Implications of ICT

The Health and Safety problems connected with ICT:

There are many health problems that can occur when you are working with computers with long periods. Repetitive strain injury (RSI), backache, eyestrain, headaches, and skin rashes etc. are conditions which can occur. By using various devices, correct posture, and good working practices, these conditions can be prevented. Here at the Leisure Centre we aim to protect our staff in many ways and we will provide the correct conditions for them to work in. if any staff need specialist conditions because of health problems etc, we will provide for their needs so they can give us the best output.

Stress:

There is increasing evidence that working extensively in a computer-based environment can be stressful. While it was originally though that computers would lighten peoples work-load, in many instances they have added to it. Computers have raised expectations about what is possible in the workplace and thus increased the demand placed on staff. In some workplaces these expectations are made explicit. Computers, however, remain fallible breaking down at inconvenient moments, 'losing' important documents, refusing to respond as expected, etc. The combination of increased demand and continued fallibility creates the conditions for stress, a psychological condition with physical symptoms. To try and lower the stress of the staff in the Leisure Centre we will make sure that backup copies are made of documents so that we do not 'loose' vast amounts of work. Nor will we try and push the staff to great levels that they are not able to achieve.

Dependency:

The increasing sophistication of communications technology has meant that people working with computers can do so from, any location and at any time. The consequence of this, combined with the 'addictive' nature of some computer based work means that some people find it difficult to 'switch off', continuing their work while they commute and when they are at home. This inability to 'switch off' can lead to stress related illnesses and other conditions associated with a lack of rest and relaxation. At the Leisure Centre we will not need the staff to continue working at home so hopefully staff will not have to be concerned about their work at home.

Eyestrain:

Staring continuously at a brightly lit screen all day can lead to eyestrain, the symptoms of which include headaches, blurred vision, dry and irritated eyes etc. The effects of this are temporary and there is no evidence that computer use causes irreparable damage. None the less, eyestrain can cause discomfort and make the staff less efficient. It is therefore in my best interest as an employer to ensure that working spaces are properly lit and display screens correctly adjusted. One way of avoiding eyestrain is to look at a distant object now and again. Other ways to avoid eyestrain are to use screen filters which can remove a high percentage of the harmful rays emitted from a computer screen, to use screens that do not flicker, to take regular breaks (do not work for more than one hour without a break) and blinds fitted to reduce glare. Regular computer users should have regular eye checks.

ELF Radiation:

There is some debate about whether ICT workers are at risk from the effects of 'extremely low frequency radiation'. VDU's based on cathode ray tube technology emit non-ionising electronic and magnetic fields at low frequency. Whether or not these emissions have an effect on those exposed to them, is open to debate. There is research that suggests that long-term exposure may be

hazardous to the health (especially a pregnant woman), but the evidence is far from conclusive and most experts in this field do not believe the danger is significant.

Repetitive Strain Injury:

Repetitive Strain Injury (RSI) refers to a range of conditions affecting the neck, shoulders, arms and hands. RSIs result from forcing particular muscle groups to perform the same actions over and over again. The most common type of computer-related RSI is Carpul Tunnel Syndrome. This is where the nerve that runs through the wrist is affected by the constant pressure of typing. Initially, this leads to wrist pain and numbness in the fingers. In extreme cases, the injury can make it impossible for the sufferer to pick up everyday objects. To prevent RSI you need to make sure that your posture is correct, use wrist rests and have a five minute break for every typing hour.

Complying with the Health and Safety Legislation:

Health and Safety regulations provide legal guidelines for what constitutes a safe working environment. The Leisure Centre is legally required to comply with the requirements of such legislation. Failure to do so can lead to prosecution and/or legal action by the staff who suffer from injuries or illnesses as a result of factors within their working environment. Most large organisations have a Health and Safety Officer who is responsible for monitoring working conditions and ensuring that anything that might be injurious to the well-being of the employees is corrected, this is not applicable in the Leisure Centre. Organisations can also keep within the law by designing ergonomic workplaces. Ergonomics refers to the study of the relationship between people and their working environment. When an environment is described as being ergonomically effective, it means that it has been designed with the needs of people in mind.

The Ergonomic Office:

General Environmental Factors:

There are various environmental factors which, if left unchecked, can lead to problems. Air quality should be monitored and adequate ventilation provided. The temperature should be comfortable to work in: the recommended temperature is 25-23.5°C in the winter and 23-26°C in the summer. Noise levels should be monitored: an excess of loud, distracting noise can lead to stress.

Light:

Poor-quality lighting in the Centre can lead to eyestrain. Ideally there should be a good balance of natural and artificial light. The light should be strong enough for people to read documents but not too strong for working with a computer screen. There should not be direct sunlight on the computer screen.

Hardware and Software:

Employee stress is a consequence of working with hardware and software that does not perform as it should. The hardware should have a sufficient specification to do the job required of it, and minor technical problems should not be allowed to develop into major ones. Software should be designed to be user friendly.

Monitors:

VDUs should be positioned at a suitable height. They should be adjusted so that the users neck is straight when they look at the screen. The monitor settings should be at a level that is comfortable for the eyes. Anti-glare screen filters may be necessary. These will be checked regularly.

<u>Timed Breaks:</u>
In order to avoid both stress and some forms of RSI, it is necessary to take regular breaks. It is generally recommended that employees working at a computer should take 5-10 minute breaks every hour. Staff will be able to do this for every hour they work at a computer. They should ideally do something that involves standing up and moving around. This will give tired muscles a 'break'.

<u>Keyboard and Mouse:</u>
The keyboard and mouse should ideally be slightly lower than elbow level and close to the body. The keyboard should be angled so that the users wrists remain naturally straight. There are some ergonomically designed keyboards and mouse devices that have been designed to avoid problems associated with RSI. When the mouse is used for any length of time, the lower arms should be supported.

<u>Chair and Posture:</u>
If an employee is seated for much of the working day, it is essential that their posture is good. Incorrect posture can lead to severe back problems. Chairs should be easily adjustable by the user whilst they are sitting in the chair. The backrest should be curved to fit the shape of the back and there should be padding for the lower back area. The user should be able to fit their legs comfortably under the desk. Angled footrests can also be used to improve the seating position.

<u>Inspections:</u>
Desks, chairs, computers etc. should be inspected to make sure that they reach the required standard. We will inspect our Centre's working conditions regularly to make sure that it is acceptable for our staff to work with.

<u>Training:</u>
Employees should have training on health and safety matters. We will have a training session once a year to update our staff on the new health and safety regulations.

<u>Desks:</u>
Desks must be large enough to accommodate the computer and any paperwork and must not reflect too much light. An adjustable document holder should be provided so as to avoid uncomfortable head movements. All equipment bought will be suitable to accommodate with the users needs.

The Social Effects of ICT systems:

<u>Social and economic effects of ICT:</u>
Before the industrial revolution nearly everyone worked in agriculture. Communication was by word of mouth or paper. When the industrial revolution came, life became more complicated. People started to work in factories and the factories needed offices to deal with administration. The amount of paperwork needed for trade started to increase. As time went on, technology was used to develop machines such as the typewriter, telephone and telex machines and eventually, the computer.

We are now in an 'information age' and our society is very dependant on information storage and communication. Many people are now using some form of Information and Communication Technology to help them.

<u>Is Information Communication Technology a good thing?</u>
Some arguments for and against ICT are given below.

Arguments in favour:

➢ The jobs replaced by computers are rather dull ones. People are free to do more interesting tasks.
➢ Higher productivity enables people to work fewer hours and yet have the same standard of living. A greater amount of leisure time will improve people's quality of life.
➢ Other countries make use of ICT. If we did not, our goods and services would become uncompetitive and there would be even more unemployment.
➢ There are many tasks that would be impossible without the use of ICT. Air traffic control, credit cards, space travel, and medical research are just some examples.
➢ New jobs are being created be the introduction of information communication technology e.g. programming, network managing etc.

Arguments against:

➢ Life without ICT is slower and less stressful.
➢ Computers are cheaper than people so if a computer can do a job then it will, leading to unemployment.
➢ The new jobs being created by the use of ICT are only for highly skilled and qualified people.
➢ The people who did the boring repetitive jobs now done by a computer no longer have a job.
➢ The storage of personal data held on a computer has eroded people's privacy.
➢ The gap will be widened between those countries able to afford the new technologies and those who can't.

Changing employment patterns:
    With the introduction of computer controlled technology, employment patterns have changed considerably. Changes include the following:

➢ Robots are now performing many of the manual tasks such as assembly work and paint spraying in factories.
➢ Many industrial processes operate 24 hours a day and are continually being monitored and controlled by computers.
➢ There are fewer paper-based systems in offices. Some jobs such as filing clerks no longer exist. New jobs involving computers have been created.
➢ More and more people work from home, with the advantage of no travelling and the freedom of being able to live in any part of the country (or the world for that matter)
➢ Computers are sometimes used to monitor the performance of their users. For instance, in supermarkets they can tell the management about the number of customers dealt with per hour or how many items have passed through the scanner in a day. Order entry clerks and airline booking clerks have their work similarly monitored.
➢ There is continual need to retrain people, who no longer spend year after year doing the same job.

Environmental, Ethical, Moral and Social issues raised by Information Communication Technology:

Environmental Issues:
Reduced energy consumption:
Computers now control many of the heating systems in offices and factories so it s possible for only the rooms that are being used to be heated. This can save huge amounts of energy.

Reduces wastage in industrial processes:

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There are many process control systems used in out factories and because these are more accurate, there is less wastage, thus saving valuable resources.

Saving trees:
The use of the electronic office and EDI has led to paper being almost eliminated in many offices and this means that fewer trees need to be cut down, so not only are the trees saved but the energy that went into the making of the paper is also saved.

Reducing car pollution:
Teleworking (working at home using information technology) means that some people no longer have to travel to the office to work. This reduces petrol consumption and car pollution.

Ethical, moral and social issues:

Software theft:
It could be said that the use of personal computers has made many users into thieves. It is a criminal offence to copy or steal software.

Hacking:
Hacking means gaining illegal access to someone else's computer system. Many people see this type of thing as a challenge and not as an illegal activity.

Privacy:
As more and more information is held there is more chance of some of it being incorrect. Your private life is becoming less and less private.

Job losses:
Developing new systems will mean that staff will inevitably be made redundant.

Social and ethical considerations for the Internet:
The Internet provides access to a variety of information on every topic and this information comes from many different countries throughout the world. One problem with the Internet is that all the information is freely available once a user is connected. There are areas of the Internet which contain large amounts of illegal pornographic material. Material that is illegal in some countries may be perfectly legal in others.

Governments have the problem of finding a way of allowing users to gain access to the Internet but not to any illegal areas. If access to such material is restricted on one part of the Internet then a user can simply move to another area to find a way to access the material.

There is a problem in restricting access. The Internet is a global system and it is difficult for single countries to make laws to control it. Another problem with restriction is that it could lead governments to begin attempts to censor, legislate and regulate the Internet for political, cultural and religious reasons. Civil liberty groups are naturally concerned about this aspect of control.

Crime prevention and detection:

Crime prevention:
ICT can be used to help prevent crime and the systems employed include the following:

➢ Speed camera systems and camera systems which detect cars jumping red lights discourage people from offending, these will not be needed in the Centre.
➢ Computer controlled camera systems discourage violent crime in many city centres.

➤ Tagging of offenders means that they are less likely to commit crimes whilst they are on bail.
➤ Tagging systems on bikes, cars and other property reduces the chances of them being stolen.
➤ Computer controlled house security systems discourage some burglars.

Crime detection:
ICT can be used to catch criminals and some of the ways it can do this are as follows:

➤ The Police National Computer (PNC) is used to hold details of all crimes committed and of criminals.
➤ The National Criminal Intelligence System is a computer system used to piece together information about individual criminals and their illegal activities. This system is used to gather material on organised crimes such as drug smuggling.
➤ DNA profiling and fingerprinting systems enable valuable, and often conclusive, evidence to be collected.
➤ Police headquarters computers for each police force are used in the day-to-day administration of all the usual police work.

Effects of ICT:

Effects of using ICT on the Leisure Centre:

➤ Everything takes place more quickly and efficiently.
➤ The price of an item, from the café or sports shop, can be altered at any time simply by entering the new price against its barcode on the computer database. This makes it easier to change prices of products.
➤ There is less chance for human error when performing calculations and handling money.
➤ Less paperwork needs to be stored and information can be retrieved more easily.
➤ Real money does not have to change hands, leaving less chance for theft.
➤ ICT equipment is very expensive to purchase and maintain. If it breaks down there could be major problems continuing normal business in the Centre.

Effects of using ICT on Employment for staff:

➤ To begin with fewer staff are needed but the centre can become bigger and more staff will then be needed.
➤ Large numbers of typing, filing and price labelling staff will no longer be needed.
➤ Staff need to be retrained or made redundant. Staff with new skills need to be appointed.
➤ Staff involved in generating sales charts and accounts can work remotely or even from home.

Effects of using ICT on the members:

➤ Members do not have to wait so long at the cash desk.
➤ More goods can be purchased at one time.
➤ The member does not need to carry any cash.
➤ There is less chance of being wrongly charged or given incorrect change.
➤ Goods, from the Sports Shop, may be purchased over the Internet, then either collected or delivered to your door.

ICT at home and in Leisure activities:

ICT is not only used in businesses and organisations, like the Leisure Centre, but many people use ICT at home for work or leisure activities. The list of activities is endless and a visit to a computer superstore will show how many people use ICT just for fun. Here are some of the activities you can do:

Home learning:

Education is a lifelong activity and many people are continually expected to learn new things in their jobs and in their leisure. Many people who start in one career normally change to a completely different career. Also, many people who did not see education as important when they were young want to gain skills and qualifications later in life.

ICT has enabled qualification courses to be taken in many different ways now. Many courses are available over the Internet and it is possible to pursue these online. They are helpfully and attractively presented using animation, sound and video clips, and you can also chat to the tutor when you need to if you are having difficulty. With the introduction of interactive digital television, many people will be able to access courses through the television without the need for a computer. This is a way that staff are able to train themselves how to use the new system if wanted.

Games:

Many people play games using ICT. Some games are skill games whilst others are mostly simulations or fast moving or arcade type games. All of these are accessible over the Internet and may be able to download onto your own computer without connecting to the Internet. We will not be providing games that are downloadable from the Internet as we have a games room that includes arcade games.