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УНИВЕРСИТЕТ
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знаний

ПРОФЕССИОНАЛЬНО-ОРИЕНТИРОВАННЫЙ АНГЛИЙСКИЙ ЯЗЫК

Методические указания по выполнению семестровых работ
для студентов специальности
5В070400 – Вычислительная техника и программное обеспечение

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Данные методические указания предназначены для самостоятельного выполнения семестровых работ. Большое внимание уделяется усвоению лексического минимума и работе с текстами по специальности.

Методические указания по профессионально-ориентированному английскому языку предназначены для студентов специальности 5В070400 – Вычислительная техника и программное обеспечение.

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Unit 1. Personal Computing

Task 1. Before reading the text on the following page, match each word with the correct definition.

- | | |
|---------------------|---|
| 1. Mainframe | a) the set of software that controls a computer system |
| 2. Mouse | b) a very small piece of silicon carrying a complex electrical circuit |
| 3. Icon | c) a big computer system used for large-scale operations |
| 4. Operating system | d) the physical portion of a computer system |
| 5. Software | e) a device moved by hand to indicate position on the screen |
| 6. Hardware | f) a visual symbol used in a menu instead of natural language |
| 7. Microchip | g) data, programs, etc., not forming part of a computer, but used when operating it |

Now read the text and decide on a suitable title for it.

IBM PC was developed using existing available electrical components. With IBM's badge on the box it became the standard machine for large corporations to purchase. When IBM were looking for an operating system, they went initially to Digital Research, who were market leaders in command - so based operating systems (these are operating systems in which the users type in commands to perform a function). When the collaboration between IBM and Digital Research failed, IBM turned to Bill Gates, then years old, to write their operating system.

Bill Gates founded Microsoft on the basis of the development so of MS/DOS, the initial operating system for the IBM PC. Digital Research have continued to develop their operating system, DR/DOS, and it is considered by many people to be a better product than Microsoft's. However, without an endorsement from IBM, it has become a minor player in the market. Novell, the leaders in PC networking, now own Digital Research, so things may change.

The original IBM PC had a minimum of 16 K of memory, but this could be upgraded to 512 K if necessary, and ran with a processor speed of 4.77 MHz. Ten years later, in 1991, IBM were making PCs with 16 Mb of memory, expandable to 64 Mb, running with a processor speed of 33 MHz. The cost of buying the hardware has come down considerably as the machines have become commodity items. Large companies are considering running major applications on PCs, something which, ten years ago, no one would have believed possible of a PC. In contrast, many computers in people's homes are just used to play computer games.

The widespread availability of computers has in all probability changed the world for ever. The microchip technology which made the PC possible has put chips not only into computers, but also into washing-machines and cars. Some books may never be published in paper form, but may only be made available as part of public databases. Networks of computers are already being used to make information available on a world- no wide scale.

Task 2. Answer these questions about the text.

1. What are command-based operating systems?
2. DR/DOS is an acronym. What does it stand for?
3. Since the invention of the IBM PC, many of its features have been improved.

Which of the following features does the text *not* mention in this respect?

- a) memory
 - b) speed
 - c) size
 - d) cost
4. Give three examples from the text of how the availability of computers has «in all probability changed the world forever».

Task 3. Find words that have a similar meaning.

Search, endorsement primarily, looking for cooperation, changed, first, upgraded, recommendation, initially, commodity items, initial, improved, extensive, purchase, goods, available transformed, collaboration, accessible, expandable.

Unit 2. Portable Computers

Task 1. Before reading the text, match these words with their definitions.

- | | |
|--------------|---|
| 1. Clipboard | a) surface on which pictures or data are shown |
| 2. Stylus | b) electrical force |
| 3. Screen | c) pattern used as a guide for creating letters or characters |
| 4. Grid | d) individual dot on a computer screen |
| 5. Voltage | e) network of lines crossing at right angles |
| 6. Pixel | f) pointed implement for drawing or writing |
| 7. Template | g) portable board with a clip at the top for holding papers |

Read the text and decide why the author chose the title Delete Keys. Can you suggest a better title?

Delete Keys-Clipboard technology

Silicon Valley and Tokyo have been working to design computers that are ever easier to use. There is one thing, however, that has prevented the machines from becoming *their* user-friendliest: you still have to input data with a keyboard, and that can require you to do a lot of typing and to memorize a lot of elaborate commands.

Enter the clipboard computer, a technology that has been in development for the last 20 years but took hold in the mass market only this year. Clipboard PCs - which, as their name suggests, are not much bigger than an actual clipboard - replace the keyboard with a liquid crystal display (LCD screen and an electronic stylus, users input data by printing individual letters directly on the screen.

There are two technologies at work in a clipboard PC: *one* allows raw data to get into the computer and the other allows the computer to figure out what that data means. The first technology relies principally on hardware and varies depending on the particular computer. In one system, marketed under the name GRID Pad, the computer's LCD screen is covered by a sheet of glass with a transparent conductive coating. Voltage is sent across the glass in horizontal and vertical lines forming a fine grid; at any point on the grid, the voltage is slightly different. When the stylus - which is essentially a voltmeter - touches the screen, *it* informs the computer of the voltage at that point. The computer uses this information to determine where the stylus is and causes a liquid so crystal pixel to appear at those coordinates. The position of the stylus is monitored several hundred times a second, so as the stylus moves across the glass, whole strings of pixels are activated.

«What we do is sort of connect the dots», says Jeff Hawkins, the creator of GRID Pad, «Users can then write whatever they want on the screen with a kind of electronic ink».

Making that writing comprehensible to the computer, however, requires the help of some powerful software. When the stylus is being used, the computer is programmed to look for moments when the tip does not touch the screen for a third of a second or more. Every time *this* happens - and it happens a lot when somebody is printing - the software assumes that one letter or number has been written. The pixel positions of this fresh character are then passed on to the computer's pattern recognition software, *which* instantly identifies the letter or number written.

The software does this by first cleaning up the character smoothing out crooked lines and removing errant dots. The remaining lines and curves are then compared with a series of templates in the computer's memory that represent hundreds of thousands of different versions of every letter in the English alphabet and all ten numerals. When the computer finds the closest match, *it* encodes the character in memory and displays it on the screen as if it had been typed. The entire process takes just a fraction of a second. To delete a word, you simply draw a line

through it. To move to the next page, you flick the stylus at the bottom of the screen as if you're flicking the page of a book.

There are a handful of clipboard computers now on the market, including GRIDPad, which is sold in the US; Penvision, manufactured by NCR and sold around the world; and Sony's Palmtop and Canon's Note, both sold only in Japan. IBM and Apple are also pouring millions of dollars into the technology.

In addition to this hardware, a variety of software is also making its way to the market. Depending on the power of the computer and the sophistication of the software, clipboard systems can be programmed to understand the particular quirks of a particular user's printing; *this is* an especially useful feature in Japan, where elaborate kanji characters make up most of the written language. Improvements in software may soon allow machines sold in the US to understand not only printing but continuous script as well.

Given such flexibility, the designers of clipboard computers are predicting big things — and a big market - for *their* products. «There's no doubt about it», says an optimistic Hawkins. «You're going to own one of these things in the not-too distant future».

Vocabulary

printing - (in this case) writing separated letters or numbers by hand.

kanji - Japanese script which uses Chinese characters.

Task 1. Decide whether the following statements are true (T) or false (F) in relation to the information in the text. If you think a statement is false, change it to make it true.

1. The Americans and the Japanese are working together to produce user-friendlier computers. T/F.

2. The clipboard computer was first sold twenty years ago. T/F.

3. On a clipboard, an electronic pen replaces the traditional keyboard. T/F.

4. In the GRID Pad system, when the pen touches the screen, it informs the computer and a liquid crystal pixel appears at that point. T/F.

5. The software decides that one character or number is complete if the tip of the stylus is not in contact with the screen for more than half a second. T/F.

6. The whole process of recognizing letters or numbers and printing them on the screen takes very little time. T/F.

7. There are many clipboard computers sold today which are all available everywhere in the world. T/F.

8. Clipboard systems can be made to understand any kind of writing. T/F.

Task 2. Look back in the text and find the reference for the words in italics.

- 1) ...from becoming *their* user-friendliest
- 2) ...*one* allows raw data to get... .
- 3) ...*it* informs the computer... .
- 4) Every time *this* happens... .
- 5) *Which* instantly identifies... .
- 6) ...*it* encodes the character in memory... .
- 7) ...*this* is an especially
- 8) ...for *their* products... .

Task 3. Look back in the text and find words or phrases that have a similar meaning.

Understand, marketed, coordinates, figure out, sold, covering, points, join, making even, not straight, connect, flick, coating made by mistake, quirk, move quickly and sharply, smoothing out, crooked, unique features, errant.

Task 4. Choose the correct word to complete each sentence. You may have to change some words slightly.

1. Electron, electronic, electronics, electronically.

- 1) An _____ pen is one example of an input device.
- 2) A computer solves problems _____.
- 3) Many _____ students go on to work as engineers.

2. Technology, technological, technologically, technologist.

- 1) The computer is the greatest _____ invention of the twentieth century.
- 2) There are two _____ involved in a clipboard PC.
- 3) Today's computers are _____ far superior to those used a few years ago.

3. Identify, identifying, identifiable, identity.

- 1) The clipboard's pattern recognition software immediately _____ the letters and numbers written by the stylus.
- 2) Most computer companies will not allow people without an _____ card to enter their premises.
- 3) A password is a mechanism for _____ the computer-user and allowing access.

4. Compute, computing, computation, computerize, computerization.

- 1) The _____ of the manufacturing division will be expensive in the short term, but cost-effective in the long term.
- 2) We should be able to _____ our profit for next year fairly accurately with the new program.

3) I could tell from all the _____ on the board that a maths lesson was in progress.

Unit 3. Operating System

Task 1. Before you read the text, try to answer the following questions.

1. What is an operating system and what is its purpose?
2. Where is an operating system stored and how is it transferred to internal memory?
3. List some of the tasks typically performed by an operating system.

Now read the text and check your answer.

General features of operating systems

An operating system is a master control program which controls the functions of the computer system as a whole and the running of application programs. All computers do not use the same operating systems. It is therefore important to assess the operating system used on a particular model before initial commitment because some software is only designed to run under the control of specific operating systems. Some operating systems are adopted as «industry standards» and these are the ones which should be evaluated because they normally have a good software base. The reason for this is that software houses are willing to expand resources on the development of application packages for machines functioning under the control of an operating system which is widely used. The cost of software is likely to be lower in such circumstances as the development costs are spread over a greater number of users, both actual and potential.

Mainframe computers usually process several application programs concurrently, switching from one to the other, for the purpose of increasing processing productivity. This is known as multiprogramming (multi-tasking in the context of microcomputers), which requires a powerful operating system incorporating work scheduling facilities to control the switching between programs. This entails reading in data for one program while the processor is performing computations on another and printing out results on yet another.

In multi-user environments an operating system is required to control terminal operations on a shared access basis as only one user can access the system at any moment of time. The operating system allocates control to each terminal in turn. Such systems also require a system for record locking and unlocking, to prevent one user attempting to read a record whilst another user is updating it, for instance. The first user is allocated control to write to a record (or file in some

instances) and other users are denied access until the record is updated and unlocked.

Some environments operate in concurrent batch and real-time mode. This means that a «background» job deals with routine batch processing whilst the «foreground» job deals with real-time operations such as airline seat reservations, on-line booking of hotel accommodation, or control of warehouse stocks, etc. The real-time operation has priority, and the operating system interrupts batch processing operations to deal with real-time enquiries or file updates. The stage of batch processing attained at the time of the interrupt is temporarily transferred to backing storage. After the real-time operation has been dealt with, the interrupted program is transferred back to internal memory from backing storage, and processing recommences from a «restart» point. The operating system also copies to disk backing storage the state of the real-time system every few minutes (periodic check points) to provide a means of «recovering» the system in the event of a malfunction.

An operating system is stored on disk and has to be booted into the internal memory (RAM) where it must reside throughout processing so that commands are instantly available. The operating system commands may exceed the internal memory capacity of the computer in which case only that portion of the OS which is frequently used is retained internally, so other modules being read in from disk as required. Many microcomputers function under the control of a disk operating system known as DOS.

Task 2. Answer these questions about the text.

1. Why is it important to assess the operating system on a computer before buying it?
2. What is multiprogramming?
3. The text gives some examples of real-time processing. Can you think of some examples of batch-processing?

Task 3. Here is a list of typical tasks performed by an operating system. In each case the main verb has been omitted. Fill in the blanks from the words given. Sometimes more than one may apply.

A typical operating system will:

- 1) _____ input and output devices.
- 2) _____ the status of hardware devices.
- 3) _____ hardware interrupts.
- 4) _____ new disks.
- 5) _____ disk directories.
- 6) _____ disk reading and writing operations.

Execute, monitor, format, diagnose.

Unit 4. Online Services

Task 1. Discuss the following questions.

1. What online services are available in your country?
2. What kind of facilities do online services provide?

Task 2. Decide whether the following statements are true (T) or false (F) in relation to the information in the text which follows. If you think a statement is false, change it to make it true.

1. Most people choose an online service because of the price or the number of available files. T/F.
2. Everybody has one service which he/she likes more than all the others. T/F.
3. You should judge each service according to whether it is better or worse overall than the service you are currently using. T/F.
4. Eventually, all services will be accessible from the service you are using.
5. Mc Grow –Hill is owned by BIX. T/F.
6. Tammy Ray and Jeanette Shearer think the BIX service is average. T/F.
7. French Minitel users have free access to an English-language version of CompuServe, although they cannot use the e-mail facility. T/F.
8. DEPHI'S Hobby Shop now has two special-interest areas: on classic vehicles, and one on new cars and technology. T/F.

Online Services

I'm frequently asked which online service is «best», but the answer is there is no best. Rating a particular service over another is entirely subjective. Price is important to some people, while the number of files available for download is important to others. Because of these and so many other different judgments, there can be no absolute. It all comes down to individual needs and preferences. Still, users tend to be fiercely loyal to their «home» online service - which is usually the first online service they ever used. They tend to judge all other online services based on this first service - often preventing themselves from seeing the advantages of a specific service. For my part, I like all the services I use and I'm on two dozen.

Each offers one or more products or features that either do not exist elsewhere or are superior to the same features on other services. And I've a really

subjective reason for being on one service use it to send monthly articles to magazines in Japan.

So, the real answer to the question is simple: the best online service is the service that has what you want and is easy for you to use. The point? Keep an open mind when checking out an online service. Judge it based on what it offers and how it meets your needs - not in comparison to what you're used to using. (It takes a couple of sessions to shake preconceived notions of what an online service 'should' be). Eventually, we're all going to be interlinked, no matter which service we use, in what DIALOG'S Richard Ream calls a «network of networks».

Until then, most of us have to go to more than one service to find everything we need.

And know the news...

What's new on-line

BIX

TAB Book Clubs Online: You've probably seen magazine ads for The Computer Book Club and Computer professionals Book Society. These are sponsored by TAB Books. This division of McGraw-Hill (BIX's parent company) is now online on BIX, taking orders and answering questions from members and prospective members. The club conference is moderated by Tammy Ray and Jeanette Shearer. You can check them out them by typing. JOIN TAB.BOOK.CLUBS.

CompuServe.

Dell Computer Forum: Dell Computer Corporation has opened a product support area on CompuServe. The Dell area is part of the PC Vendor D Forum. Type GO DELL or GO PCVEND to take a look.

Minitel Link to CompuServe.

CompuServe bolstered its position in Europe by making some of its services available via France's national Minitel users has access to an extra-cost service that is essentially a «limited edition», English-language version of CompuServe. Among the services available are software and database downloads. E-mail and message - base posting are not available to Minitel users.

DELPHI.

Hobby Group Expands: DELPHI's Hobby Shop special-interest group continues to expand its areas of interest. The most recent additions to the database and group topic are Antique Auto, which focuses on classic vehicles, and Autotech, where you can learn about new cars and technology. Type Go GROUP.

Vocabulary

It all comes down to - It is a question of

two dozen - about twenty-four

checking out - examining

is moderated by - is run by

bolstered – strengthene

Task 3. Fill in the gaps in this summary of the first part of the text. Each clue is an anagram. The first and last letters are correct.

In my opinion, there is no single «best» online service. The choice depends on your _____ (prltacuair) needs and preferences. Most users have their own _____ (ftrvaioue), but this can prevent them from seeing the _____ (agtvndaaes) of other services. Each one offers something which _____ is either _____ (uqinue) to that service, or which is _____ (bteetr) than the same features on other services. So, when considering an online service, decide whether its features _____ (cosrcrnop) to what you need. Until all services are _____ (iilktneernd), most of us will need to (cunoitne) using more than one.

Task 4. Make these words negative by adding the appropriate prefix from those given below. The first one has been done for you.

in- un- im- dis-

- 1) infrequently
- 2) _____ loyal
- 3) _____ advantages
- 4) _____ specific
- 5) _____ like
- 6) _____ real
- 7) _____ probably
- 8) _____ available

Task 5. Match each word or expression in the first column with a synonym in the second column.

- | | |
|----------------|-----------------|
| 1) but | a) ultimately |
| 2) while | b) however |
| 3) still | c) whereas |
| 4) for my part | d) nevertheless |
| 5) eventually | e) personally |
| 6) until then | f) meanwhile |

Unit 5. Programming and Languages

Task 1. Before reading the text, try to fill in the gaps in these sentences.

1. A _____ is a program written in one of the high-level languages.
2. A program written in a high-level language must be interpreted into _____ before the computer will read and process it.
3. A program designed to perform a specific task is called an _____.
4. The _____ or _____ is the program produced when the original program has been converted into machine code.
5. A _____ is a program that converts a high-level language into machine code.
6. The systems program which fetches required systems routines and links them to the object module is known as the _____.
7. The _____ is the program directly executable by the computer.

Now read the text to check your answers.

Programs and programming languages

Computers can deal with different kinds of problems if *they* are given the right instructions for what to do. Instructions are first written in one of the high-level languages, e.g. FORTRAN, COBOL, ALGOL, PL/I, PASCAL, BASIC, or C, depending on the type of problem to be solved. A program written in one of these languages is often called a source program, and *it* cannot be directly processed by the computer until it has been compiled, which means interpreted into machine code. Usually a single instruction written in a high-level language, when transformed into machine code, results in several instructions. Here is a brief description of some of the many high-level languages:

FORTRAN acronym for FORmula TRANslation. This language is used for solving scientific and mathematical problems. It consists of algebraic formulae and English phrases. It was first introduced in the United States in 1954.

COBOL acronym for COMmon Business-Oriented Language. This language is used for commercial purposes. COBOL, which is written using English statements, deals with problems that do not involve a lot of mathematical calculations. It was first introduced in 1959.

ALGOL acronym for ALGORithmic Language. Originally called IAL, which means International Algebraic Language. It is used for mathematical and scientific purposes. ALGOL was first introduced in Europe in 1960.

PL/1 Programming Language I. Developed in 1964 to combine features of COBOL and ALGOL. Consequently, it is used for data processing as well as scientific applications.

BASIC acronym for Beginner's All-purpose Symbolic Instruction Code. Developed in 1965 at Dartmouth College in the United States for use by students who require a simple language to begin programming.

Other such languages are APL (developed in 1962), PASCAL (named after Blaise Pascal and developed in 1971), and LISP and PROLOG, both of which are used for work in artificial intelligence. LOGO is a development of LISP which has been used to develop computer-based training (CBT) packages.

When a program written in one of these high-level languages is designed to do a specific type of work such as calculate a company's payroll or calculate the stress factor on a roof, *it* is called an applications program. Institutions either purchase these programs as packages or commission *their* own programmers to write *them* to meet the specifications of the users.

The program produced after the source program has been converted into machine code is referred to as an object program or object module. This is done by a computer program called the compiler, which is unique for each computer. Consequently, a computer needs its own compiler for the various high-level languages if it is expected to accept programs written in those languages. For example, in order that an IBM RS/6000 may process a program in FORTRAN, it needs to have a compiler *that* would understand that particular model and the FORTRAN language as well.

The compiler is a systems program which may be written in any language, but the computer's operating system is a true systems program *which* controls the central processing unit (CPU), the input, the output, and the secondary memory devices. Another systems program is the linkage editor, which fetches required systems routines and links *them* to the object module (the source program in machine code). The resulting program is then called the load module, which is the program directly executable by the computer. Although systems programs are part of the software, they are usually provided by the manufacturer of the machine.

Unlike systems programs, software packages are sold by various vendors and not necessarily by the computer manufacturer. *They* are a set of programs designed to perform certain applications which conform to the particular specifications of the user. Payroll is an example of such a package which allows the user to input data - hours worked, pay rates, special deductions, names of employees - and get salary calculations as output. These packages are coded in machine language (0s and 1s) on magnetic tapes or disks *which* can be purchased, leased, or rented by users who choose the package that most closely corresponds to their needs.

Vocabulary

payroll - list of employees and the amount of money to be paid to each of them

Tasks 2. These are answers to questions about the text. Write the questions.

1. No, it is quite wordy so it is used for commercial purposes.
2. To support the UNIX operating system.
3. An applications program.
4. It is done by the compiler.
5. It fetches required systems routines and links them to the object module.
6. No, they are also sold by other vendors.

Task 3. Summarize the information on different high-level computer languages by completing the table below.

<i>Language</i>	<i>Developed</i>	<i>Function</i>	<i>Characteristics</i>
FORTRAN			
	1959		
		mathematical and scientific purpose	
			Combines features of COBOL and ALGOL
BASIC			
		to support Unix operating system	
	1962		

Task 4. Find the passages in the text where the following ideas are expressed.

1. Systems programs control the work of the computer system.
2. Software packages are not always sold by the manufacturer.
3. Usually every high-level instruction translates into many more in machine code.

4. Systems programs are usually provided by the manufacturer.
5. Programmers may be required to write software for their employers.

Task 5. Look back in the text and find the reference for the words in italics.

1. ... if *they* are given the right... .
2. ...it cannot be directly processed... .
3. ...it is called an applications program... .
4.commission *their* own programmers... .
5. ...to write *them* to meet... .
6. ...*that* would understand... .
7. ...*which* controls the central... .
8. ...links *them* to the object... .
9. ...*they* are a set of programs... .
10. ...*which* can be purchased... .

Task 6. Find among words that have a similar meaning.

Are compatible with, fetches, brings, corresponds to, transformed, conform to, matches, converted, commission, give the responsibility to.

Task 7. Choose the correct word to complete each sentence. You may have to change some words slightly.

1. Instruction, instruct, instructed, instructor.

- 1) Our maths ____ explained to us the principles of binary arithmetic.
- 2) We were ____ to document our programs very carefully.
- 3) Both____ and data have to be changed to machine code before the computer can operate on them.

2. Compilation, compiler, compile, compiled.

- 1) Our university computer does not have a PASCAL_____.
- 2) Usually, a programmer_____his program before he puts in the data.
- 3) A source program cannot be directly processed by the computer until it has been_____.

3. Rresult, results, resulting.

- 1)The linkage editor links systems routines to the object module. The_____ program, referred to as the load module, is directly executable by the computer.

- 2) The_____ of these mathematical operations were obtained from the university mainframe and not from my micro.

4. Specification, specify, specific, specified, specifically.

- 1) Our company bought three packages with very _____ applications: payroll, accounts receivable, and accounts payable.
- 2) An applications program is designed to do a _____ type of work, such as calculating the stress factor of a roof.
- 3) Did the analyst give the new programmer the _____ necessary to start on the project?

Unit 6. Computer Software

Task 1. In the magazine article which follows, a number of software developers express their opinions on the future of software technology. Read the article and tick (✓) the relevant boxes to show which opinions are expressed by the speakers.

<i>Opinions</i>	<i>Mary Evans</i>	<i>Gerry Harper</i>	<i>Matt Andrews</i>	<i>Bob Bolton</i>
In general, customers are getting what they want.				
Software is too complex.				
Software is not complex enough.				
Software developers know what users want.				
Software developers don't know what users want.				
In general, customers are not getting what they want.				

Catherine Bull investigates

This week: Software.

Software technology is getting more complicated. Developers have to cut through a jungle of computer languages, operating environments, and shifting standards to choose how they'll create their software. It's not an easy job. Software purchasers will have to live with the results for years to come. Which advances in software technology will prevail? Which ones will be just a flash in the pan?

I chose four well-known software developers and asked each to talk about current and future trends in software technology. Their comments reveal some common and diverse themes.

I began by asking them if they thought that software purchasers are getting what they need? What should developers be doing differently to give purchasers a better product?

Mary Evans «In general, I think people are getting what they want - there are a lot of creative things being done with paint software, word processing, DTP (desktop publishing) systems, and the like. Do users want more? Of course! Users will always want more. The computer is an incredibly powerful tool, and any software that makes it easier, faster, more creative, or more cost-effective will inevitably be in demand. But I'm generally optimistic about the way things are going at the moment. I think most of the major software manufacturers are able to read the market quite well».

Gerry Harper «I'm afraid I completely disagree with Mary. I just don't think that software purchasers are getting the technical support they need. While the products are getting more and more complex, and more and more expensive, it seems that support is starting to be thought of as an additional business opportunity. More generally, I've thought for some time that applications are getting too big, and that they're trying to do too much. Yes, they're versatile and powerful, but they're also often overwhelming. I think what we need are simple little programs that are easy to understand and use, and that work together to accomplish more complex tasks».

Matt Andrews «I really can't agree with that. To imagine we can just go back to «simple little programs» just ignores the complex needs of many of today's software users. No, I'm sure that you can't stop progress. Suppliers know what their customers want - they just can't supply it quickly enough. I've studied the market very closely, and I've found that purchasers' needs seem always to exceed the capability of the available software by a constant time-frame of about six to twelve months».

Bob Bolton «I think users are getting what they want, provided that their needs fit the off-the-shelf application. Specialized software is usually so specific that it should be written in-house for businesses. Developers should add features that the customer needs, not what they think customers want. Some effort should be made to get feedback from the users before making an upgrade so that the proper features are added».

Vocabulary

a flash in the pan - a success that lasts only a short time and is not repeated.

off-the-shelf - mass-produced; not made according to the individual needs of the customer.

Task 2. Each of the following comments from the text is followed by two paraphrases. Decide which paraphrase (a or 2) is closer in meaning to the original comment. Remember to look at the comments in their original context.

1. «Developers have to cut through a jungle of computer languages, operating environments, and shifting standards...».

1) The huge number of languages, environments, and standards makes life difficult for software developers.

2) Software developers have to act to reduce the number of languages, environments, and standards which currently exist.

2. «Their comments reveal some common and diverse themes».

1) They talk about ordinary and wide-ranging topics.

2) They agree about some issues, but disagree about others.

3. «I think most of the major software manufacturers are able to read the market quite well».

1) Most software manufacturers understand what consumers want.

2) Most software manufacturers know how to influence users to buy more of their products.

4. «...it seems that support is starting to be thought of as an additional business opportunity».

1) Increased technical support is a means of making software more attractive to businesses.

2) Software manufacturers are using the fact their products are complex to start selling technical support to their customers.

5. «...purchasers' needs seem always to exceed the capability of the available software by a constant time-frame of about six to twelve months».

1) It takes about six to twelve months for purchasers to understand fully the software they buy.

2) The software customers want now what will only become available in about six to twelve months.

Task 3. Find words or phrases in the text that have a similar meaning.

Penetrate, changing, accomplish, exceed, win, survive, overwhelming, feedback, buyers, versatile, understand, cut through, flexible, shifting, too big/complex to manage, achieve, prevail, go beyond, purchasers, information about a product/service, read.

Unit 7. Computer Networks

Task 1. Try to answer these questions.

1. What is a LAN?

2. What is a WAN?

3. What is a distributed system?

Task 2. Before reading the text opposite, match these words and phrases with their definition.

- | | |
|-------------------|--|
| 1. Protocol | a) analyse the syntax of string of output system |
| 2. Bulletin board | b) teleconferencing system allowing users to read messages left by other users |
| 3. User interface | c) agreement governing the producers used to exchange information between co-operating computers |
| 4. Make a query | d) means of communication between a human user and a computer system |
| 5. Parse | e) taking place at exactly the same time as something else |
| 6. Synchronous | f) request a search |

Task 3. Read quickly through the text below, then match each paragraph with the appropriate summary.

- 1) Network uses, past and present.
- 2) How distributed systems work.
- 3) Networks and the future.
- 4) What networks are and how they operate.
- 5) The growth of networks, past and present.

Computer networks

Computer networks link computers by communication lines and software protocols, allowing data to be exchanged rapidly and reliably. Traditionally, networks have been split between wide area networks {WANs) and local area networks {LANs). A WAN is a network connected over longdistance telephone lines, and a LAN is a localized network usually in one building or a group of buildings close together. The distinction, however, is becoming blurred. It is now possible to connect up LANs remotely over telephone links so that they look as though they are a single LAN.

Originally, networks were used to provide terminal access to another computer and to transfer files between computers. Today, networks carry e-mail, provide access to public databases and bulletin boards, and are beginning to be used for distributed systems. Networks also allow users in one locality to share expensive resources, such as printers and disk-systems.

Distributed computer systems are built using networked so computers that co-operate to perform tasks. In this environment each part of the networked system does what it is best at. The high-quality bit-mapped graphics screen of a personal

computer or workstation provides a good user interface. The mainframe, on the other hand, can handle large numbers of queries and return the results to the users. In a distributed environment, a user might use his PC to make a query against a central database. The PC passes the query, written in a special language (e.g. Structured Query Language - SQL), to the mainframe, which then parses the query, returning to the user only the data requested. The user might then use his PC to draw graphs based on the data. By passing back to the user's PC only the specific information requested, network traffic is reduced. If the whole file were transmitted, the PC would then have to perform the query itself, reducing the efficiency of both network and PC.

In the 1980s, at least 100,000 LANs were set up in laboratories and offices around the world. During the early part of this decade, synchronous orbit satellites lowered the price of long-distance telephone calls, enabling computer data and television signals to be distributed more cheaply around the world. Since then, fibre-optic cable has been installed on a large scale, enabling vast amounts of data to be transmitted at a very high speed using light signals.

The impact of fibre optics will be considerably to reduce the price of network access. Global communication and computer networks will become more and more a part of professional and personal lives as the price of microcomputers and network access drops. At the same time, distributed computer networks should improve our work environments and technical abilities.

Task 4. Read this summary of the text and fill in the gaps using the list of words below.

Computer networks link computers locally or by external communication lines and software _____, allowing data to be exchanged rapidly and reliably. The _____ between local area and wide area networks is, however, becoming unclear. Networks are being used to perform increasingly diverse tasks, such as carrying e-mail, providing access to public databases, and for _____. Networks also allow users in one locality to share resources. Distributed systems use networked computers. PCs or _____ provide the user _____. Mainframes process _____ and return the results to the users. A user at his PC might make a query against a central database. The PC passes the query, written in a special language, to the mainframe, which then _____ the query, returning to the user only the data requested. This allows both the network and the individual PC to operate efficiently.

In the 1980s, at least 100,000 _____ were set up world-wide. As _____ orbit satellites have lowered the price of long-distance telephone calls, data can be transmitted more cheaply. In addition, _____ cable has been installed on a large scale, enabling vast amounts of data to be transmitted at a very high speed using light signals. This will considerably reduce the price of network

access, making global networks more and more a part of our professional and personal lives. Networks should also improve our work _____ and technical abilities.

distinction	fibre-optic	protocols	synchronous
distributed systems	LANs	queries	workstations
environments	purses	screen handling	

Task 5. Find words that have a similar meaning.

Cost, global, world-wide, price, unclear, perform, carry out, locality, blurred, place.

Task 6. Find words that have an opposite meaning.

Localized, tiny, preventing, increase, disparate, conflict, cooperate, enabling, vast, reduce.

Task 7. Read the following text.

Network configurations

Star.

In the star configuration, the central computer performs all processing and control functions. All access devices are linked directly to the central computer. The star configuration has two major limitations. First of all, the remote devices are unable to communicate directly. Instead, they must communicate via the central computer only. Secondly, the star network is very susceptible to failure, either in the central computer or the transmission links.

Switched.

The central switch, which could be a telephone exchange, is used to connect different devices on the network directly. Once the link is established, the two devices communicate as though they were directly linked without interference from any other device. At the end of the session, the connection is closed, freeing capacity for other users and allowing access to other devices. Multiple switches can be used to create alternative transmission routes.

Ring.

Each device is attached to a network shaped as a continuous loop. Data proceeds in only one direction and at a constant speed round the loop. Devices may send information only when they are in control of the «token». The token is a package of data which indicates which device has control. The receiving device picks up the token, then clears it for another's use once it has received the message.

Only one device may send data at any given moment, and each device must be working for the network to function.

Bus/Ethernet.

A bus network consists of one piece of cable terminated at each end to which all devices are connected. In a bus-based network, each device is able to broadcast a message when it has detected silence for a fixed period of time. All devices receive the broadcast and determine from the content of the message whether it was intended for them. The only problem occurs when two devices try to send at the same time. When a sending device detects another's transmission, it aborts its own.

Task 8. These are answers to questions about the texts. Write the questions.

1. To connect different devices on the network directly.
2. No, it goes in only one direction round the loop.
3. No, only one device may send data at any given moment.
4. From the content of the message.
5. It cancels its own transmission.

Unit 8. Computer viruses

Task 1. Try to answer these questions.

1. What is a computer virus?
2. How does a virus work?

Task 2. Before reading the text, match the words and definitions listed below.

- | | |
|----------------|---|
| 1. A detonator | a) protective device |
| 2. An infector | b) to remove all traces of something |
| 3. To boot | c) a device used to set off an explosion or other destructive process |
| 4. To trigger | d) to discover or recognize that something is present |
| 5. To erase | e) to set a process in motion |
| 6. Pirated | f) something which transmits a disease or virus |
| 7. A shield | g) stolen, obtained without the owner's consent |
| 8. To detect | h) to load the operating system into memory |

Task 3. Now read the text to check your answers to Task 1.

A computer virus - an unwanted program that has entered your system without you knowing about it-has two parts, which I'll call the infector and the

detonator. *They* have two very different jobs. One of the features of a computer virus that separates it from other kinds of computer program is that *it* replicates *itself*, so that it can spread (via floppies transported from computer to computer, or networks) to other computers.

After the infector has copied the virus elsewhere, the detonator performs the virus's main work. Generally, that work is either damaging data on your disks, altering what you see on your computer display, or doing something else that interferes with the normal use of your computer.

Here's an example of a simple virus, the Lehigh virus. The infector portion of Lehigh replicates by attaching a copy of itself to COMMAND.COM (an important part of DOS), enlarging *it* by about 1000 bytes.

So let's say you put a floppy containing COMMAND.COM into an infected PC at your office - that is, a PC that is running the Lehigh program. The infector portion of Lehigh looks over DOS's shoulder, monitoring all floppy accesses. The first time you tell the infected PC to access your floppy drive, the Lehigh infector notices the copy of COMMAND.COM on the floppy and adds a copy of itself to that file.классика

Then you take the floppy home to your PC and boot from the floppy. (In this case, you've got to boot from the floppy in order for the virus to take effect, since you may have many copies of COMMAND.COM on your hard and floppy disks, but DOS only uses the COMMAND.COM on the boot drive).

Now the virus has silently and instantly been installed in your PC's memory. Every time you access a hard disk subdirectory or a floppy disk containing COMMAND.COM, the virus sees that file and infects *it*, in the hope that this particular COMMAND.COM will be used on a boot disk on some computer someday.

Meanwhile, Lehigh keeps a count of infections. Once it has infected four copies of COMMAND.COM, the detonator is triggered. The detonator in Lehigh is a simple one. It erases a vital part of your hard disk, making the files on that part of the disk no longer accessible. You grumble and set about rebuilding your work, unaware that Lehigh is go waiting to infect other unsuspecting computers if you boot from one of those four infected floppies.

Don't worry too much about viruses. You may never see one. There are just a few ways to become infected that you should be aware of. The sources seem to be service people, pirated games, putting floppies in publicly available PCs without write-protect tabs, commercial software (rarely), and software distributed overcomputer bulletin board systems (also quite rarely, despite media misinformation).

Many viruses have spread no through pirated - illegally copied or broken - games. *This* is easy to avoid. Pay for your games, fair and square. If you use a shared PC or a PC that has public access, such as one in a college PC lab or a library, be very careful about putting floppies into that PC's drives without a write-

protect tab. Carry a virus-checking program and scan the PC before letting it write data onto floppies.

Despite the low incidence of actual viruses, it can't hurt to run a virus checking program now and then. There are actually two kinds of antivirus programs: virus shields, *which* detect viruses as they are infecting your PC, and virus scanners, which detect viruses once *they've* infected you.

Viruses are something to worry about, but not a lot. A little common sense and the occasional virus scan will no keep you virus-free.

Remember these four points:

- 1) Viruses can't infect a data or text file.
- 2) Before running an antivirus program, be sure to cold- boot from a write-protected floppy.
- 3) Don't boot from floppies except reliable DOS disks or your original production disks.
- 4) Stay away from pirated software.

Vocabulary

fair and square -honesty

it can't hurt -it's probably a good idea

Task 4. Decide whether the following statements are True (T) or False (F) in relation to the information in the text. If you feel a statement is false, change it to make it true.

1. Viruses cannot be spread through a computer network, only via floppies transported from computer to computer. T/F.
2. The virus will spread as soon as you put the infected floppy in your PC. T/F.
3. The virus will spread as soon as you put the infected floppy in your PC your computer. T/F.
4. The detonator in Lehigh works by altering what you see on your screen. T/F.
5. Most viruses spread through pirated games T/F.
6. You should run an antivirus program every time you use your computer. T/F.
7. There are not very many viruses in circulation. T/F.
8. Virus shields are more effective than virus scanners. T/F.

Task 5. Where the following ideas are found in the text.

1. The Lehigh virus must infect four copies of COMMAND.COM before damage is done to data.

2. Always boot your computer from dependable DOS disks or your original disk.
3. The infector part of a virus must first copy itself somewhere before the detonator part damages the data on your disks.
4. Virus scanners discover viruses after the infection and virus shields discover viruses during the infection process.

Task 6. These are answers to questions about the text. Write the questions.

1. Two, one that infects and one that does the damage.
2. By interfering in some way with the normal use of the computer.
3. After it has infected four copies of COMMAND.COM.
4. Every time you access a hard disk subdirectory or a floppy disk containing COMMAND.COM.
5. Yes, by using your common sense and by occasionally scanning for them.

Task 7. Look back in the text and find the reference for the words in italics.

1. *They* have two very... .
2. ... is that it replicates *itself*... .
3. ...enlarging *it* by about... .
4. ...of *itself* to that file... .
5. ...and infects *it*... .
6. *This* is easy to... .
7. ...*which* detect viruses
8. ...once *they've* infected

Task 8. Find words or phrases with a similar meaning.

Reproduces, infect, instantly, changing, altering, replicates, immediately, grumble, spread to complain.

Find words or phrases that have an opposite meaning.

Rarely, reducing, erases, removed from, enlarging, records, aware, installed in ignorant, frequently.

Unit 9. Computers in the office

Visions of Tomorrow

Radiation screens are available, and have been for some years. Most of them place an emissions barrier between you and the front of your display, while *others* encase the entire monitor, protecting you from side and rear emissions as well. Many offices already have these screens available for their workers.

The paperless office is still a dream, but the basic tools are in place. We receive mail in two basic forms: on paper in an envelope, or electronically on our computers. Most of us have access to e-mail in one form or another. That's half the battle won. The other *half* is a bit more difficult, but *it* can be, and is being, done. All mail can be opened in the mail room and scanned into the computer using optical character recognition (OCR). Then a document-image-processing program takes over and lets you accomplish electronically what you would normally do with paper. Various personal computer products are available for this purpose.

Pen-based computing is coming into its own. Pen - input capabilities are beginning to show up in hardware, applications, and operating systems. You can't take notes that will go directly into your computer, and the technology wouldn't know what to do with your doodles, but it would know that a doodle isn't a valid word. And that's a start-a good one.

Multimedia really needs no explanation. There are many packages that help you create multimedia presentations, and the tools to create customized multimedia training programs are also plentiful. CD-ROM disks, such as Ziff-Davis's Computer Select and Microsoft's Bookshelf, let you access mountains of information with ease.

Computers are already much smaller than they used to be, and you can't go to an industry show these days without finding some company promoting its «small footprint» When you start talking about laptops, notebooks, and palmtops, the question becomes, «How small is too small» FAX capabilities are already available on boards that you can plug into your computer. When you combine the technologies present in internal modems with voice recognition, the basics for having your computer replace your phone-voice line are in place.

Voice recognition is another technology that may appear limited in *its* present form, but it shows great promise for the future. Current voice-recognition systems can handle speaker-dependent continuous speech or speaker-independent discrete speech.

Speaking to your computer will be a major factor in the office of the future. In some locations, *it* is already a major factor in the office of today. Stock is traded in some brokerage houses by verbal command from the broker to the computer. So, you ask your computer a question, and it answers you -verbally. Depending on the rate of speech sampling used and the resolution the A/D converter uses for each

sample, we can already create a credible approximation of human speech with digitized sound.

Large display screens? You can get screens of up to inches now, and between Barco and Mitsubishi competing for the honor of having the largest monitor, it's hard to predict just how big they will get in the future. As for color, some companies offer upwards of 16 million. Somewhere in that number must lie the perfect color for reducing eye-strain. The real disaster that most of us still have to deal with is the traditional keyboard, *which* is the cause of much pain and suffering in the form of carpal tunnel syndrome and other repetitive-strain injuries. Wrist rests are available to alleviate the problem, and no new designs for strange-looking keyboards. *Star Trek*- style, are moving from the drawing board to the factory.

Enterprise networks are proliferating almost as fast as LANs did just a year or two ago. Public data networks are ripe for the dialling up and signing on. And the Internet already exists, with several of the research and educational facilities on its membership rolls.

Worldwide connectivity is already available in the enterprise networks of some major corporations (e.g. DEC'S DECnet and IBM's Systems Network Architecture). Admittedly, these are proprietary networks, but they are living proof that the concept can and does work.

Vocabulary

doodle - meaningless drawing

brokerage houses - companies that buy and sell shares for clients
carpal tunnel

syndrome - chronic wrist-strain caused by repetitive movement, such as typing

Star Trek - futuristic American television series of the 1970s/1980s

Task 1. Each of the following sentences from the text is followed by two paraphrases. Decide which paraphrase (a or b) is closer in meaning to the original comment. Remember to look at the comments in their original context.

1. Pen-based computing is coming into its own.

1) Pen-based computing is receiving the recognition it merits.

2) Pen-based computing is good for tasks where a conventional pen would normally be used.

2. ...you can't go to an industry show these days without finding some company promoting its «small footprint».

1) At every exhibition these days, you will find at least one company advertising its own miniature computer.

2) It is impossible to get invited to a computer show these days unless you have a contact in a company manufacturing miniature computer.

3. Current voice-recognition systems can handle speaker-dependent continuous speech or speaker-independent discrete speech.

1) Some of today's voice-recognition systems are set up to recognize continuous speech from certain people, while others can recognize specific words from anyone.

2) All of today's voice-recognition systems are set up to recognize either continuous speech from certain people or specific words from anyone.

4. Public data networks are ripe for the dialing up and signing on.

1) There are public data networks waiting to be used.

2) Public data networks are now sufficiently developed to be used.

Task 2

1. Do you think the English in the text is:

1) very formal?

2) quite formal?

3) neutral?

4) quite informal?

5) very informal?

2. Do you think this article originally appeared in:

1) a computer magazine?

2) a general magazine for young people?

3) a general magazine for adults?

4) an online bulletin board?

5) the science page of a newspaper?

3. Do you think this article is written by:

1) a British person.

2) an Australian.

3) an American.

4) a non-native speaker of English.

Give reasons for your choices.

Task 3. Look back in the text and find the reference for the words in italics.

1. ...while *others* encase... .

2. *The other half* is a bit more difficult... .

3. ...but *it* can be

4. ...but *it* would know... .

5. ...in *its* present form... .

6. ...*it* is already a major factor... .

7. ...*which* is the cause... .
8. ...on *its* membership....

Task 4. Find words with a similar meaning.

Whole, usually, acceptable, ripe, proliferating, reducing, seem, credible, believable, appear, decreasing, valid, normally, entire spreading, ready.

Now find words or phrases that mean the opposite.

Danger, destroy, alleviate, suffering, rare, separate, upwards of, minor, major, combine, plentiful, less than, enjoyment, aggravate, create, safety.

Task 5. Choose the correct word to complete each sentence. You may have to change some words slightly.

1. *Consider, considered, consideration, considerable, considerably.*

- 1) We'll have to _____ using another company if they can't provide the software we need.
- 2) The company has invested a _____ sum of money in ergonomic workstations.
- 3) The CEO has submitted this proposal for your _____.
- 4) This computer is _____ faster than the old one.

2. *Apply, applying, applicant, application, applicable.*

- 1) We have interviewed five _____ for the new position.
- 2) The last part of the form is not _____ to foreign students.
- 3) My student is thinking of _____ for a government grant to continue his research.
- 4) The new book uses business _____ to teach computer studies.

3. *Explain, explained, explaining, explanation, explanatory.*

- 1) The package includes an _____ booklet.
- 2) The instructions are very clear and do not require any further _____.
- 3) It will only take a couple of minutes to _____ how the program works.
- 4) If you are new to this system, almost everything will have to be _____.

4. *Depend, depending, dependent, dependence, dependable, dependably.*

- 1) The company has supplied us _____ for over ten years.
- 2) We have to reduce our _____ on imported goods.
- 3) This is very _____ equipment. We have never had a serious breakdown.
- 4) Today, many companies _____ more on FAXes than on mail.

5. *Connect, connected, connecting, connector, connectivity, connection.*

- 1) _____ is an important concept in global communications.
- 2) He only got that contract because he has _____ in the government.
- 3) Make sure the _____ is not loose before you call a service technician.
- 4) Once the new telephone lines are _____ our system should be more efficient.

Information systems

Task 6. Before reading the text, try to decide which of the following definitions best describes a management information system.

- a) a system for supplying information to management
- b) a system for managing information
- c) a system which supplies information about management

Task 7. Decide whether these statements are true (T) or false (F), then read the passage to check your answers.

1. All businesses are interested in more or less the same information, regardless of the nature of their operations. T/F.
2. The managing director of a company needs a lot more detailed information about the day-to-day operations than his executives do. T/F.
3. Functional management require up-to-the-minute information so that they can take action to control events as they happen. T/F.
4. Information systems are usually computerized. T/F.
5. Transaction processing systems are usually the first systems to be installed. T/F.

Information systems

The objective of information systems is to provide information to all levels of management at the most relevant time, at an acceptable level of accuracy, and at an economical cost.

Individual businesses require information according to the nature of their operations. A car manufacturer is particularly interested in the extent of competition from overseas manufacturers in the home market and competition from other home-based manufacturers. A tour operator is concerned about purchasing power and its effect on holiday bookings and the political situation prevailing in the various countries.

As a general guide, the detail contained in reports containing information varies according to the position of the recipient in the hierarchical management structure. The chairman and managing director of a company require details of operations which are broad in scope and which concentrate on key factors pinpointing economic and financial trends. Functional management require information relating to the departments they are responsible for in sufficient detail to enable them to apply whatever measures are required to bring situations into line with requirements. They require information relating to events as they occur so that appropriate action can be taken to control them.

Information systems are often computerized because of the need to respond quickly and flexibly to queries. At the bottom level in the information hierarchy are the transaction processing systems, which capture and process internal information, such as sales, production, and stock data. These produce the working documents of the business, such as invoices and statements. Typically, these are the first systems which a company will install. Above the transaction-level systems are the decision support systems. These take external information - market trends and other external financial data - and processed internal information, such as sales trends, to produce strategic plans, forecasts, and budgets. Often such systems are put together with PC spreadsheets and other unconnected tools. Management information systems lie at the top of the hierarchy of information needs. The MIS takes the plans and information from the transaction-level systems to monitor the performance of the business as a whole. This provides feedback to aid strategic planning, forecasting, and/or budgeting, which in turn affects what happens at the transactional level.

Unit 10. Computers in education

Task 1. Make a list of the ways computers are used in education.

Task 2. Discuss these questions:

1. How are computers used in your school?
2. What do you think the following terms mean?
 - a) further education
 - b) pen learning
 - c) flexible learning

Task 3. Read quickly through the text opposite to find:

1. The overall purpose of NCET.
2. Another expression meaning «educational technology».
3. Whether NCET produces learning materials.

4. How many priorities NCET's Schooling Directorate has.
5. Three groups of people helped by NCET's Vocational Training programme.
6. Three examples of new and developing technologies Computers in education that the Council gives advice about.

National Council for Educational Technology

The Council's purpose is to bring beneficial change to the processes of learning in education and training through the development and application of educational technology.

Educational technology - or learning technology, as it is sometimes known - embraces everything from the way computers, satellites, and interactive video are used in schools, colleges, and industry to issues of copyright and flexible learning. Focusing on the learner, our purpose is to support change in the ways we learn by applying the benefits of educational technology - especially the new information technologies - to the process of learning.

We design and produce learning materials in all subjects to support education and training. We carry out research and manage projects, offer consultancy on technical matters, support training for trainers and teachers, and offer expertise in areas such as open and flexible learning, resource management, and educational software. We provide a comprehensive information and enquiry service.

Information Technology in schools.

Through its I.T. in Schools Programme. NCET's Schooling Directorate is pursuing four priorities:

- a) to identify and promote and spread good practice in the use of new technologies;
- b) to provide professional guidance to teacher trainers so that they can help teachers and schools in managing I.T. and in applying it to all areas of study;
- c) to develop high-quality curriculum materials and encourage other publishers to do the same;
- d) to give particular support for those concerned with children and young adults with special educational needs, including the handicapped.

Learning after school and at work.

NCET's Training Directorate focuses on the needs of those wishing to learn after the school-leaving age. Projects under the Vocational Training programme include looking into the training needs of women, older workers, and those who use information technology to work from home. In further education, lecturers and senior managers are being helped to plan for I.T. and changing client needs. For industry, our work has included language training in the run-up to 1992, and the application of artificial intelligence systems to training. This directorate also takes

the lead in important trans-sectoral issues such as open and flexible learning, copyright, and the use of computers in careers guidance.

Technical expertise.

Keeping abreast of developments in technology and maintaining a national expertise on standards and specifications is the work of NCET's Technical Consultancy Directorate. Through links with other organizations, it identifies issues associated with the adoption of new technologies and, where appropriate, carries out projects to assess or develop their potential in education and training. It has a watching brief and provides consultancy on new and developing technologies such as satellites, CD-ROM, and interactive video. Current projects involve the examination of the use of educational software in schools, the use of massive storage systems, and the use of satellites in education and training. The Directorate also produces guidance to users on a wide range of technology, from desk-top publishing and remote sensing to teleconferencing and audio-visual systems.

Task 4. Imagine that you represent NCET and that a newspaper reporter is interviewing you. Use the information in the text to complete the dialogue in your own words.

Reporter What exactly does the term «educational technology» cover?

You _____.

Reporter I see. Apart from offering advice on technical matters, what other services do you provide?

You _____.

Reporter Does the I.T. in Schools Programme help teachers as well as students?

You Yes. _____.

Reporter What about those with special educational needs?

You _____.

Reporter What responsibility does the NCET's Training Directorate have?

You _____.

Reporter Does that include helping people in industry?

You _____.

Reporter One last question. What kind of work is the Technical Consultancy Directorate doing in schools at the moment?

You _____.

Task 5. Find words or phrases in the text which have a similar meaning.

Includes, advantages, covering everything, abreast, run up, watching brief, course, physically or mentally challenged, approach, handicapped, up to date with, curriculum, instructions to monitor, comprehensive, benefits, embraces.

Task 6. Reading.

A teacher has been looking at some publicity material for the Adam & Eve program. Read the material and fill in the gaps in the teacher's notes opposite.

Choose your own texts.

Adam & Eve allow you to create exercises based on any text you want. The text could be from the course-book you are using, from a reader, from a newspaper whatever your students are interested in.

Analyse your texts.

Adam & Eve will analyse the vocabulary of the text according to the database of word frequency contained within the software. From this analysis you get a precise idea of the level of difficulty of a text, you can compare one text with another text, and you can see whether it fits in with the syllabus your students are working to.

Generate exercises.

Adam & Eve will then create a wide variety of exercises based on this analysis. These exercises, which are easily and quickly generated, can be presented to your students either as printed worksheets - you will be provided with the answers on a separate sheet - or can be put on to a floppy disk so that a performance will be automatically evaluated and the score recorded.

Simple to use.

No previous experience with computers is necessary. If you can type using a word processor (or know someone who can!) you will have no difficulty in putting your texts into the software. The whole program is «menu driven» in any one of five languages so you will always know where you are and it will be obvious from the screen where you can go next. There is a full and clearly written manual to help you get started, (since you are familiar with the basic workings, don't forget to go back to the manual to learn about the program's finer points).

Something for the whole school.

Up to twenty-five different teachers can work with ADAM & EVE. The program will keep each teacher's texts; the exercises generated on those texts in separate files which are only accessible using that, teacher's password.

ADAM & EVE

1. You can create exercises from any text. e.g.

_____, _____, _____.

2. You can _____ a text to assess its, _____ to _____ it to another text, or to determine its suitability for a given _____.

3. Exercises can be easily _____, and can be presented to students either as _____ or on _____.

4. No _____ of computers is needed. The program is «_____ driven» in any of _____ languages. The package comes with a comprehensive _____.

5. Up to _____ teachers can use the program. It can store all generated texts and exercises in separate _____. Each teacher has a personal _____ to _____ his or her files.

Task 6. Choose the correct word to complete each sentence. You may have to change some words slightly.

1. Create, created, creating, creation, creativity.

1) The _____ of this database will give us a huge advantage over our competitors in the long run.

2) The procedure for _____ a new file is very simple.

3) The new position we are advertising is going to require someone with enormous _____.

2. Generate, generated, generative, generation.

1) Exercises can be quickly _____ using this program.

2) Our company is working on a new _____ of software products.

3) This development is sure to _____ great interest.

3. Access, accessed, accessible, accessibility.

1) All user requests to _____ a database are handled by the database management system.

2) _____ to the computer room is restricted to authorized personnel.

3) Those files are not _____ unless you know the password.

4. Analyse, analysed, analysis, analyst.

1) When a text is _____, all pronouns, prepositions, conjunctions, and verb forms are automatically identified.

2) This _____ shows that most PC users are not aware of the full potential of the software products they buy.

3) The DBMS first receives the request and _____ it for syntax errors.

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