BAGLAN INFORMATION TECHNOLOGY CENTRE
CANOLFAN TECHNOLEG GWYBODAETH BAGLAN

ELMWOOD ROAD . BAGLAN . PORT TALBOT . SA12 8TF
TEL/FFON – 01639 779500 . FAX/FFACS – 01639 779501

Guidelines For The Design of Computer Rooms/IT Suites

1: BASIC DIMENSIONS REQUIRED BY A WORKSTATION

1.1: A computer needs a work-surface of *depth 800mm*.

1.2: The height age range from Junior to Adult of the specialist computer benching we recommend is *720mm*, although the trolleys we purchase are only *660mm*. Somewhere within this range should be acceptable. For Infants and Nursery Children, it can be beneficial to drop the height to as low as *560mm*. The optimum height is clearly dependent on the size of the chairs as well as the size of the users. A higher surface, perhaps *800mm*, may be required if it is to be accessed by a wheelchair – however, there is no uniform height for a wheelchair. (If you need wheelchair access for a pupil, adjustable height tables/trolleys are available, but not cheap!) Common sense needs to be applied.

1.3: The minimum width to satisfactorily operate a computer keyboard and mouse is *900mm*. If any of the following apply:

- The workstation is likely to be used with two or more pupils gathered around it
- Space is likely to be needed for peripherals to attach to it
- Space is needed to make hand written notes etc. alongside it

These facts must be taken into account and extra space allowed. Even with just a single user, *1 metre* is far more comfortable.

2: ELECTRICAL POINTS

2.1: Although most modern computers only require a single mains socket, it is advisable to have a *double-socket* available for each workstation. Without this, you do not have the flexibility to site peripherals such as scanners, printers etc around the room as desired.

2.2: Modern Computer monitors have a comparatively large leakage current to earth. It is our experience that if you have more than *eight computers* on a single Earth Leakage Trip, you run the risk of tripping out regularly. Thus, even more rooms previously wired for older Acorn equipment may need some modification to the cabling when upgrading to modern PC's.

2.3: For greater control, you may decide to have a *key operated switch* that switches the mains for the whole room.

3: NETWORK SOCKETS

3.1: Our current network strategy is to have enough network points on each run of benching so that no more than five computers plug into a single point. A run of six computers would require a *double network socket*, whereas a run of three would require *a single socket*. A mini-hub plugs into the wall socket to give the required number of outlets for the computers.

4: ROOM LAYOUT

4.1: It is strongly recommended that the room layout should be such that the teacher can view every monitor screen within the room. The preferable layout is therefore one where the computers are round the edge of the room.

4.2: Where it is necessary to adopt alternative layouts such as peninsular benches, thought should be given to perhaps placing convex mirrors strategically so that the teacher can see the screens. Pupils can easily take advantage when the screen is not visible, and go off task onto a game, or view some inappropriate activity. It only takes a second to minimize the window to hide it when a teacher walks by, and to maximize it again afterwards.

4.3: Thought needs to given to whether the furniture should be flush fitted to the wall or not. Whereas an empty room looks much nicer if furniture is close fitted, once it is full of computers it can mean lots of cables lying across the top of the bench. If the furniture is mounted slightly in front of the wall, then there is space behind to run cables, and the final result can look neater. There are of course alternatives such as cutting a hole in the furniture near each computer that cables can drop down into etc. If a work surface is to be fitted away from of the wall then it is advantageous to have a lip along the back to prevent pens etc. slipping off.

5: GLARE

The biggest problem with glare is when light shines through the window, reflecting off the monitor screen into the user's eyes. In many rooms, this never happens, but in some rooms, it can be avoided by not using the wall most affected. It is often necessary to consider some form of curtain, blind, anti-glare paint on the windows etc.

6: DEMONSTRATION EQUIPMENT

6.1: Projectors

If there is a need to demonstrate to children, some form of projection system should be considered. Projectors can be ceiling mounted or sit on moveable tables/trolleys. Unless the projector is ceiling mounted, the distance between the projector and screen can place restrictions on the room. However, this must be offset by the flexibility offered by the opportunity to move a projector to another room or the school hall (e.g. a parents meeting).

The projection system will display on a wall/screen what is currently running on the attached PC. Hence, it may be worth considering a dedicated desktop PC or laptop for this task. Again, a laptop would offer the flexibility to move to another room/hall.

6.2: Interactive Whiteboards

These are becoming increasingly popular, but are still misunderstood. If you require a surface for you projected image, then a wall or traditional OHP screen may do the job. The modern projectors come with remote controls which effectively give you the equivalent of a mouse which will enable you to control your screen from a distance, moving the pointer and pressing buttons as normal.

However, interactive whiteboards go one step further. Depending on the board and software purchased, they enable staff/students to interact with the projected image and can be particularly valuable for whole class teaching. Some potential benefits are:

- Allow staff/students to highlight, circle, and label elements of a screen.
- Offer an on-screen keyboard to 'float' over the images displayed and permit text entry.
- Enhance presentation content, enabling the inclusion of sound, graphics and video.
- Act as an electronic flipchart – the contents of which can be saved and printed (a valuable resource for those missing a lesson).

(N.B. not all boards offer all features)

6.3: Some issues to consider:

- To use an interactive whiteboard, you also need a PC and a projector – this, of course, significantly increases the 'advertised cost' of the whiteboard.
- Is portability an issue? Whiteboards are available on movable stands, however, they are heavy and their 'turning circle' is large, it may therefore be impracticable to transport it to other locations (tight corners in corridors, stairs etc).
- Wall mounted boards need space in front of them to allow the interaction to take place, hence positioning them above a bench would be inappropriate.

Recommended heights for mounting wall boards:

- Reception/Nursery 30 to 35cm from the floor to the bottom of the board
- Year 1 / 2 40 to 45cm from the floor to the bottom of the board
- Year 3 / 4 50 to 55cm from the floor to the bottom of the board
- Year 5 / 6 60 to 65cm from the floor to the bottom of the board