

ICT and Girls: The need for a large scale intervention programme

Annemieke Craig




Julie Fisher



Catherine Lang



Background

- Fewer students enrol in ICT courses  decline in ICT graduates.
- Female participation experiencing a greater decline.
- In 2006 at Year 12:
 - 29% of students studying *Information Processing and Management* were girls (1460)
 - 7.7% studying *Information Systems* were girls (138)
- Translates to university where
 - 1990's 27.2% enrolled were women
 - 2005, 19.7% women

Background cont..

- Research indicates that early years influence career choice.
- Many girls, initially interested in IT but this fades
- Reasons include perception:
 - that IT is 'geeky'
 - male dominated
 - generally not people focused.
- Most initiatives to redress the problem are localised, poorly funded and depend on one key individual.

Victorian Essential Learning Standards

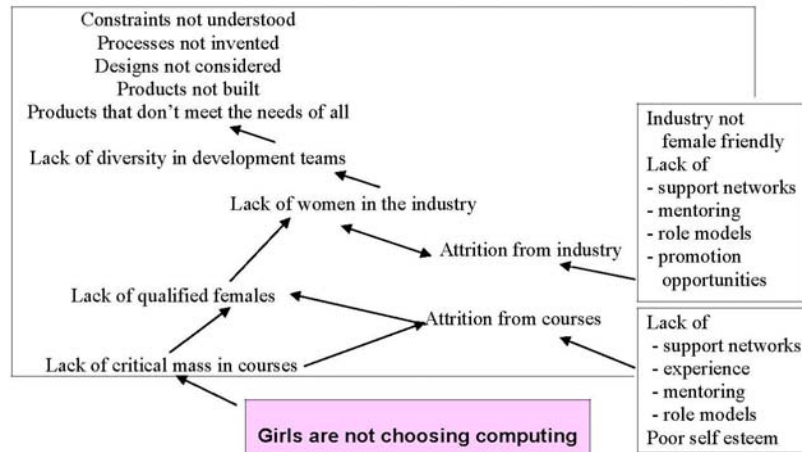
- ❑ Defines what students should know and be able to do at different stages
- ❑ Schools have flexibility to construct programs appropriate to needs.
- ❑ *Information & Communication Technology Standards* do not say how and where students will acquire ICT knowledge/ skills
- ❑ Schools can construct coherent programmes that enable students to acquire and apply this ICT knowledge and skills.
- ❑ School choices influenced by factors such as location, computer resources, ICT expertise of teachers, preferred teaching methods..
- ❑ The three common learning arrangements are:
 - *dedicated* ICT classes (common practice in secondary schools)
 - a *distributed approach* ICT is not a timetabled class, instead brought into other learning environments (common in primary schools)
 - *combined* some ICT teaching delivered through dedicated offerings. The remainder is the responsibility of other classroom teachers.

Intervention programs

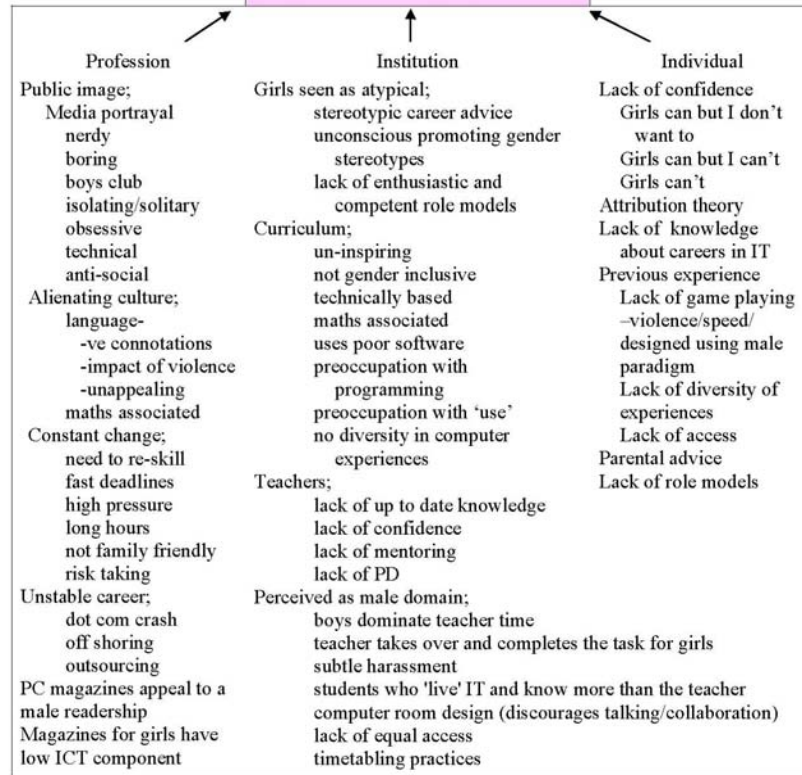
- Specific intervention programmes used to attempt to redress the imbalance.
- Programmes include activities such:
 - videos
 - 'girls in computing' days
 - camps
 - showcases
 - computer clubs for girls
- Intervention programmes have focused on upper secondary, or early tertiary students.
- Most are not very successful.
- What is needed are larger intervention programs directed at a large population.

Young Girls ICT – Into Computing Too

Effects



Causes



What was done: *Young Girls ICT*

- Review of school and Govt websites for details of actions and programs.
- In-depth exploration of Australian school based intervention programmes for girls and ICTs.
- Interviews with those involved in programs

Review of websites

- States and Territories have different approaches. Strategies include:
 - providing guidelines on how teachers can better engage girls with computing;
 - providing access to information and research on the area;
 - providing professional development activities including curriculum specifically focusing on engaging girls in ICT;
 - providing resources specifically for intervention programmes; and
 - developing frameworks for action.

Young Girls ICT - Results

State	Number contacted	Number of programs	Type of programme
ACT	20	1	Have software that interest girls – they can use during their spare time
NSW	40	2	Girl related software available
NT	20	1	Girl related software they can use before school.
Qld	40	3	Girls only lunchtime access to computers twice a week Software specifically for girls available
SA	40	1	Software specifically for girls available
Tasmania	40	1	Girls only lunchtime access to computers once a week
Victoria	40	2	Allowed to use computers during spare time. Have software programmes that are directed at girls, but no specific times they can use these by themselves.
WA	40	1	Girls only lunchtime access to computers once a week

Issues emerging from the interviews

- *[There is no need for interventions as]... students are allowed to use computers during their spare time.*
- *When creating units of work I am conscious of the girls and that they are less likely to participate if we are not careful, but I just can't do separate things for the girls.*
- *I have two computers in my classroom. I am pretty good with them but there is not much time to teach individual children on the PCs when you have 25 students.*
- *Yes girls need to be engaged and encouraged to participate. However boys also need engagement or else there are behaviour issues. It's hard to do everything.*

Overall the results

- ❑ Some programs exist specifically to engage young girls in thinking and working positively with computers.
- ❑ Many programs at primary schools rely heavily on one teacher.
- ❑ Most programs not part of an overall co-ordinated approach.
- ❑ Facilities and funding comes from general school budgets restricts what can be done.
- ❑ Programs for secondary girls are more likely to be organised by external bodies, such as Women are I.T. (WIT) and the Victorian ICT Network for Women, than from within the school.
- ❑ State based initiatives , eg Queensland, result in significantly more initiatives and awareness of the issues amongst teachers.
- ❑ Few programs have been evaluated so difficult to assess success.

Summary

- ❑ Rapidly changing nature of computing makes it difficult for schools to focus on all areas.
- ❑ Frequently left to individual teachers.
- ❑ Many competing demands for teacher attention within schools as well as a lack of resources.
- ❑ Most initiatives are localised, are poorly funded and resourced, and generally rely on the goodwill of a few people.

Recommendations

- ❑ Specific requirements for any funding initiatives should target girls.
- ❑ Clear need for longer term government sponsored intervention programs.
- ❑ More consistent evaluation of current programs particularly focusing on longer term benefits.
- ❑ School-based initiatives such as computer clubs the girls (UK initiative) to rekindle girls' interests in IT.