

1. Bài tập 1

1. What is dry farming?

Preserving nitrates and moisture.
Ploughing the land again and again.
Cultivating fallow land.

2. What did H. V. McKay do?

Export the stripper.
Improve the stripper.
Cut, collect and sort wheat.

3. What did the 'stump jump plough' innovation allow farmers to do?

Cut through tree stumps.
Change the wheels for a traditional plough.
Allow farmers to cultivate land that hadn't been fully cleared.

4. What did John Custance recommend?

Improving wheat yields.
Revitalising the industry.
Fertilizing the soil.

5. Why was William Farrer's wheat better?

It was drought resistant.
It wasn't from England or South Africa.
It was drier for Australian conditions.

Australian Agricultural Innovations

(1850 – 1900)

During this period, there was a wide spread expansion of agriculture in Australia. The selection system was begun, whereby small sections of land were parceled out by lot. Particularly in New South Wales, this led to conflicts between small holders and the emerging squatter class, whose abuse of the system often allowed them to take vast tracts of fertile land.

There were also many positive advances in farming technology as the farmers adapted agricultural methods to the harsh Australian conditions. One of the most important was “dry farming”. This was the discovery that repeated ploughing of fallow, unproductive land could preserve nitrates and moisture, allowing the land to eventually be cultivated. This, along with the extension of the railways allowed the development of what are now great inland wheat lands. The inland areas of Australia are less fertile than most other wheat producing countries and yields per acre are lower. This slowed their development, but also led to the development of several labour saving devices. In 1843 John Ridley, a South Australian farmer, invented “the stripper”, a basic harvesting machine. By the 1860s its use was widespread. H. V. McKay, then only nineteen, modified the machine so that it was a complete harvester: cutting, collecting and sorting. McKay developed this early innovation into a large harvester manufacturing industry centred near Melbourne and exporting worldwide. Robert Bowyer Smith invented the “stump jump plough”, which let a farmer plough land which still had tree stumps on it. It did this by replacing the traditional plough shear with a set of wheels that could go over stumps, if necessary.

The developments in farm machinery were supported by scientific research. During the late 19th century, South Australian wheat yields were going down. An agricultural scientist at the colony's agricultural college, John Custance, found that this was due to a lack of phosphates and advised the use of soluble superphosphate fertilizer. The implementation of this scheme revitalised the industry.

From early days it had been obvious that English and European sheep breeds had to be adapted to Australian conditions, but only near the end of the century was the same applied to crops. Prior to this, English and South African strains had been used, with varying degrees of success. William Farrer, from Cambridge University, was the first to develop new wheat varieties that were better able to withstand dry Australian conditions. By 1914, Australia was no longer thought of as a land suitable only for sheep, but as a wheat growing nation.

2. Bài tập 2

ENERGY PROFILE OF THE CZECH REPUBLIC

The Czech Republic's dependence on energy imports has been quite favourable to date (32% of energy demand is met by imports); however, it is structurally unbalanced. The country's dependence on oil is about 95%, and in the case of natural gas, it is about 98%. The Czech Republic also imports nuclear power, but the primary resource, uranium ore, is available and produced domestically. In 2006, some 260,000 tonnes of oil and 150 mcm* of natural gas came from indigenous resources. However, the country's dependence on energy imports is expected to grow (to almost 50% by 2020). A number of direct and indirect measures must be adopted to slow the rate at which the Czech Republic's dependence on energy imports is increasing. Key measures include those geared towards promoting energy efficiency, supporting renewable energy resources in areas where they are effective (in accordance with the government's energy policy: 8% by 2010 and 16.9% by 2030), supporting nuclear energy (zero-emission energy sources) and improving the availability and extending the life span of the hidden potential of indigenous solid fuels, mainly brown coal.

*mcm = million cubic metres

adapted from www.euracoau.org

Which of these statements best describes energy use in the Czech Republic?

- A. The country imports almost all of its energy
- B. The country's need for imported energy is likely to decrease through energy efficiency
- C. The country considers nuclear power as one of the potential solutions to the problem of imported energy
- D. The country aims to double its energy efficiency between 2010 and 2030.

3. Bài tập 3

AIR CONDITIONING

The history of an invention that makes life more pleasant

Willis Carrier designed the first air-conditioning unit in 1902, just a year after graduating from Cornell University with a Masters in Engineering.

At a Brooklyn printing plant, fluctuations in heat and moisture were causing the size of the printing paper to keep changing slightly, making it hard to align different colours. Carrier's invention made it possible to control temperature and humidity levels and so align the colours. The invention also allowed industries such as film, processed food, textiles and pharmaceuticals to improve the quality of their products.

In 1914, the first air-conditioning device was installed in a private house. However, its size, similar to that of an early computer, meant it took up too much space to come into widespread use, and later models, such as the Weathermaker, which Carrier brought out in the 1920s, cost too much for most people. Cooling for human comfort, rather than industrial need, really took off when three air conditioners were installed in the J.L. Hudson Department Store in Detroit, Michigan. People crowded into the shop to experience the new invention. The fashion spread from department stores to cinemas, whose income rose steeply as a result of the comfort they provided.

To start with, money-conscious employers regarded air conditioning as a luxury. They considered that if they were paying people to work, they should not be paying for them to be comfortable as well. So in the 1940s and '50s, the industry started putting out a different message about its product: according to their research, installing air conditioning increased productivity amongst employees. They found that typists increased their output by 24% when transferred from a

regular office to a cooled one. Another study into office working conditions, which was carried out in the late '50s, showed that the majority of companies cited air conditioning as the single most important contributor to efficiency in offices.

However, air conditioning has its critics. Jed Brown, an environmentalist, complains that air conditioning is a factor in global warming. Unfortunately, he adds, because air conditioning leads to higher temperatures, people have to use it even more. However, he admits that it provides a healthier environment for many people in the heat of summer.

Questions 1-5

1. When Willis Carrier invented air conditioning, his aim was to

- A. make workers feel cooler.
- B. produce more attractive paper.
- C. set up a new business.
- D. solve problems in a factory.

2. Home air conditioners were not popular at first because they were

- A. too big and expensive.
- B. not considered necessary.
- C. too inefficient.
- D. complicated to use.

3. Employers refused to put air conditioning in workplaces at first because they

- A. could not afford to pay for it.
- B. thought it was more suitable for cinemas.
- C. did not want to spend money improving working conditions.
- D. thought people would not work so hard in comfortable conditions.

4. What was the purpose of the research done in the 1940s and '50s?

- A. to make office workers produce more
- B. to compare different types of air conditioner
- C. to persuade businesses to buy air conditioners
- D. to encourage employees to change offices

5. What does Jed Brown say about air conditioning?

- A. In future, everyone will need it.
- B. Turning it off will not reduce global warming.
- C. It can seriously damage people's health.
- D. It is good for people, but bad for the environment.

4. Bài tập 4

THE POMPIDOU CENTRE

More than three decades after it was built, the Pompidou Centre in Paris has survived its moment at the edge of architectural fashion and proved itself to be one of the most remarkable buildings of the 20th century.

It was the most outstanding new building constructed in Paris for two generations. It looked like an explosion of brightly coloured service pipes in the calm of the city centre. However, when in 1977 the architects Richard Rogers and Renzo Piano stood among a large crowd of 5,000 at the opening of the Centre Culturel d'Art Georges Pompidou (known as the Pompidou), no one was really aware of the significance of this unusual building.

Rogers was only 38 when he and Piano won the competition to design a new cultural centre for Paris in the old market site. Young, unknown architects, they had been chosen from a field of nearly 700 to design one of the most prestigious buildings of its day. After six difficult years, with 25,000 drawings, seven lawsuits, battles over budgets, and a desperate last-minute scramble to finish the building, it had finally been done.

Yet the opening was a downbeat moment. The Pompidou Centre had been rubbished by the critics while it was being built, there was no more work in prospect for the architects, and their partnership had effectively broken down. But this was just a passing crisis. The Centre, which combined the national museum of modern art, exhibition space, a public library and a centre for modern music, proved an enormous success. It attracted six million visitors in its first year, and with its success, the critics swiftly changed their tune.

The architects had been driven by the desire for ultimate flexibility, for a building that would not limit the movement of its users. All the different parts were approached through the same enormous entrance hall and served by the same escalator, which was free to anyone to ride, whether they wanted to visit an exhibition or just admire the view. With all the services at one end of the building, escalators and lifts at the other, and the floors hung on giant steel beams providing uninterrupted space the size of two football pitches, their dream had become a reality.

The image of the Pompidou pervaded popular culture in the 1970s, making appearances everywhere - on record-album covers and a table lamp, and even acting as the set for a James Bond 1 film. This did much to overcome the secretive nature of the architectural culture of its time, as it enabled wider audience to appreciate the style and content of the building and so moved away from the strictly professional view.

The following year, Rogers was commissioned to design a new headquarters for Lloyd's Bank in London and went on to create one of Britain's most dynamic architectural practices. Piano is now among the world's most respected architects. But what of their shared creation?

It was certainly like no previous museum, with its plans for a flexible interior that not only had movable walls but floors that could also be adjusted up or down. This second feature did not in the end survive when the competition drawings were turned into a real building. In other ways, however, the finished building demonstrated a remarkable degree of refinement - of craftsmanship even - in the way the original diagram was transformed into a superbly detailed structure. It was this quality which, according to some critics, suggested that the

Pompidou should be seen as closer to the 19th-century engineering tradition than the space age.

Nevertheless, as a model for urban planning, it has proved immensely influential. The Guggenheim in Bilbao* and the many other major landmark projects that were built in the belief that innovatively designed cultural buildings can bring about urban renewal are all following the lead of the Pompidou Centre.

Other buildings may now challenge it for the title of Europe's most outlandish work of architecture. However, more than a quarter of a century later, this construction - it is hard to call it a building when there is no façade, just a lattice of steel beams and pipes and a long external escalator snaking up the outside - still seems extreme.

Today, the Pompidou Centre itself still looks much as it did when it opened. The shock value of its colour-coded plumbing and its structure has not faded with the years. But while traditionalists regarded it as an ugly attack on Paris when it was built, they now see it for what it is - an enormous achievement, technically and conceptually.

Questions 1-4

Choose the correct letter, **A**, **B**, **C** or **D**.

1. What does the writer say in the first paragraph about the opening of the Pompidou Centre?

- A. The elderly did not like it.
- B. The architects were not present.
- C. The atmosphere was very noisy.
- D. The people did not realise its importance.

2. What does the writer say in the second paragraph about the construction of the Pompidou?

- A. There was a hurry to complete it.
- B. It cost less than expected.
- C. Other experts helped draw the plans.
- D. The market location was criticised.

3. What is the writer's main purpose in the third paragraph?

- A. to explain the multi-functional role of the centre
- B. to praise the architects for their design ideas
- C. to say why some people's opinions quickly altered
- D. to show how the media benefited from its success

4. What was the architects' 'dream', referred to in the fourth paragraph?

- A. to become famous
- B. to provide entertainment
- C. to allow visitors to use it freely
- D. to build the biggest museum in the world

5. Bài tập 5

WHY DON'T BABIES TALK LIKE ADULTS?

Kids go from 'goo-goo' to talkative one step at a time.

By Joshua Hartshorne

A recent e-trade advertisement shows a baby speaking directly to the camera: 'Look at this,' he says, I'm a free man. I go anywhere I want now.' He describes his stock-buying activities, and then his phone rings. This advertisement proves what comedians have known for years: few things are as funny as a baby who talks like an adult. But it also raises an important question: Why don't young children express themselves clearly like adults?

Many people assume children learn to talk by copying what they hear. In other words, they listen to the words adults use and the situations in which they use them and imitate accordingly. Behaviourism, the scientific approach that dominated American cognitive science for the first half of the 20th century, made exactly this argument.

However, this 'copycat' theory can't explain why toddlers aren't as conversational as adults. After all, you never hear literate adults express themselves in one-word sentences like 'bottle' or 'doggie'. In fact, it's easy for scientists to show that a copycat theory of language acquisition can't explain children's first words. What is hard for them to do is to explain these first words, and how they fit into the language acquisition pattern.

Over the past half-century, scientists have settled on two reasonable possibilities. The first of these is called the 'mental-developmental hypothesis'. It states that one-year-olds speak in baby talk because their immature brains can't handle adult speech. Children don't learn to walk until their bodies are

ready. Likewise, they don't speak multi-word sentences or use word endings and function words ('Mummy opened the boxes') before their brains are ready. The second is called the 'stages-of-language hypothesis', which states that the stages of progress in child speech are necessary stages in language development.

A basketball player can't perfect his or her jump shot before learning to (1) jump and (2) shoot. Similarly, children learn to multiply after they have learned to add. This is the order in which children are taught - not the reverse. There's evidence, for instance, that children don't usually begin speaking in two-word sentences until they've learned a certain number of single words. In other words, until they've crossed that linguistic threshold, the word-combination process doesn't get going.

The difference between these theories is this: under the mental-development hypothesis, language learning should depend on the child's age and level of mental development when he or she starts learning a language. Under the stages-of-language hypothesis, however, it shouldn't depend on such patterns, but only on the completion of previous stages.

In 2007, researchers at Harvard University, who were studying the two theories, found a clever way to test them. More than 20,000 internationally adopted children enter the US each year. Many of them no longer hear their birth language after they arrive, and they must learn English more or less the same way infants do - that is, by listening and by trial and error. International adoptees don't take classes or use a dictionary when they are learning their new tongue and most of them don't have a well-developed first language. All of these factors make them an ideal population in which to test these competing hypotheses about how language is learned.

Neuroscientists Jesse Snedeker, Joy Geren and Carissa Shafro studied the language development of 27 children adopted from China between the ages of

two and five years. These children began learning English at an older age than US natives and had more mature brains with which to tackle the task. Even so, just as with American-born infants, their first English sentences consisted of single words and were largely bereft of function words, word endings and verbs. The adoptees then went through the same stages as typical American-born children, albeit at a faster clip. The adoptees and native children started combining words in sentences when their vocabulary reached the same sizes, further suggesting that what matters is not how old you are or how mature your brain is, but the number of words you know.

This finding - that having more mature brains did not help the adoptees avoid the toddler-talk stage - suggests that babies speak in babytalk not because they have baby brains, but because they have only just started learning and need time to gain enough vocabulary to be able to expand their conversations. Before long, the one-word stage will give way to the two-word stage and so on. Learning how to chat like an adult is a gradual process.

But this potential answer also raises an even older and more difficult question. Adult immigrants who learn a second language rarely achieve the same proficiency in a foreign language as the average child raised as a native speaker. Researchers have long suspected there is a 'critical period' for language development, after which it cannot proceed with full success to fluency. Yet we still do not understand this critical period or know why it ends.

Adapted from Scientific American: Mind Matters

Choose the correct letter A, B, C or D.

10. What is the writer's main purpose in the seventh paragraph?

- A. to give reasons why adopted children were used in the study
- B. to reject the view that adopted children need two languages
- C. to argue that culture affects the way children learn a language
- D. to justify a particular approach to language learning

11. Snedeker, Geren and Shafto based their study on children who

- A. were finding it difficult to learn English.
- B. had come from a number of language backgrounds.
- C. were learning English at a later age than US children.
- D. had taken English lessons in China.

12. What aspect of the adopted children's language development differed from that of US-born children?

- A. their first words
- B. the way they learnt English
- C. the rate at which they acquired language
- D. the point at which they started producing sentences

13. What did the Harvard finding show?

- A. Not all toddlers use babytalk.
- B. Language learning takes place in ordered steps.
- C. Some children need more conversation than others.
- D. Not all brains work in the same way.

14. When the writer says 'critical period', he means a period when.

- A. studies produce useful results.
- B. adults need to be taught like children.
- C. immigrants want to learn another language.
- D. language learning takes place effectively.

6. Bài tập 6

An astonishingly intricate project is being undertaken to restore a legendary theatrical dress, Angela Wintle explains.

On December 28th, 1888, the curtain rose on a daring new stage revival of Shakespeare's Macbeth at the Lyceum Theatre in London. Topping the bill, playing Lady Macbeth, a main character in the play, was Ellen Terry. She was the greatest and most adored English actress of the age. But she didn't achieve this devotion through her acting ability alone. She knew the power of presentation and carefully cultivated her image. That first night was no exception. When she walked on stage for the famous banquet scene, her appearance drew a collective gasp from the audience.

She was dressed in the most extraordinary clothes ever to have graced a British stage: a long, emerald and sea-green gown with tapering sleeves, surmounted by a velvet cloak, which glistened and sparkled eerily in the limelight. Yet this was no mere stage trickery. The effect had been achieved using hundreds of wings from beetles. The gown - later named the 'Beetlewing dress' became one of the most iconic and celebrated costumes of the age.

Terry was every bit as remarkable as her costumes. At 31, she became a leading lady at the Lyceum Theatre and for two decades, she set about bringing culture to the masses. The productions she worked on were extravagant and daring. Shakespeare's plays were staged alongside blood-and-thunder melodramas and their texts were ruthlessly cut. Some people were critical, but they missed the point. The innovations sold tickets and brought new audiences to see masterpieces that they would never otherwise have seen.

However, it was a painter who immortalised her. John Singer Sargent had been so struck by Terry's appearance at that first performance that he asked her to model for him, and his famous portrait of 1889, now at the Tate Gallery in London, showed her with a glint in her eye, holding a crown over her flame-red hair. But while the painting remains almost as fresh as the day it was painted, the years have not been so kind to the dress. Its delicate structure, combined with the cumulative effects of time, has meant it is now in an extremely fragile condition. Thus, two years ago, a fundraising project was launched by Britain's National Trust¹ to pay for its conservation.

It turned to textile conservator Zenzie Tinker to do the job. Zenzie loves historical dress because of the link with the past. 'Working on costumes like the Beetlewing dress gives you a real sense of the people who wore them; you can see the sweat stains and wear marks. But it's quite unusual to know who actually wore a garment. That's the thing that makes the Beetlewing project so special.'

Before any of Zenzie's conservation work can begin, she and her team will conduct a thorough investigation to help determine what changes have been made to the dress and when. This will involve close examination of the dress for signs of damage and wear, and will be aided by comparing it with John Singer Sargent's painting and contemporary photographs. Then Zenzie and the National Trust will decide how far back to take the reconstruction, as some members feel that even the most recent changes are now part of the history of the dress.

The first stages in the actual restoration will involve delicate surface cleaning, using a small vacuum suction device. Once the level of reconstruction has been determined, the original crocheted² overdress will be stitched onto a dyed net support before repairs begin. It's going to be extraordinarily difficult, because the original doth is quite stretchy, so we've deliberately chosen net because

that has a certain amount of flexibility in it too,' says Zenzie. When the dress is displayed, none of our work will be noticeable, but we'll retain all the evidence on the reverse so that future experts will be able to see exactly what we've done - and I'll produce a detailed report.'

Zenzie has estimated that the project, costing about £30,000, will require more than 700 hours' work. 'It will be a huge undertaking and I don't think the Trust has ever spent quite as much on a costume before,' she says. 'But this dress is unique. It's very unusual to see this level of workmanship on a theatrical costume, and it must have looked spectacular on stage.' If Terry was alive today, there's no doubt she would be delighted. Unlike many other actresses, she valued her costumes because she kept and reused them time and time again. 'I'd like to think she'd see our contribution as part of the ongoing history of the dress,' says Zenzie.

Choose the correct letter, A, B, C or D.

1. What do you learn about Ellen Terry in the first paragraph?

- A. Lady Macbeth was her first leading role.
- B. The Lyceum was her favourite theatre.
- C. She tried hard to look good on stage.
- D. She wanted to look young for her audience.

2. What is the writer's purpose in paragraph 2?

- A. to describe different responses to the Beetlewing dress
- B. to explain why the Beetlewing dress had such a big impact
- C. to consider the suitability of the Beetlewing dress for the play
- D. to compare the look of the Beetiewing dress on and off the stage

3. According to the writer, the main effect of the Lyceum productions was to

- A. expose more people to Shakespeare's plays.
- B. reduce the interest in other types of production.
- C. raise the cost of going to the theatre.
- D. encourage writers to produce more plays.

4. In the fourth paragraph, what comparison does the writer make between Sargent's portrait and the Beetlewing dress?

- A. The dress has attracted more attention than the painting.
- B. The dress is worth more money than the painting.
- C. The painting took longer to produce.
- D. The painting looks newer.

5. Zenie says the Beetlewing project is particularly special because

- A. the dress is very old.
- B. people know who wore the dress.
- C. the dress was designed by someone famous.
- D. there is evidence that the dress has been used

6. Which of the following is the most suitable title for the passage?

- A. A lesson from the past
- B. A challenging task
- C. An unusual fashion show
- D. An unexpected discovery

7. Bài tập 7

EXAMINING THE PLACEBO EFFECT

BY STEVE SILBERMAN

The fact that taking a fake drug can powerfully improve some people's health - the so-called placebo effect - was long considered an embarrassment to the serious practice of pharmacology, but now things have changed.

Several years ago, Merck, a global pharmaceutical company, was falling behind its rivals in sales. To make matters worse, patents on five blockbuster drugs were about to expire, which would allow cheaper generic products to flood the market. In interviews with the press, Edward Scolnick, Merck's Research Director, presented his plan to restore the firm to pre-eminence. The key to his strategy was expanding the company's reach into the anti-depressant, market, where Merck had trailed behind, while competitors like Pfizer and GlaxoSmithKline had created some of the best-selling drugs in the world. "To remain dominant in the future", he told one media company, "we need to dominate the central nervous system."

His plan hinged on the success of an experimental anti-depressant codenamed MK-869. Still, in clinical trials, it was a new kind of medication that exploited brain chemistry in innovative ways to promote feelings of well-being. The drug tested extremely well early on, with minimal side effects. Behind the scenes, however, MK-869 was starting to unravel. True, many test subjects treated with the medication felt their hopelessness and anxiety lift. But so did nearly the same number who took a placebo, a look-alike pill made of milk sugar or

another inert substance given to groups of volunteers in subsequent clinical trials to gauge the effectiveness of the real drug by comparison. Ultimately, Merck's venture into the anti-depressant market failed. In the jargon of the industry, the trials crossed the "futility boundary".

MK-869 has not been the only much-awaited medical breakthrough to be undone in recent years by the placebo effect and it's not only trials of new drugs that are crossing the futility boundary. Some products that have been on the market for decades are faltering in more recent follow-up tests. It's not that the old medications are getting weaker, drug developers say. It's as if the placebo effect is somehow getting stronger. The fact that an increasing number of medications are unable to beat sugar pills has thrown the industry into crisis. The stakes could hardly be higher. To win FDA* approval, a new medication must beat placebo in at least two authenticated trials. In today's economy, the fate of a well-established company can hang on the outcome of a handful of tests.

Why are fake pills suddenly overwhelming promising new drugs and established medicines alike? The reasons are only just beginning to be understood. A network of independent researchers is doggedly uncovering the inner workings and potential applications of the placebo effect.

A psychiatrist, William Potter, who knew that some patients really do seem to get healthier for reasons that have more to do with a doctor's empathy than with the contents of a pill, was baffled by the fact that drugs he had been prescribing for years seemed to be struggling to prove their effectiveness. Thinking that a crucial factor may have been overlooked, Potter combed through his company's database of published and unpublished trials— including those that had been

kept secret because of high placebo response. His team aggregated the findings from decades of anti-depressant trials, looking for patterns and trying to see what was changing over time. What they found challenged some of the industry's basic assumptions about its drug-vetting process.

Assumption number one was that if a trial were managed correctly, a medication would perform as well or badly in a Phoenix hospital as in a Bangalore clinic. Potter discovered, however, that geographic location alone could determine the outcome. By the late 1990s, for example, the anti-anxiety drug Diazepam was still beating placebo in France and Belgium. But when the drug was tested in the US, it was likely to fail. Conversely, a similar drug, Prozac, performed better in America than it did in western Europe and South Africa. It was an unsettling prospect FDA approval could hinge on where the company chose to conduct a trial.

Mistaken assumption number two was that the standard tests used to gauge volunteers' improvement in trials yielded consistent results. Potter and his colleagues discovered that ratings by trial observers varied significantly from one testing site to another. It was like finding out that the judges in a tight race each had a different idea about the placement of the finish line.

After some coercion by Potter and others, the National Institute of Health (NIH) focused on the issue in 2000, hosting a three-day conference in Washington, and this conference launched a new wave of placebo research in academic laboratories in the US and Italy that would make significant progress toward solving the mystery of what was happening in clinical trials.

In one study last year, Harvard Medical School researcher Ted Kaptchuk devised a clever strategy for testing his volunteers' response to varying levels of therapeutic ritual. The study focused on a common but painful medical condition that costs more than \$40 billion a year worldwide to treat. First, the volunteers were placed randomly in one of three groups. One group was simply put on a waiting list; researchers know that some patients get better just because they sign up for a trial. Another group received placebo treatment from a clinician who declined to engage in small talk. Volunteers in the third group got the same fake treatment from a clinician who asked them questions about symptoms, outlined the causes of the illness, and displayed optimism about their condition.

Not surprisingly, the health of those in the third group improved most. In fact, just by participating in the trial, volunteers in this high-interaction group got as much relief as did people taking the two leading prescription drugs for the condition. And the benefits of their "bogus" treatment persisted for weeks afterward, contrary to the belief - widespread in the pharmaceutical industry - that the placebo response is short-lived.

Studies like this open the door to hybrid treatment strategies that exploit the placebo effect to make real drugs safer and more effective, as Potter says- "To really do the best for your patients, you want the best placebo response plus the best drug response".

Adapted from Wired Magazine

* The Food and Drugs Administration (an agency in the United States responsible for protecting public health by assuring the safety of human drugs).

Choose the correct letter **A**, **B**, **C** or **D**.

1. Which of the following is true of William Potter's research?

- A. It was based on recently developed drugs that he had recommended.
- B. It included trial results from a range of drugs companies.
- C. Some of the trial results he investigated had not been made public.
- D. Some of his findings were not accepted by the drugs industry.

2. What did William Potter's research reveal about the location of drugs trials?

- A. The placebo effect was weakest in the US.
- B. Results were not consistent around the world.
- C. Results varied depending on the type of hospital.
- D. The FDA preferred drugs to be tested in different countries.

3. What does the tight race refer to in line 80?

- A. the standard tests
- B. consistent results
- C. ratings by trial observers
- D. testing sites

4. What significant discovery was made by Ted Kaptchuk?

- A. The effects of a placebo can last longer than previously thought.
- B. Patients' health can improve while waiting to undergo a trial.
- C. Patients respond better to a placebo if they are treated by the same clinician throughout the trial.
- D. Those conducting a placebo trial need to know the subjects' disorder well.

8. Bài tập 8

THE NEW WAY TO BE FIFTH-GRADER

by Clive Thompson

Khan Academy is changing the rules of education.

I peer over his shoulder at his laptop screen to see the math problem the fifth-grader is pondering. It's a trigonometry problem. Carpenter, a serious-faced ten-year-old, pauses for a second, fidgets, then clicks on "0 degrees." The computer tells him that he's correct. "It took a while for me to work it out," he admits sheepishly. The software then generates another problem, followed by another, until eventually he's done ten in a row.

Last November, his teacher, Kami Thordarson, began using Khan Academy in her class. It is an educational website on which students can watch some 2,400 videos. The videos are anything but sophisticated. At seven to 14 minutes long, they consist of a voiceover by the site's founder, Salman Khan, chattily describing a mathematical concept or explaining how to solve a problem, while his hand-scribbled formulas and diagrams appear on-screen. As a student, you can review a video as many times as you want, scrolling back several times over puzzling parts and fast-forwarding through the boring bits you already know. Once you've mastered a video, you can move on to the next one.

Initially, Thordarson thought Khan Academy would merely be a helpful supplement to her normal instruction. But it quickly became far more than that. She is now on her way to "flipping" the way her class works. This involves

replacing some of her lectures with Khan's videos, which students can watch at home. Then in class, they focus on working on the problem areas together. The idea is to invert the normal rhythms of school, so that lectures are viewed in the children's own time and homework is done at school. It sounds weird, Thordarson admits, but this reversal makes sense when you think about it. It is when they are doing homework that students are really grappling with a subject and are most likely to want someone to talk to. And Khan Academy provides teachers with a dashboard application that lets them see the instant a student gets stuck.

For years, teachers like Thordarson have complained about the frustrations of teaching to the "middle" of the class. They stand at the whiteboard trying to get 25 or more students to learn at the same pace. Advanced students get bored and tune out, lagging ones get lost and tune out, and pretty soon half the class is not paying attention. Since the rise of personal computers in the 1980s, educators have hoped that technology could save the day by offering lessons tailored to each child. Schools have spent millions of dollars on sophisticated classroom technology, but the effort has been in vain. The one-to-one instruction it requires is, after all, prohibitively expensive. What country can afford such a luxury?

Khan never intended to overhaul the school curricula and he doesn't have a consistent, comprehensive plan for doing so. Nevertheless, some of his fans believe that he has stumbled onto the solution to education's middle-of-the-class mediocrity. Most notable among them is Bill Gates, whose foundation has invested \$1.5 million in Khan's site. Students have pointed out that Khan is particularly good at explaining all the hidden, small steps in math problems—

steps that teachers often gloss over. He has an uncanny ability to inhabit the mind of someone who doesn't already understand something.

However, not all educators are enamoured with Khan and his site. Gary Stager, a longtime educational consultant and advocate of laptops in classrooms, thinks Khan Academy is not innovative at all. The videos and software modules, he contends, are just a high-tech version of the outdated teaching techniques—lecturing and drilling. Schools have become "joyless test-prep factories," he says, and Khan Academy caters to this dismal trend.

As Sylvia Martinez, president of an organization focusing on technology in the classroom, puts it, "The things they're doing are really just rote." Flipping the classroom isn't an entirely new idea, Martinez says, and she doubts that it would work for the majority of pupils: "I'm sorry, but if they can't understand the lecture in a classroom, they're not going to grasp it better when it's done through a video at home."

Another limitation of Khan's site is that the drilling software can only handle questions where the answers are unambiguously right or wrong, like math or chemistry; Khan has relatively few videos on messier, grey-area subjects like history. Khan and Gates admit there is no easy way to automate the teaching of writing—even though it is just as critical as math.

Even if Khan is truly liberating students to advance at their own pace, it is not clear that schools will be able to cope. The very concept of grade levels implies groups of students moving along together at an even pace. So what happens when, using Khan Academy, you wind up with a ten-year-old who has already mastered high-school physics? Khan's programmer, Ben Kamens, has heard from teachers who have seen Khan Academy presentations and loved the idea

but wondered whether they could modify it "to stop students from becoming this advanced."

Khan's success has injected him into the heated wars over school reform. Reformers today, by and large, believe student success should be carefully tested, with teachers and principals receiving better pay if their students advance more quickly. In essence, Khan doesn't want to change the way institutions teach; he wants to change how people learn, whether they're in a private school or a public school — or for that matter, whether they're a student or an adult trying to self-educate in Ohio, Brazil, Russia, or India. One member of Khan's staff is spearheading a drive to translate the videos into ten major languages. It's classic start-up logic: do something novel, do it with speed, and the people who love it will find you.

Adapted from Wired Magazine

Choose the correct letter, A, B, C or D.

1. What do you learn about the student in the first paragraph?

- A. He has not used the maths software before.
- B. He did not expect his answer to the problem to be correct.
- C. He was not initially doing the right maths problem.
- D. He did not immediately know how to solve the maths problem.

2. What does the writer say about the content of the Khan Academy videos?

- A. They have been produced in a professional manner.
- B. They include a mix of verbal and visual features.
- C. Some of the maths problems are too easy.
- D. Some of the explanations are too brief.

3. What does this reversal refer to in line 40?

- A. going back to spending fewer hours in school
- B. students being asked to explain answers to teachers
- C. swapping the activities done in the class and at home
- D. the sudden improvement in students' maths performance

4. What does the writer say about teaching to the 'middle' of the class?

- A. Teachers become too concerned about weaker students.
- B. Technology has not until now provided a solution to the problem.
- C. Educators have been unwilling to deal with the issues.
- D. Students in this category quickly become bored.

5. Students praise Khan's videos because they

- A. show the extent of his mathematical knowledge.
- B. deal with a huge range of maths problems.
- C. provide teaching at different ability levels.
- D. cover details that are often omitted in class.

9. Bài tập 9

Relevant part of the passage

The Painting Fool is one of a growing number of computer programs which, so their makers claim, possess creative talents. Classical music by an artificial composer has had audiences enraptured, and even tricked them into believing a human was behind the score. Artworks painted by a robot have sold for thousands of dollars and been hung in prestigious galleries. And software has been built which creates art that could not have been imagined by the programmer.

Human beings are the only species to perform sophisticated creative acts regularly. If we can break this process down into computer code, where does that leave human creativity? 'This is a question at the very core of humanity,' says Geraint Wiggins, a computational creativity researcher at Goldsmiths, University of London. 'It scares a lot of people. They are worried that it is taking something special away from what it means to be human.'

Multiple choice questions

27. What is the writer suggesting about computer-produced works in the first paragraph?

- A. People's acceptance of them can vary considerably.
- B. A great deal of progress has already been attained in this field.
- C. They have had more success in some artistic genres than in others.
- D. The advances are not as significant as the public believes them to be.

28. According to Geraint Wiggins, why are many people worried by computer art?

- A. It is aesthetically inferior to human art.
- B. It may ultimately supersede human art.
- C. It undermines a fundamental human quality.
- D. It will lead to a deterioration in human ability.