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## UNIT 12: IMPACT OF ICT ON SOCIETY (6422)

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### About This Unit

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The use of ICT affects society in many ways. For example, most jobs have changed considerably through the introduction of new technologies and the rate of change is increasing. This unit provides a basis for understanding the nature of those changes and how work may change still further in the future.

This unit helps you to understand the impact ICT has had on society in the past, and the impact on society of the latest developments in ICT, such as the Internet and interactive digital television

In this unit, you will:

- explore how ICT is helping individuals and society
- explore the impact of ICT on working practices and production
- explore the impact of the Internet and interactive digital television
- consider issues related to ICT and the environment
- consider legal issues related to ICT
- consider future uses of ICT.

This unit provides a useful overview for all the other Intermediate units.

This unit is assessed through your portfolio work only. The grade on that unit will be the grade for the unit.

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### What You Need To Learn

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#### The Information Society

History shows the move from the agricultural society, through the industrialised society and now to the information society. You must be able to assess to what extent society is better informed as a result of developments in ICT.

You must know about the types of facilities that are being improved through the use of ICT, including:

- touch screens, for example at tourist information sites
- automatic teller machines (ATMs) outside banks and in shopping arcades
- information boards, for example in motorway service stations and in railway stations
- on-screen help in different languages, for example in telephone boxes
- virtual reality systems, eg in training and education and entertainment.

You must be able to explore the impact of ICT on a variety of public services, including:

- information services, for example museums, libraries, directory enquiries
- the emergency services, for example fire stations, RNLI
- the National Health Service
- education
- public transport.

You should be able to identify how individuals and society are affected by changes in these public services.

### **The Impact of ICT on Working Practices**

You must understand how the introduction of ICT affects working practices. In particular, you must know how ICT has had an impact on locations and patterns of work including:

- changes in places of work
- changes in working hours.

For example companies can now employ telesales staff who work from home. They can provide their goods and services at discount because they are saving money by not having to purchase office space. Large organisations, such as local government departments are able to 'hot desk'. Their staff can work from home and only use desks in offices occasionally. The desk space is shared amongst a number of people, again saving space and money.

You must understand how the effect of ICT on working practices has a knock-on effect on employees by considering:

- the work skills required (eg keyboard skills, technical skills, design skills) and the possible need for retraining
- social aspects, for example:
  - changes in motivation for those no longer supervised directly
  - risk of job loss due to changes in work skills required and number of staff needed
  - security of work due to changing contractual arrangements between employers and employees
  - reduced social interaction at work, but increased interaction with family and neighbours
- changes in amounts and timing of leisure time
- the stress caused by the fast changing pace of ICT developments.

People whose jobs have become highly dependent on ICT systems often find that they can work at any time of day and in any location. This can cause increased stress as they are unable to leave their work behind them at the end of a traditional day's work.

You must be able to identify how particular jobs and workers have been effected by developments in ICT.

### **The Impact of the Introduction of Robotics on Production**

To see how ICT has affected methods of production, you must understand how introducing robotics and other linked ICT systems has improved the production process by considering:

- the speed of the production process
- the cost of the production process
- the safety of workers
- the quality of the final product.

Companies that introduce robotics do not need to employ so many skilled workers and can be more assured of a consistent quality to the product. Some companies, however, are finding that the flexibility of a human workforce allows them to produce a more diverse range of products.

You must then recognise how changes in the production process have had, and may in the future have, an impact on health and safety, employment levels and working practices.

## **The Impact of the Internet and Digital Television on Society**

You must understand what the Internet is and what it has to offer. In particular, you must be able to use browser software and search engines, to find out:

- the range of information available
- the ease and difficulty of finding the information you want
- the advantages/disadvantages of the availability of this information.

You must then recognise how this development in ICT has had, and may in the future have, an impact on society, including issues such as:

- the lack of control over who places material, and accesses information, on the Internet
- the availability of offensive, illegal or unethical material on the Internet
- the development of home shopping and electronic commerce (e-commerce) systems
- the use of the Internet for marketing through website design
- the security of information, for example if buying goods on the Internet using credit cards.

You must know about the services that are, and will be, available through digital television, including home shopping and banking, access to Internet services, advanced teletext services and telephone services.

## **The Effects of ICT on the Environment**

The over use of natural resources, such as cutting down trees to make paper has damaged the environment. The introduction of ICT promised the paperless office that would help to reduce the amount of paper used. You must be able to decide whether this goal is achievable. In particular, you must be able to:

- make recommendations as to how communications can be made without paper
- suggest working methods that would reduce the amount of paper used or kept.

You must consider other effects that ICT may have on the environment, including:

- changes in transportation needs, for example just-in-time (JIT) ordering systems
- use of scarce resources, for example lower wastage through more accurate prediction of needs
- increased pollution and better control of pollution.

## Aspects of Legislation

You must be aware of legislation that covers working with ICT:

- Data Protection Act (1998)
- Health and Safety at Work Act (1974)
- Copyright, Designs and Patents Act (1988)
- Health and Safety Regulations (1992).

You do not need to know the detail of the Acts or regulations, but you must understand the reasons for their introduction:

- to provide legal backing so that it is possible to seek compensation if rights are disregarded or dishonoured
- to protect the confidentiality of information kept about the individual
- to observe copyright for those who create original works.

You must understand who is affected by the legislation, what protection the legislation offers and what aspect of using ICT is affected, for example:

- use of software
- misuse of data
- copying of copyright materials
- effects of exposure to uncensored materials.

You must be aware of EU regulations on the use of computers and the Internet Code of Practice.

## The Future Use of ICT

You must explore the possible developments of ICT in the future and, in particular, assess the potential impact on areas such as:

- financial transactions, ie if smart cards are used for charging purposes
- shopping habits, ie if shopping via the Internet increases
- personal safety and freedom, for example if GPS (geographical positioning systems) are used to track individuals, or ID cards are introduced
- commercial security, ie if security systems are developed to improve detection of theft, for example on networked computer systems.

## Standard Ways of Working

Note: What you need to know and be able to do to implement standard ways of working is described in detail in Unit 1. The following is a shortened version of these requirements. They are written to apply specifically to this unit.

To develop good practice in your use of ICT you must:

- plan your work to produce what is required to given deadlines
- review your work and suggest how it might be improved
- keep backup copies of files on another disk and in another location
- save work regularly using different filenames
- respect confidentiality
- respect copyright
- work safely at all times.

## Assessment Evidence

### You must produce:

- a report on the impact of ICT on society, in an area of your choice, where ICT is currently being used
- the report must cover how ICT has had an impact in this area in relation to working practices, production, the environment and the increased availability of information.

### To achieve a Pass you must show you can:

- P1 describe uses of ICT that could impact particularly on your own life or that of your community-this should relate to the area you have researched
- P2 with guidance, identify and use appropriate sources of information to complete your report
- P3 briefly describe the facilities that are improved through the use of ICT in the area you have studied
- P4 identify the impact of ICT on working practices, the environment, production and the increased availability of information in the area you have studied
- P5 describe possible future uses of ICT and the current legislation that covers the use of ICT in the area you have studied.

### To achieve a Merit you must also show you can:

- M1 independently find a range of sources of information to research your report
- M2 plan the content and presentation of your report and present it in a structured way
- M3 recognise the advantages and disadvantages of use of ICT use in the area that you studied.

### To achieve a Distinction you must also show you can:

- D1 describe uses of ICT that would impact on the wider society and how it might affect them. For example, by identifying additional skills that might be needed by changes in ICT use
- D2 evaluate sources of information that you used to complete your report
- D3 identify how you could improve your research and report if you were to do it again.

This unit provides an overview and summation for all of the other units at Intermediate level. It provides the opportunity for candidates to study a wide range of applications and effects of ICT on their understanding of the effects in a given situation. The aim of the unit is to provide candidates with a practical approach to what could otherwise be a theoretical unit.

### **Guidance on Delivery**

In this unit, candidates will investigate the impact that ICT has had on society and will predict how they see it progressing over the coming years. The examples in the 'What you need to learn' section are not exhaustive and Centres are encouraged to draw on local examples.

The unit has been designed so that the candidates may gain an appreciation of how ICT is being used in today's society. It gives an opportunity for candidates to present a report that could also be assessed against the assessment criteria of Intermediate Unit 1. It is perfectly acceptable, however, for the report for this unit to be presented orally, and perhaps be supported by use of ICT packages such as slideshow software.

It is expected that candidates will undertake research into where ICT is currently being used and explain their findings. They will then be to predict where the future lies for society and ICT. It will give the candidate the opportunity to reflect on their studies and make suggestions/predictions. Most broadsheet newspapers have a weekly supplement that includes articles that may help candidates to think about future developments. Similarly the information and archives are available on CD-ROM and the Internet.

The candidate should explore areas with which they are familiar, so that they may see first hand, the way in which ICT has benefited or disadvantaged society. Just looking around a public place such as a train station, there will be several areas where ICT is being used. It will give the candidates the opportunity to assess the impact of ICT on areas with which they are familiar and to which they can relate.

The unit lends itself to allowing candidates to carry out independent research. If possible, teachers could arrange visits to places such as fire stations or train stations to see ICT in action. If this is not possible, candidates should be able to visit a library or a hospital where they can see how ICT is being used.

The development of the Internet should only be covered to a basic level, and Centres may wish to consider the suitability of materials available on the Internet, with this level of candidate. The issues of security of data eg encryption and the use of passwords are relevant here, however.

Where dates are given for legislation or regulations, these indicate those that are current at the time of writing. If new legislation or regulations supersede these, the most up-to-date information should be studied.

## **Guidance on Assessment**

This unit is assessed by means of evidence in candidates' portfolios. The evidence consists of a report into an aspect of the candidate's choice where ICT is currently used.

<b>Criterion</b>	<b>Requirements</b>
P1	Candidates must identify how the use of ICT impacts on their own life or that of their family, friends and peers. This should be related to the area researched by the candidate, rather than being a broad summation of the effects of ICT in general.
P2	Candidates must use appropriate sources of information when researching material for their report. It is recognised that candidates at this level may need guidance in identifying and selecting suitable sources of information.
P3	Candidates must briefly describe what improvements have resulted from ICT use in the area that they have studied, and how ICT has facilitated this improvement.
P4	Candidates need only cover those areas that are applicable to the area that they have studied. However, it may be useful for them to identify why a particular aspect has not been effected by developments in ICT.
P5	Based on their research of their chosen area, candidates should identify possible future uses of ICT. This does not have to be new technology, rather where existing technology could be used in that area. Candidates must also relate current legislation to the ICT used, for example the effects of the Data Protection Act on medical records held on computer.
M1	Candidates must independently identify and select appropriate sources of information. This does not preclude a candidate checking the accuracy or reliability of an information source with their teacher.
M2	Candidates must plan the content and presentation of their reports so that their final report is well structured and easy to follow. Candidates may want to use a proforma or produce outline plans of the content and structure of their work to help them achieve this criterion.
M3	Candidates must recognise both the advantages and disadvantages of the use of ICT in the chosen area of study.
D1	Candidates must identify how the use of ICT impacts on wider society that is outside of their own lives or that of their family, friends and peers. This should be related to the area researched by the candidate, rather than being a broad summation of the effects of ICT in general.
D2	Candidates must evaluate how useful each source of information was to their research. They may want to include comments on the reliability, accuracy or currency of the information available, and other sources of information that were not available but that would have been useful.
D3	This may be linked to D2. Candidates must make suggestions as to how their research or final report could be improved. This may relate to content or presentation, but should not be trivial, for example 'reprint in colour'.



## Key Skills Guidance

This guidance is specific to this unit, but for delivery and planning purposes, it should be read in the context of the whole GNVQ. Please refer to the whole qualification for further information.

The guidance has been split into two sections: keys to attainment and signposts. The two sections should be used in conjunction with each other.

The section on keys to attainment indicates the aspects of the key skills that candidates should develop as they meet the vocational requirements of this unit. It is highly unlikely that candidates will be able to cover the unit requirements appropriately without addressing these key skills.

The section on signposts indicates opportunities to achieve aspects of key skills that can be incorporated naturally into candidates' learning programmes. Candidates should be encouraged to both develop and to produce evidence for these aspects of the key skills, but they may need to develop additional evidence elsewhere to ensure that the requirements of the key skills units are fully met.

### Keys to Attainment

<i>When candidates are:</i>	<i>They should have achieved the following key skill evidence:</i>
<ul style="list-style-type: none"><li>producing their report (They must present relevant information in an appropriate form; use a structure and style of writing to suit your purpose; and ensure text is legible and that spelling, punctuation and grammar are accurate, so your meaning is clear.)</li></ul>	C2.3 Write a document about a straightforward subject, including an image.
<ul style="list-style-type: none"><li>using sources of information (P2 and M2) (They must select and read relevant information, identify accurately the line of reasoning and main points from text and images; and summarise the information to suit your purpose.)</li></ul>	C2.2 Read and summarise information from <b>two</b> extended documents (including images) about a straightforward subject.

## Signposts

<i>When candidates are:</i>	<i>There may be opportunities for them to develop the following key skills evidence:</i>
<ul style="list-style-type: none"><li>planning, researching and producing their report in the impact of ICT on society</li></ul>	<p>LP2.1 Help set short term targets with an appropriate person and plan how these will be met.</p> <p>LP2.2 Take responsibility for some decisions about your learning, using your plan and support from others to help meet targets.</p> <p>LP2.3 Review progress with an appropriate person and provide evidence of your achievements, including how you have used learning from one task to meet the demands of a new task.</p>