                    | 4.7 |
|   | medicine                              | 2.7 | dentistry                                | 3.0 | dentistry                              | 4.7 |
|   | vet. science                          | 2.7 | engineering                              | 3.0 | engineering                            | 4.7 |
|   |                                       |     | medicine                                 | 3.0 | medicine                               | 4.7 |
|   |                                       |     | science                                  | 3.0 | science                                | 4.7 |
|   |                                       |     | surveying                                | 3.0 | surveying                              | 4.7 |
|   |                                       |     | vet. science                             | 3.0 | vet. science                           | 4.7 |