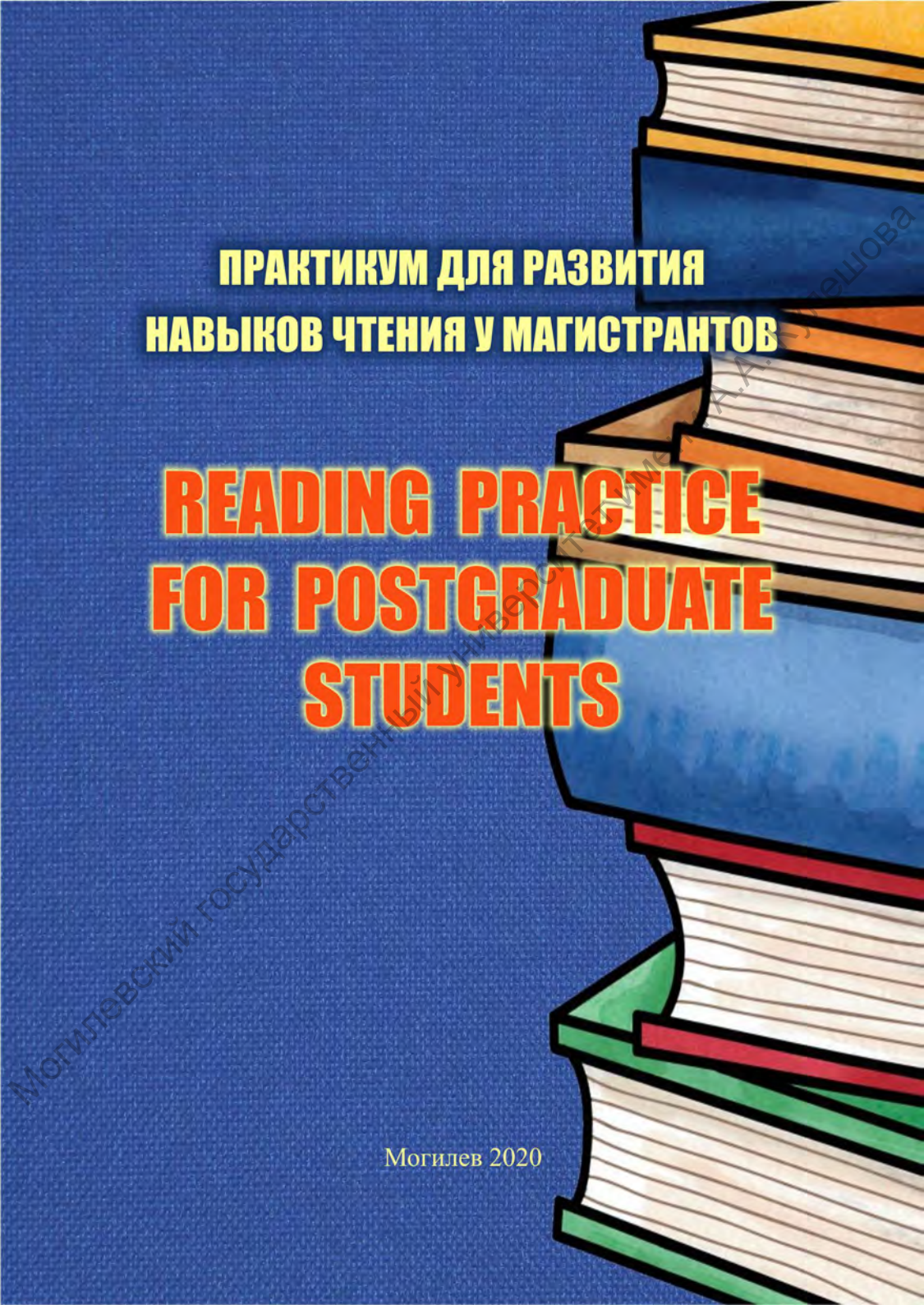
ПРАКТИКУМ ДЛЯ РАЗВИТИЯ НАВЫКОВ ЧТЕНИЯ У МАГИСТРАНТОВ

READING PRACTICE FOR POSTGRADUATE STUDENTS



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Данные учебно-методические материалы предназначены для развития навыков чтения на английском языке у студентов второй ступени образования, обучающихся в магистратуре. Основная цель учебно-методических материалов – помочь магистрантам в подготовке к сдаче кандидатского экзамена по английскому языку.

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ОТ АВТОРОВ

Данные учебно-методические материалы предназначены для развития навыков чтения на английском языке у студентов второй ступени образования, обучающихся в магистратуре. Учебно-методические материалы включают семь разделов: «Биология», «Физика», «Лингвистика», «История», «Юриспруденция», «Педагогика», «Физическая культура и спорт», которые соответствуют основным направлениям подготовки специалистов, осуществляемой в Могилевском государственном университете имени А.А. Кулешова.

Основная цель учебно-методических материалов – помочь магистрантам в подготовке к сдаче кандидатского экзамена по английскому языку. В соответствии с требованиями программы к сдаче кандидатского минимума обучающийся должен овладеть всеми видами чтения научной литературы (изучающее, ознакомительное, просмотровое, поисковое), предполагающими различную степень понимания и смысловой интерпретации прочитанного. Обучающийся должен уметь: вычленять опорные смысловые блоки в читаемом тексте; определять структурно-семантическое ядро; выделять основные мысли и факты, находить логические связи, исключать избыточную информацию, группировать и объединять выделенные положения по принципу общности.

Кандидатский экзамен по общеобразовательной дисциплине «Иностранный язык (английский, немецкий, французский, испанский, итальянский)» включает следующие задания:

1. Письменный перевод со словарем научного текста по специальности на русский/белорусский язык. Объем текста – 2500 печатных знаков для лингвистических специальностей и 2000 печатных знаков – для нелингвистических специальностей. Время выполнения перевода – 45 минут. Форма контроля – чтение текста на иностранном языке вслух и проверка выполненного перевода.

2. Чтение оригинального текста по специальности без словаря. Объем текста – 2000–2100 печатных знаков для лингвистических специальностей и 1500–1600 печатных знаков – для нелингвистических специальностей. Время подготовки – 5–7 минут. Форма контроля – передача общего содержания текста на иностранном языке.

3. Чтение иноязычного текста социокультурной направленности и изложение его основного содержания на иностранном языке. Объем текста – 1500–2000 печатных знаков. Время подготовки – 15 минут.

4. Беседа на иностранном языке по тематике, связанной с научной деятельностью и диссертационным исследованием обучающегося (тема исследования, актуальность и новизна, материалы и методы исследования, полученные результаты и выводы).

Таким образом, три из четырёх заданий основаны на чтении, поэтому в процессе изучения иностранного языка так важно совершенствование навыков чтения и понимания профессионально ориентированных текстов. Кроме того, в целях достижения профессиональной направленности устной речи навыки говорения должны развиваться во взаимодействии с навыками чтения.

Все представленные в учебно-методических материалах тексты аутентичны и отражают современное состояние научной мысли. Тексты сопровождаются ссылками на интернет-источники. В каждый раздел входит четыре текста и задания к текстам с учетом трех этапов: предтекстовым (pre-reading tasks), текстовым (while-reading tasks) и послетекстовым (post-reading tasks). Задания направлены на развитие навыков разных видов чтения: ознакомительного, просмотрового, изучающего и поискового.

Данные учебно-методические материалы могут быть использованы как на занятиях по английскому языку в аудитории, так и для самостоятельной работы студентов.

UNIT 1 BIOLOGY

Scan the fragments from the articles and choose the one that best fits your specialization:

a) "EmBot" is a human-sized robot that shows live video of Emily Dreyfus, a staff writer who lives 3000 miles away. But EmBot is more than a face on a screen. It can turn toward whoever is speaking or chase a colleague of Dreyfus's down the hall. EmBot is an example of the telepresence technology that Richard Baldwin, author of The Globotics Upheaval, believes will cost many workers in wealthy nations their jobs, allowing them to be replaced with "telemigrants".

b) Many mountains in Indonesia and neighboring Papua New Guinea consist of ancient volcanic rocks from the ocean floor that were caught in a colossal tectonic collision between a chain of island volcanoes and a continent, and thrust high. Lashed by tropical rains, these rocks hungrily react with CO 2 and sequester it in minerals.

c) AIS was developed for collision avoidance. Since 2005, its use has been mandated by the International Maritime Organization for most seagoing vessels of 300 gross tonnage and above and for all passenger ships irrespective of size. Emerging applications of AIS data include fleet and cargo tracking, national fishing fleet monitoring, and maritime security.

d) Extreme events, such as anomalous warm periods and storms, and rising temperatures in the ocean are affecting the distribution and abundance of marine organisms and redistributing fisheries resources. Biodiversity models project a large-scale rearrangement of fish stocks over the coming decades, with decreases in fisheries production in tropical regions. High-seas fisheries governance has the potential to reduce the risks from climate change—for example, through international cooperation and the closure of high-seas areas to fishing.

e) Access to mobile technology can be both a blessing and a curse. Smart phones are used to make calls, run businesses and organise social lives. But they also raise concerns over their potential impact on our health, society – and education.

Text 1
Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *evolutionary, survivorship, fecundity, hypothesis*, *budgerigars, translucent*, *methodology*.

4. Match the term and its definition:

advantage, appealing, capacity, superiority, performance, plumage, straightforward, exploratory, foraging, preference

a) interesting and attractive,
b) the quality of being better than average, or better than others of the same type,
c) an advantage given to someone,
d) the feathers that cover a bird,
e) easy to understand; clear,
f) a condition that helps you or gives you a greater chance of success,
g) the act of doing something, such as your job,
h) the amount that can be held or produced by something,
i) intended to learn more about something,
j) to go searching, esp. for food.

5. Fill in the gaps with the appropriate term:

large-brained mammals, cognitive capacities, problem-solving, positive correlations, sexual selection, natural variation, alternate trials, convincing evidence, behavioral differences, confounding variables

a) Improve your … approaches.
b) Researchers seek … that large-scale projects save lives.

c) We also experience pain as more than physical because of our unique ....

d) … are more likely to go extinct than animals with less grey matter.

e) This meant comparing trials 5 and 7 (because data were only available from …).

f) In sociological speak, we might say there are …

g) … were found when comparing the experimental data with the theoretical results.

h) … is about convincing others to mate with you.

i) What if the … in a disease's course is behind the placebo effect, they asked?

j) But testosterone leads to … as well.

6. Pay attention to the grammar constructions used in the article.

ARE CLEVER MALES PREFERRED AS MATES?

Georg F. Striedter and Nancy T. Burley

Being smart is a good thing, or so smart people like to think. Indeed, the possibility that superior cognition confers an evolutionary advantage, specifically a reproductive fitness benefit, is intuitively appealing. Of the three general fitness components—survivorship/longevity, fecundity, and mating success—the best-documented association involves survivorship. Across species, comparatively large-brained mammals and birds, which are thought to have superior cognitive capacities, show greater longevity than their smaller-brained relatives. In addition, within-species comparisons of problem-solving ability, especially in foraging contexts, have shown positive correlations with fecundity. Yet, what is arguably the most famous hypothesized fitness benefit of superior cognition has seldom been studied in nonhumans: the sexual selection hypothesis that clever individuals are preferred as mating partners. Recent research on several species of birds does suggest that females are attracted to males that are adept at problem-solving. In most instances, however, researchers have inferred female preference for cognitive superiority from the expression of traits (e.g., plumage or song) that correlate with cognitive performance. Unfortunately, such correlative studies cannot establish that superior cognitive ability per se is the basis of an observed mate preference.

Chen et al. report tackling this problem by directly testing female preference for male problem-solving ability, using a small Australian parrot, the budgerigar. Chen et al.'s approach was to observe female

budgerigars choose between two males in an apparatus where they could only interact with one male at a time—a design that previously revealed preferences of female budgerigars for male plumage and vocal traits. Chen et al. did not attempt to gauge natural variation in male problem-solving ability. Instead, they tested each female with a unique set of two males to establish her relative preference for them. Then, away from the female's observing eyes, they trained the male she did not prefer to open translucent containers filled with seed. The preferred males and females, meanwhile, were exposed to already-opened containers, so they could not attempt to solve the foraging task. Next, each female was allowed to observe the trained male solve the tasks repeatedly. In alternate trials, she watched the untrained male being unable to open the containers. During this period, seed containers were present in her cage, but they were taped shut. Finally, after the observation period, each female was retested with her original set of males. Remarkably, the females shifted their preference toward the previously nonpreferred, "problem-solving" males. Control trials revealed that the shift in female preference did not result from simply observing the trained males eating seed. Nor did females exhibit a preference for other females trained on the foraging task, indicating that the main finding was specific to an intersexual context. Thus, Chen et al. offer convincing evidence that female budgerigars modified their mate preference in favor of trained males after observing them perform complex foraging tasks.

Although the main result is straightforward, its interpretation is less clear-cut. Given the growing evidence of complex cognition in an array of species, it is tempting to infer that female budgerigars preferred trained males for their apparent problem-solving prowess. However, the fact that females lacked the opportunity to perform the foraging task themselves suggests that they may have had little basis for understanding the exercise as a problem in need of a clever solution. Instead, they might have attributed male success in opening the containers to superior physical strength. Alternatively, the extensive training paradigm may have elicited subtle behavioral differences between trained and untrained males, such that (for example) the untrained males showed less foraging effort during the observation period or less exploratory behavior during the posttraining choice trials. Unfortunately, it is difficult to rule out such alternative explanations in most studies of comparative cognition.

Despite these concerns, the approach employed by Chen et al. has considerable promise for advancing empirical research on mate choice for cognitive traits. Numerous species display the capacity to choose mates

using more than one trait, and the full set of relevant traits is not known for any species. As a result, mate choice experiments that focus on one particular set of traits almost always contain additional variation in other traits, some of which may be correlated with the traits of interest. Although the experimenters may be oblivious to those potentially confounding traits, the choosing individuals may be attending to them. Chen et al.'s approach mitigates this problem by giving the choosers additional information about their potential partners after the initial choice is made and then asking whether this additional information alters their preference. Confounding variables may still exist in such designs, especially when the additional information involves complex behavior, but they are minimized. Therefore, we anticipate that this methodology will become an important tool for mate choice research in future studies.

https://science.sciencemag.org/content/363/6423

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into 3-5 logical parts and make an outline of the article.

3. Put the fragments in the right order:

a) Numerous species display the capacity to choose mates using more than one trait.

b) Although the experiments may be oblivious to those potentially cofounding traits, the choosing individuals may be attending to them.

c) Finally, after the observation period, each female was rested with her original set of mates.

d) Instead, they tested each female with a unique set of two males to establish her relative preference for them.

e) Of the three general fitness components – survivorship/longevity, fecundity, and making success – the best-documented association involves survivorship.

f) In some instances, however, researchers have inferred female preference for cognitive superiority from the expression of traits (e.g. plumage of song) that correlate with cognitive performance.

g) Being smart is good thing, or so smart people like to think.

Post-reading tasks

1. Answer the questions:

a) What is the most famous hypothesized fitness benefit?

b) What does recent research on several species of birds suggest?

c) Is the superior cognitive ability the basis of an observed mate preference?

d) What experiment has been performed to test problem-solving task of trained males?

e) Did female budgerigars modify their mate preference in favor of trained males?

f) Is it difficult to rule out alternative explanation in most studies of comparative cognition?

g) Does the approach employed by Chen et al have considerable promise?

2. Make a summary of the article.

3. State:

a) the topic of the article,

b) the message of the article,

c) the author's attitude to the issue discussed,

d) your attitude to the issue discussed.

Text 2

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *to minimize, exploited, distinguish, succulent, urges, moricandioides, chemotype, volatiles*.

4. Match the term and its definition:

kin, crop, nutrients, seedlings, evidence, clues, herbivores, antiherbivore

a) agricultural produce, a group of something, a short whip or a pouch on a bird to store undigested food,

b) something that provides nourishment, food or substances necessary for growth,

c) a person's relatives,

d) a person or animal who eats mainly plants,

e) a young plant, especially one that grows from a seed, rather than from a cutting, for example,

f) something that gives proof or leads to a conclusion,

g) something that helps solve a problem or mystery,

h) serving to repel herbivores.

6. **Fill in the gaps with the appropriate term:**

evolutionary, reasons, recent, findings, broadening, crop yields, volatile chemicals

a) Her words floored and excited him for more … than one.

b) Advances in technology have improved … by over 30%.

c) "How … is their information?" she questioned.

d) I gather information and present …, not give my opinions.

e) The study of instinct is in the genetic treatment of … science a study in heredity.

f) It gives me hope, he said, his smile …

g) It's thought that the blast occurred when … exploded.

h) Pay attention to the grammar constructions used in the article.

7. Pay attention to the grammar constructions used in the article.

DO PLANTS FAVOR THEIR KIN?

Elizabeth Pennisi

For people, and many other animals, family matters. Consider how many jobs go to relatives. Or how an ant will ruthlessly attack intruder ants but rescue injured, closely related nestmates. There are good evolutionary reasons to aid relatives, after all. Now, it seems, family feelings may stir in plants as well.

A Canadian biologist planted the seed of the idea more than a decade ago, but many plant biologists regarded it as heretical— plants lack the nervous systems that enable animals to recognize kin, so how can they

know their relatives? But with a series of recent findings, the notion that plants really do care for their most genetically close peers—in a quiet, planty way—is taking root. Some species constrain how far their roots spread, others change how many flowers they produce, and a few tilt or shift their leaves to minimize shading of neighboring plants, favoring related individuals.

"We need to recognize that plants not only sense whether it's light or dark or if they've been touched, but also whom they are interacting with," says Susan Dudley, a plant evolutionary ecologist at McMaster University in Hamilton, Canada, whose early plant kin recognition studies sparked the interest of many scientists.

Beyond broadening views of plant behavior, the new work may have a practical side. In September 2018, a team in China reported that rice planted with kin grows better, a finding that suggested family ties can be exploited to improve crop yields. "It seems anytime anyone looks for it, they find a kin effect," says André Kessler, a chemical ecologist at Cornell University.

From termites to people, kin-specific behaviors have evolved over and over in animals, showing there is a strong advantage to helping relatives pass on shared genes. Dudley reasoned that the same evolutionary forces should apply to plants. Not long after researchers proved that plants can distinguish "self" from "nonself" roots, she tested whether they could also pick out and favor kin. She grew American searocket (Cakile edentula), a succulent found on North American beaches, in pots with relatives or with unrelated plants from the same population. With strangers, the searocket greatly expanded its underground root system, but with relatives, it held these competitive urges in check, presumably leaving more room for kin roots get nutrients and water. The claim, published in 2007, shocked colleagues. A few sharply criticized the work, citing flawed statistics and bad study design.

Since then, however, other researchers have confirmed her findings. Recently, working with Moricandia moricandioides, a Spanish herb, Rubén Torices and his colleagues at the University of Lausanne in Switzerland and the Spanish National Research Council demonstrated cooperation in flowering. After growing 770 seedlings in pots either alone or with three or six neighbors of varying relatedness, the team found the plants grown with kin put out more flowers, making them more alluring to pollinators. The floral displays were especially big in plants in the most crowded pots of relatives, Torices and his colleagues reported on 22 May 2018 in Nature Communications.

Torices, now at King Juan Carlos University in Madrid, calls the kin effects “altruistic” because each individual plant gives up some of its ultimate seedmaking potential to expend more energy making flowers. In the end, he suspects, more seeds are fertilized overall in the closely related pots.

Doubts linger. Is a plant identifying genetic kin, or simply recognizing that its neighbor is more or less similar to itself? “I do not think that there has been convincing evidence for kin recognition in plants yet,” says Hélène Fréville, a population biologist studying crops at the Montepellier outpost of the French National Institute for Agricultural Research.

Sagebrush bushes (Artemisia tridentata) have provided some strong clues, however. When injured by herbivores, these plants release volatile chemicals that stimulate neighboring sagebrush to make chemicals toxic to their shared enemies. Ecologist Richard Karban at the University of California, Davis, wondered whether kin were preferentially warned. His group had already found that sagebrush plants roughly fall into two “chemotypes,” which mainly emit either camphor or another organic compound called thujone when their leaves are damaged. The team showed that the chemotypes are heritable, making them a potential kin recognition signal. In 2014, the researchers reported that when volatiles from a plant of one chemotype were applied to the same type of plant, those plants mounted stronger antiherbivore defenses and had much less insect damage than when the volatiles were applied to a plant of the other chemotype—a hint of a kin effect.

The mustard Arabidopsis thaliana has provided another clue. About 8 years ago, Jorge Casal, a plant biologist at the University of Buenos Aires, noticed that Arabidopsis plants growing next to relatives shift the arrangement of their leaves to reduce shading of their neighbors, but don’t do that when the neighbors are unrelated. How they sense the presence of relatives was a mystery, however.

The plants do have light sensors, and in 2015, Casal’s team discovered that the strength of reflected light striking nearby leaves signaled relatedness and triggered the rearrangements. Relatives tend to sprout leaves at the same height, bouncing more light onto each other’s leaves. By shifting leaves to reduce how much they shade each other, the relatives cumulatively grow more vigorously and produce more seeds, his team found. “There is no other case of kin recognition in plants where the cue, the receptors, and the fitness consequences have been established,” Casal says.

Since then, he has shown that when sunflower kin are planted close together, they, too, arrange themselves to stay out of one another’s way.

The sunflowers incline their shoots alternately toward one side of the row or the other, Casal and his colleagues reported in 2017 in the Proceedings of the National Academy of Sciences. Taking advantage of the effect, they planted 10 to 14 related plants per square meter—an unheard of density for commercial growers— and got up to 47% more oil from plants that were allowed to lean away from each other than plants forced to grow straight up.

Chui-Hua Kong, a chemical ecologist at the China Agricultural University in Beijing, is exploiting a similar effect to boost rice yields. His lab studies rice varieties that give off weed-killing chemicals in their roots. Right now, they don't have high enough yields to replace commonly grown varieties that require herbicides. But in 3-yearlong field tests, kin-recognizing versions of these self-protective rice varieties produced a 5% increase in yield when grown with kin, rather than unrelated plants, Kong and colleagues reported in late September 2018 in New Phytologist. To test the approach on a larger scale, he and his colleagues are planting "kin" seedlings of the weed-killing strain together in paddy fields in South China.

Brian Pickles, an ecologist at the University of Reading in the United Kingdom, proposes that kin recognition could even help forests regenerate. By tracing flows of nutrients and chemical signals between trees connected by underground fungi, he showed that the firs preferentially feed their kin and warn them about insect attacks. The finding suggested a family of firs would grow faster than unrelated trees.

To some biologists, the emerging picture of communicating, cooperating plants is still based on thin evidence. Laurent Keller, an evolutionary biologist at the University of Lausanne who has shown that some apparent signs of kin recognition in Arabidopsis can instead stem from innate differences among the plants, calls for more rigor in studies. "People have started to realize that it is important to think carefully about the design of the experiment to rule out other potential explanations," he says.

Keller is keeping an open mind and predicts stronger evidence of plant kin recognition will emerge. Karban is already convinced. "We are learning that plants are capable of so much more sophisticated behavior than we had thought," he says. "It's really cool stuff."

https://science.sciencemag.org/content/363/6422

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into 3-5 logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:

a) Is the idea that plants help their relatives taking root?

b) What findings prove that plants favour their relatives?

c) What experiment has been performed by Susan Dudley, a plant evolutionary biologist?

d) Did Ruben Torices and his colleagues at the University of Lausanne in Switzerland and the Spanish National Research Council demonstrate cooperation in flowering?

e) Is there any convincing evidence for kin recognition in plants?

f) What did the researchers report on the role of chemotypes?

g) Casal's team discovered that the plants have light sensors, didn't it?

h) Was the effect used for commercial growers?

2. Make a summary of the article.

3. State:

a) the topic of the article,

b) the message of the article,

c) the author's attitude to the issue discussed,

d) your attitude to the issue discussed.

Text 3

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *daunting, subsequent, virulence, diversity, vaccine, surveillance, capabilities.*

4. Match the term and its definition:

extraordinary, robustness, inherent, viruses, phenotype, therapeutic, mutations, capacity

a) the act or process of changing into a different form, or someone or something with an odd or unusual form,

b) having healing or curative powers for a disease or ailment,

c) something or someone that is unusual, exceptional or remarkable,

d) an extremely tiny parasite that can only reproduce if it is within a living being, or anything that corrupts something else,

e) the quality of being robust (strong and healthy person or animal),

f) an essential quality that is part of a person or thing,

g) the physical and psychological characteristics of an organism from both genetics and environment, or a group of organisms having like traits,

h) the ability of someone or something to hold something.

5. Fill in the gaps with the appropriate term:

strain, technological advances, zoonotic, transmissible, phenotype, antigenic drift, molecular

a) Mutants show the effect of the mutation in their …

b) Influenza, in its …, seasonal epidemic and pandemic forms, remains a substantial global public health threat.

c) The test … required for the iron wire is about 222 tons.

d) … biology is pushing medicine into a new age.

e) … in computing and telecommunications will reduce the need for many people to travel to work.

f) … gastroenteritis is a highly contagious, enteric disease of swine.

g) Avian influenza virus is highly labile, because of … and antigenic shift.

6. Pay attention to the grammar constructions used in the article.

THE 1918 FLU, 100 YEARS LATER

Jessica A. Belser and Terrence M. Tumpey

Combating a disease of unknown cause is a daunting task. One hundred years ago, a pandemic of poorly understood etiology and transmissibility spread worldwide, causing an estimated 50 million deaths. Initially attributed to Haemophilus influenzae, it was not until the 1930s that an H1 subtype was identified as the causative strain. Subsequent influenza

pandemics in 1957, 1968, and 2009 did not approach levels of morbidity and mortality comparable to those of the 1918 "Spanish flu," leaving unanswered for almost a century questions regarding the extraordinary virulence and transmissibility of this unique strain. Technological advances made reconstruction of the 1918 virus possible; now, continued research, vaccine development, and preparedness are essential to ensure that such a devastating public health event is not repeated.

Over the past 20 years, studies of individual genes and the fully reconstructed live 1918 virus have identified numerous features that likely contributed to its robustness and rapid global spread. Importantly, this research has often been conducted in tandem with viral isolates from recent human and zoonotic sources, enabling insights from the 1918 virus to inform evaluations of current pandemic risk. As we now know, wild birds are the natural reservoir for influenza A viruses. With extensive antigenic and genetic diversity inherent among influenza virus surface proteins, a strain to which humans are immunologically naïve could jump the species barrier at any time. A(H5N1) viruses and, more recently, A(H7N9) viruses, are two such examples. However, swine are also recognized as a "mixing vessel" for influenza viruses, and over the past two decades, there has been an increase in human cases following exposure to infected pigs. There is clearly, and alarmingly, a vast diversity of zoonotic sources of influenza A viruses that could acquire a transmissible phenotype in humans and cause a pandemic.

What is our readiness today? Many international health agencies and research laboratories collaborate to track influenza virus evolution, evaluate antigenic drift among circulating and vaccine strains, and sequence viral genes to advance surveillance and preparedness. The production of improved vaccines and diagnostic tools, and better access to therapeutic agents represent resources that were not available a century ago. But influenza viruses are moving targets, and a pandemic virus could nevertheless emerge with as little warning in 2018 as in 1918. As evidenced by this current flu season, influenza viruses can rapidly acquire mutations that evade our most recent vaccine formulations. A universal, broadly protective influenza vaccine for seasonal epidemics—a goal of intense research efforts— would improve our preparedness for subsequent pandemics.

How, then, can we best study emerging pandemic threats? Looking to the past, elucidating the role of specific molecular determinants that confer virulence and transmissibility of prior pandemic viruses is one approach. But we must also look to the future. Advances in next-generation sequencing are improving our understanding of virus diversity. Investments

in global partnerships and laboratory capacity worldwide are strengthening surveillance networks and diagnostic capabilities, and are also facilitating the identification of new viruses in humans and animals. The recent lifting of the U.S. moratorium on gain-of-function research on potential pandemic viruses further illustrates the contribution of unconventional, but responsible, research strategies to readiness.

Philosopher George Santayana pointed out, "Those who cannot remember the past are condemned to repeat it." We are no doubt more prepared in 2018 for an infectious disease threat than in 1918. But it is critical to remember that preparation only stems from a global commitment to share data about viral isolates, support innovative research, and dedicate resources to assess the pandemic risk of new and emerging influenza viruses from zoonotic reservoirs.

https://science.sciencemag.org/content/359/6373

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into 3-5 logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:

a) What was identified as the causative strain of Haemophilus influenza?

b) What pandemic spread worldwide over one hundred years ago?

c) What studies have identified numerous features that contributed to its robustness and rapid global spread?

d) Do numerous international health agencies and research laboratories collaborate to track influenza virus evolution?

e) What could improve our preparedness for subsequent pandemics?

f) What approaches to study emerging pandemic threats are mentioned?

g) Do you agree with philosopher George Santayana that « Those who cannot remember the past are condemned to repeat it»?

2. Make a summary of the article.

3. State:
a) the topic of the article,
b) the message of the article,
c) the author's attitude to the issue discussed,
d) your attitude to the issue discussed.

Text 4

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *neural, intelligible, requires, seizures, epilepsy, auditory, tumor, prosthesis, neuroscientist.*

4. Match the term and its definition:

paralyzed, stroke, neurons, invasive, treatment, accuracy, surgery, captured

a) the degree to which something is true or exact,
b) caused paralysis in; made paralytic,
c) to have been taken or held hostage,
d) a medical condition where blood flow to your brain is interrupted, often because of a blood clot,
e) someone or something that intrudes or that spreads itself throughout,
f) the manner in which something or a disease is cared for or dealt with,
g) a basic nerve cell that builds the nervous system and transmits information throughout the body,
h) a branch of medicine that solves health problems by operating on the body, or the process of having an operation, or is a location where such an operation is performed.

5. Fill in the gaps with the appropriate term:

decipher, trigger, interject, precise data, removal, rely on, captured, identified, speech

a) She … her native cunning to survive.

b) In the meantime, he'd learn to use the compass better and … the symbols.

c) If I may … a note of caution into the discussion.

d) The animals are… nets and sold to local zoos.

e) Lack of sleep or too much sleep can … a migraine.

f) When I had made … my own, I could not wait to go home.

g) This survey is an attempt to capture much more detailed and …

h) On their … to Lyons the influence of both became wider and more powerful.

i) We've … weak points in your organization.

6. Pay attention to the grammar constructions used in the article.

COMPUTERS TURN NEURAL SIGNALS INTO SPEECH

Kelly Servick

For many people who are paralyzed and unable to speak, signals of what they'd like to say hide in their brains. No one has been able to decipher those signals directly. But three research teams recently made progress in turning data from electrodes surgically placed on the brain into computer-generated speech. Using computational models known as neural networks, they reconstructed words and sentences that were, in some cases, intelligible to human listeners.

People who have lost the ability to speak after a stroke or disease can use their eyes or make other small movements to control a cursor or select on-screen letters. (Cosmologist Stephen Hawking tensed his cheek to trigger a switch mounted on his glasses.) But if a brain-computer interface could re-create their speech directly, they might regain much more: control over tone and inflection, for example, or the ability to interject in a fast-moving conversation.

The hurdles are high. "We are trying to work out the pattern of … neurons that turn on and off at different time points, and infer the speech sound," says Nima Mesgarani, a computer scientist at Columbia University. "The mapping from one to the other is not very straightforward." How these signals translate to speech sounds varies from person to person, so computer models must be "trained" on each individual. And the models do best with extremely precise data, which requires opening the skull.

Researchers can do such invasive recording only in rare cases. One is during the removal of a brain tumor, when electrical readouts from the

exposed brain help surgeons locate and avoid key speech and motor areas. Another is when a person with epilepsy is implanted with electrodes for several days to pinpoint the origin of seizures before surgical treatment. "We have, at maximum, 20 minutes, maybe 30," for data collection, Martin says. "We're really, really limited."

Mesgarani's team relied on data from five people with epilepsy. Their network analyzed recordings from the auditory cortex (which is active during both speech and listening) as those patients heard recordings of stories and people naming digits from zero to nine. The computer then reconstructed spoken numbers from neural data alone; when the computer "spoke" the numbers, a group of listeners named them with 75% accuracy.

Another team, led by neuroscientists Miguel Angrick of the University of Bremen in Germany and Christian Herff at Maastricht University in the Netherlands, relied on data from six people undergoing brain tumor surgery. A microphone captured their voices as they read single-syllable words aloud. Meanwhile, electrodes recorded from the brain's speech planning areas and motor areas, which send commands to the vocal tract to articulate words. The network mapped electrode readouts to the audio recordings, and then reconstructed words from previously unseen brain data. According to a computerized scoring system, about 40% of the computer-generated words were understandable.

Finally, neurosurgeon Edward Chang and his team at the University of California, San Francisco, reconstructed entire sentences from brain activity captured from speech and motor areas while three epilepsy patients read aloud. In an online test, 166 people heard one of the sentences and had to select it from among 10 written choices. Some sentences were correctly identified more than 80% of the time. The researchers also pushed the model further: They used it to re-create sentences from data recorded while people silently mouthed words. That's an important result, Herff says – "one step closer to the speech prosthesis that we all have in mind."

However, "What we're really waiting for is how [these methods] are going to do when the patients can't speak," says Stephanie Riès, a neuroscientist at San Diego State University in California who studies language production. The brain signals when a person silently "speaks" or "hears" their voice in their head aren't identical to signals of speech or hearing. Without external sound to match to brain activity, it may be hard for a computer even to sort out where inner speech starts and ends. Decoding imagined speech will require "a huge jump," says Gerwin Schalk, a neuroengineer at the National Center for Adaptive Neurotechnologies at

the New York State Department of Health in Albany. “It’s really unclear how to do that at all.”

One approach, Herff says, might be to give feedback to the user of the brain-computer interface: If they can hear the computer’s speech interpretation in real time, they may be able to adjust their thoughts to get the result they want. With enough training of both users and neural networks, brain and computer might meet in the middle.

https://science.sciencemag.org/content/363/6422

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into 3-5 logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:
a) What are neural networks created for?
b) What could a brain-computer interface control over?
c) What patterns of neurons are the scientists trying to work out?
d) In what cases can the researchers do invasive recording?
e) What data did the scientists rely on?
f) What results have been obtained at the University of California?

2. Make a summary of the article.

3. State:
a) the topic of the article,
b) the message of the article,
c) the author’s attitude to the issue discussed,
d) your attitude to the issue discussed.

UNIT 2 PHYSICS

Scan the fragments from the articles and choose the one that best fits your specialization:

a) As a consequence, psychologists, teachers and even parents have spent a great deal of time and effort trying to understand what makes or breaks success. Personality factors that explain how people differ may be extremely important in this regard. One prominent trait that has long been tied to performance is perfectionism. Perfectionists place irrational significance on achieving their excessive standards, struggle with failure and criticism, and may feel the need to be the best at everything they do.

b) Earth's magnetic field can be approximated as a dipole with north and south magnetic poles slightly misaligned with the geographic poles. This field protects the environment from the harsh conditions of space, yet its strength has been declining since Carl Friedrich Gauss first devised a method to measure the absolute intensity in the 1830s.

c) Climate change is one of the most pressing issues facing our society today, so you would think it would be an important topic for study in the school curriculum. But in Australia that's not the case. Schools and teachers are largely left to fend for themselves and use other available resources if they want to raise the issue with students.

d) Afternoon breaks were once a common feature of nearly all primary school timetables. But, as schools have sought to dedicate more time to teaching and learning, and limit poor behaviour, these short play times have been cut down and, in many cases, eliminated altogether. But research has shown that play is important for a child's development – and now a new analysis from our ongoing research project has found that removing afternoon break time could be detrimental to pupils' physical well-being.

e) It is generally accepted that underlying neurological aspects, such as slight differences in brain structure, can change the way that dyslexic people

process information, and this affects the behaviour they might display. In addition to literacy difficulties, people with dyslexia may also have trouble expressing themselves, even though they are very knowledgeable about a topic.

Text 1

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *decarbonization, nuclear energy, emission, prioritize, fluctuate, scenarios, dispatchable, isolation.*

4. Match the term and its definition:

viability, closure, entail, available, average, demand, implication, adoption

a) a strong or urgent command or request,
b) ability to work as intended or to succeed,
c) to make something necessary, or to involve something,
d) able to be bought or used,
e) the result you get by adding two or more amounts together and dividing the total by the number of amounts,
f) the act of closing something, or an end or resolution of something,
g) an occasion when you seem to suggest something without saying it directly,
h) the choosing and making that to be one's own which originally was not so; acceptance; as, the adoption of opinions.

5. Fill in the gaps with the appropriate term:

to lag behind, commitment, battery storage, equipment, earthquake, renewable, mutually exclusive, complementary

a) The right mix of renewable energy, … and efficiency measures offers a much better alternative".
b) The proposition is …
c) The men … the ladies.

d) We would not be a great country without those …". The … also includes sensors for measurements of the electric and magnetic field fluctuations in the frequency range from 0.1 Hz to 40 kHz.

e) The three … severely damaged structures, heavily changed landforms and disturbed geophysical environments?

f) Hydrogen has been proposed as a possible fuel for future internal combustion engines and can be produced from … sources.

g) The two procedures play … roles: the former is suitable for implementation, and the latter can be used to select an initial value for use in the former.

6. Pay attention to the grammar constructions used in the article.

A FRESH LOOK AT NUCLEAR ENERGY

John Parsons, Jacopo Buongiorno, Michael Corradini, David Petti

We are running out of time, as the Intergovernmental Panel on Climate Change (IPCC) warned last October in a special report, Global Warming of 1.5°C. National commitments under the 2015 Paris Agreement are only the first step toward decarbonization, but most countries are already lagging behind. It is time to take a fresh look at the role that nuclear energy can play in decarbonizing the world's energy system.

Nuclear is already the largest source of low-carbon energy in the United States and Europe and the second largest source worldwide (after hydropower). In the September report of the MIT Energy Initiative, The Future of Nuclear Energy in a Carbon-Constrained World, we show that extending the life of the existing fleet of nuclear reactors worldwide is the least costly approach to avoiding an increase of carbon emissions in the power sector. Yet, some countries have prioritized closing nuclear plants, and other countries have policies that undermine the financial viability of their plants. Fortunately, there are signs that this situation is changing. In the United States, Illinois, New Jersey, and New York have taken steps to preserve their nuclear plants as part of a larger decarbonization strategy. In Taiwan, voters rejected a plan to end the use of nuclear energy. In France, decisions on nuclear plant closures must account for the impact on decarbonization commitments. In the United Kingdom, the government's decarbonization policy entails replacing old nuclear plants with new ones. Strong actions are needed also in Belgium, Japan, South Korea, Spain, and Switzerland, where the existing nuclear fleet is seriously at risk of being phased out.

What about the existing electricity sector in developed countries – can it become fully decarbonized? In the United States, China, and Europe, the most effective and least costly path is a combination of variable renewable energy technologies – those that fluctuate with time of day or season (such as solar or wind energy), and low carbon dispatchable sources (whose power output to the grid can be controlled on demand). Some options, such as hydropower and geothermal energy, are geographically limited. Other options, such as battery storage, are not affordable at the scale needed to balance variable energy demand through long periods of low wind and sun or through seasonal fluctuations, although that could change in the coming decades. Nuclear energy is one low carbon dispatchable option that is virtually unlimited and available now. Excluding nuclear power could double or triple the average cost of electricity for deep decarbonization scenarios because of the enormous overcapacity of solar energy, wind energy, and batteries that would be required to meet demand in the absence of a dispatchable low-carbon energy source.

One obstacle is that the cost of new nuclear plants has escalated, especially in the first-of-a-kind units currently being deployed in the United States and Western Europe. This may limit the role of nuclear power in a low-carbon portfolio and raise the cost of deep decarbonization. The good news is that the cost of new nuclear plants can be reduced, not only in the direct cost of the equipment, but also in the associated civil structures and in the processes of engineering, licensing, and assembling the plant. The implication is that a large impact on the cost of new nuclear plants may come from several sources: improvements in project management practices; innovations in the serial construction of standardized designs to minimize reengineering and maximize learning; adoption of modular construction, to shift labor from construction sites to productive factories and shipyards; advanced concrete solutions to reduce the need for reinforcement steel formwork at the site; and seismic isolation to protect the plant against earthquakes, which simplifies the structural design of the plant.

It's time to transform our thinking. Renewable and nuclear energies are not mutually exclusive, but complementary. We should preserve existing nuclear power plants and reimagine how new plants can be delivered.

https://science.sciencemag.org/content/363/6423

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into 3-5 logical parts and make an outline of the article.

3. Put the fragments in the right order.

a) The good news is that the cost of new nuclear plants can be reduced.

b) We should preserve existing nuclear power plants and reimagine how new plants can be delivered.

c) Nuclear energy is one low carbon dispatchable option that is virtually unlimited and available now.

d) In France, decisions on nuclear plant closures must account for the impact on decarbonization commitment.

e) In the United States, China and Europe, the most effective and least costly path is a combination of variable renewable energy technology.

f) Strong actions are needed also in Belgium, South Korea, Spain, and Switzerland, where the existing nuclear fleet is seriously at risk of being phased out.

g) National commitments under 2015 Paris agreement are only the first step forward decarbonization.

Post-reading tasks

1. Answer the questions:

a) What is decarbonization? Is it time to take a fresh look at the role of nuclear energy in decarbonizing the world's energy system?

b) Why is it so important?

c) What is the situation in the existing electricity sector in developed countries?

d) Why are other options of energy not affordable?

e) What obstacles may limit the role of nuclear power in deep decarbonization?

f) What measures should be taken to reduce the cost of new nuclear power plants?

2. Make a summary of the article.

3. State:

a) the topic of the article,

b) the message of the article,

c) the author's attitude to the issue discussed,

d) your attitude to the issue discussed.

Text 2

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *chaos, dipole, available, scenario, magnetization, geomagnetism, failures*.

4. Match the term and its definition:

pole, intensity, fluctuation, reversal, govern, shield, damage

a) either end of a dividing line through a sphere, or the opposing ends of two forces,

b) the quality of being very strong, concentrated or difficult or the degree to which something is difficult or strong,

c) a motion like that of waves; a moving in this and that direction,

d) a reversal is a change in the opposite direction, or a cancellation,

e) to control, guide or manage,

f) a person or thing that protects, blocks, guards or defends,

g) injury or harm to a person or thing that reduces health, value or usefulness.

5. Fill in the gaps with the appropriate term:

approximate, measure, decline, speculate, remoteness, havoc, impending, induced, ambient, currents

a) Other metals were tested in order to determine if their atomic heats … to this value at low temperatures, but with negative results.

b) It took too much effort to look up at the sun to … time.

c) Friends and relations advised Nicholas to … the inheritance.

d) That's an area where I wouldn't even dare to …

e) The Britons and Irish, whose … made them free from restriction, developed still more decided individuality.

f) You can wreak … from above easily enough, with your large array of weaponry.

g) He now understood the whole meaning and importance of this war and of the … battle.

h) In 1861 the Mortara family … the Italian government to demand the prosecution of the nurse.

i) … intelligence allow computers to adapt to their user's preferences.

j) She noticed the … then climbed a tree and said they were moving in a pattern around the lake.

6. Pay attention to the grammar constructions used in the article.

ELECTRICAL CHAOS

Bruce Buffett

Earth's magnetic field can be approximated as a dipole with north and south magnetic poles slightly misaligned with the geographic poles. This field protects the environment from the harsh conditions of space, yet its strength has been declining since Carl Friedrich Gauss first devised a method to measure the absolute intensity in the 1830s.

Fluctuations in the rate of decline are small compared with the average trend, suggesting that the dipole might vanish in less than 2000 years. This trend has led some researchers to speculate that our planet may be entering the early stages of a magnetic reversal. The outcome would be a substantial lowering of our protective shield.

The last time the north and south poles flipped orientation was about 780,000 years ago. The remoteness of this event in time limits what we have been able to infer about it, but the available geological record suggests that the magnetic field remained in a weakened state for 10,000 years or more until it was finally reestablished in the opposite orientation. Should a similar scenario play out today, the weak magnetic field would wreak havoc on our power grids and other infrastructure.

The prospect of an impending magnetic reversal sets the backdrop for Alanna Mitchell's new book, The Spinning Magnet, which begins with a historical tour of the theory of electricity and magnetism. She also recounts the story of Bernard Brunhes, a French physicist who, in 1906, was the first to suggest that Earth's magnetic field had once been in the opposite polarity. His conclusions were based on the magnetization acquired by certain minerals in rocks as they are heated and cooled through the "Curie point" (the temperature at which a material develops permanent magnetism from a state of induced magnetism).

At that time, it was easier to believe that the rocks were faulty recorders of the ambient magnetic field than to imagine the colossal change required to flip the polarity of Earth's magnetic field. As a result, Brunhes's ideas languished. By the middle of the 20th century, however, magnetic reversals had become widely accepted, having played an important role in the development of the theory of plate tectonics.

At this point in Mitchell's retelling, the focus of the narrative sharpens on the question of an impending reversal of Earth's magnetic poles. She interviews leading researchers in the field of geomagnetism and describes their efforts to understand the processes that govern the evolution of Earth's magnetic field. New satellite observations are offering fresh insights. She also interviews space scientists to understand how charged particles from the Sun and beyond interact with the magnetic field and how the present-day magnetic field shields our modern electrical infrastructure.

Recent examples of failures in this protective barrier serve to highlight the problem. A large solar storm in March 1989 sent high levels of charged particles streaming toward Earth. These particles impinged on the magnetic field and induced electric currents through power grids in Quebec, Canada. The ensuing blackout affected 6 million customers. A reduction in the field strength would allow charged particles to penetrate deeper into the Earth system, causing greater damage with even modest solar storms. A substantial and sustained collapse of the magnetic field during a reversal would likely end our present system of power distribution.

Throughout the book, there is a clear and effective attempt to cast a spotlight on the individuals who have contributed to our understanding of Earth's magnetic field. Mitchell has a sharp eye for mannerisms and a vivid way of bringing personalities to the page. Her explanations are aimed at a nontechnical audience, and the analogies she uses to describe complex scientific ideas are always entertaining. For example, a crowded washroom at a "beer-soaked" sporting event serves as the starting point for an illustration of Pauli's exclusion principle. Her enthusiasm for the book's subject matter shines throughout.

There is little doubt that the magnetic field will reverse again. In the meantime, The Spinning Magnet gives readers a nontechnical description of electromagnetism and a measured assessment of the possible consequences for our modern world if it does so in the near future.

https://science.sciencemag.org/content/359/6377

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into 3-5 logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:

a) Does the Earth's magnetic field protect the environment?

b) Is the lowering of our protective shield dangerous?

c) What is Allana Mitchel's new book about?

d) Who was the first to suggest that magnetic field had once been in the opposite polarity?

e) What were his conclusions based on?

f) How do recent examples of failures in protective barrier highlight the problem?

g) Is there any doubt that magnetic field will reverse again?

2. Make a summary of the article.

3. State:

a) the topic of the article,

b) the message of the article,

c) the author's attitude to the issue discussed,

d) your attitude to the issue discussed.

Text 3

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *quadcopter, methane, surface, hydrocarbon, plateaus, molecules, volcanoes, neutrons.*

4. Match the term and its definition:

explorer, drone, cradle, average, gravity, target, oxygen, measurement

a) a person who travels and investigates little known places,

b) a remote controlled airplane without a pilot on board,

c) a small, low bed for a baby, or the earliest period of life,

d) a value found by adding all of the numbers in a set together and then dividing them by the quantity of numbers in the set,

e) the force that causes everything that goes up to fall back down to Earth or is a word used to describe seriousness,

f) an object or goal that is being aimed at,

g) a colorless and odorless gas that people need to breath,

h) the act of measuring or the size of something.

5. Fill in the gaps with the appropriate term:

neutron, gun, hydrocarbon, spacecraft, double, helix, surface, crater, terrain, type, composition

a) Early in 1932 James Chadwick discovered the …, a particle in the nuclei of most atoms.

b) People can't just shoot a … anywhere they want to, can they?

c) …., in chemistry, a compound of carbon and hydrogen.

d) They left the row house for the park across the street, where a small … awaited them.

e) He reached a set of … doors.

f) The molecule consists of a short triple … about 105 nm in length with a large globular domain at each end.

g) The … of the earth consists of the hydrosphere and the lithosphere.

h) Besides a number of true volcanic …

i) The … was rough, covered with brush choked ravines and sharp granite bluffs.

j) I can handle those … of issues.

k) We cannot determine the chemical … of soil simply by touching it.

6. Pay attention to the grammar constructions used in the article.

NASA TO FLY DRONE ON TITAN

Paul Voosen

On Earth's moon and Mars, driving is the best option for a robot explorer. But on Titan, Ralph Lorenz plans to fly. Telescopes indicated Saturn's largest moon had a thick, hazy atmosphere, sodden with methane. In such an environment, the best way to get around, Lorenz floated in a 2000 New Scientist article, would be a helicopter. Two decades later, Lorenz's idea has turned into Dragonfly, a $1 billion mission selected last week by NASA for launch in 2026. Upon arrival in 2034, the craft, a quadcopter drone the size of a car, will take flight, periodically touching

down on the icy surface in search of a chemistry that could foster life. “It doesn’t get more interesting than a nuclear-powered quadcopter with drills and a neutron gun,” says Lorenz, Dragonfly’s project scientist at the Johns Hopkins University Applied Physics Laboratory (APL) in Laurel, Maryland, which will manage the mission.

NASA’s pick is inspired, says Lindy Elkins-Tanton, a planetary scientist at Arizona State University in Tempe. “Titan might truly be the cradle for some kind of life,” she says. “Whether life has emerged or not, Titan’s hydrocarbon rivers and lakes, and its hydrocarbon snow, make it one of the most fantasylike landscapes in our solar system.”

Titan was first explored by NASA’s Cassini spacecraft. In 2005, it dropped the short-lived European Huygens probe into Titan’s atmosphere. The surface it found was Earthlike, with plateaus, dune-filled deserts, and liquid seas at its poles. But on Titan, where temperatures average a frigid 94 K (-179° C), the “rocks” are made of water ice and the seas are filled with the hydrocarbons ethane and methane. Scientists believe the stew of organic molecules may have reacted to form amino acids and the bases that, on Earth, make up DNA’s double helix. It’s as if Titan has been conducting experiments on the origins of life for millions of years, says Elizabeth “Zibi” Turtle, a planetary scientist at APL and the mission’s principal investigator. “Dragonfly is designed to go pick up the results of those experiments and study them,” she says.

Given Titan’s complex surface, a visit to a single site would not say much, so Dragonfly will hop between distant landing sites every couple of weeks. Titan’s thick air and low gravity will allow the 300-kilogram copter, powered by a radioactive generator, to hover much more easily than on Earth.

The probe will target the moon’s vast equatorial deserts, which likely contain a grab bag of material. It will search for impact craters or ice volcanoes, places that could have provided an energetic spark— and the liquid water—needed for organic reactions. Ultimately, it will reach the 80-kilometer-wide Selk crater, created by an impact large enough to melt Titan’s water ice crust and liberate oxygen, priming reactions that may be recorded in its outcrops.

During flight, Dragonfly can collect atmospheric measurements. Upon landing, an instrument on the copter’s belly will fire neutrons at the surface and look for released gamma rays to detect basic terrain types, such as ammonia-rich ice or carbonrich sand dunes. Its two landing skids will each carry a drill to take samples and feed them to an instrument to analyze their composition. The craft will also be able to sense vibrations induced by the tidal forces of Saturn. Those tremors could help gauge the depth and composition of the ocean thought to lie beneath the moon’s crust.

Dragonfly may last up to 8 years before its radioactive power source peters out.

https://science.sciencemag.org/content/365/6448

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into 3-5 logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:
a) What is the best option for a robot explorer?
b) What is the mission of quadcopter drone?
c) Why does Ralph Lorenz plan to fly on Titan?
d) When was Titan first explored?
e) What were the results of its exploration?
f) What measurements can Dragonfly collect during flight?
g) How long may Dragonfly last?

2. Make a summary of the article.

3. State:
a) the topic of the article,
b) the message of the article,
c) the author's attitude to the issue discussed,
d) your attitude to the issue discussed.

Text 4

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article

3. Check whether you know how to pronounce the following words: *accelerator, detector, universe, dimension, collision, inaccessible, existence.*

4. Match the term and its definition:

collider, antimatter, evidence, decay, violation, sample, precise

a) a particle accelerator used to bring about collisions between particles or atoms in order to study their behavior or create isotopes,

b) a form of matter that is identical to ordinary matter except that it is composed of antielectrons (positrons), antiprotons, and antineutrons,

c) something that gives proof or leads to a conclusion,

d) a rotted matter or the state of rotting, deteriorating or declining,

e) a break of a law or of a code of behavior,

f) a small part of something used to represent the whole or to learn something about the whole,

g) exact and accurate in form, time, detail, or description.

5. Fill in the gaps with the appropriate term:

prove, suggest, predict, produce, occur, exhibit, intensify

a) Such data will … invaluable to researcher

b) I … we use Barkers as our main suppliers – they're good and furthermore they're cheap.

c) We can predict changes in climate with a surprising degree of accuracy.

d) She's asked me to … a report on the state of the project.

e) If any of these symptoms … while you are taking the medication, consult your doctor immediately.

f) Most zoos try to … animals in naturalistic settings.

g) Relationships with the global trading and financial systems have continued to … .

6. Pay attention to the grammar constructions used in the article.

LARGE HADRON COLLIDER IS BACK TO CHANGE OUR UNDERSTANDING OF THE UNIVERSE … AGAIN

Roger Jones, Professor of Physics, Head of Department, Lancaster University

The Large Hadron Collider (LHC) has just begun smashing particles together at higher energies than ever before. This marks the start of the

second run of the world's largest physics experiment, the huge particle accelerator that sits beneath the Alps and in 2012 was used to prove the existence of the Higgs boson.

Now, after more than two years' work upgrading the accelerator systems and the particle detectors (and more years of preparation before that), the team at research group CERN are ready to start using the LHC to answer more questions about how the universe works.

The goal is to explain the missing pieces in our understanding of fundamental physics. One example is the nature of the so-called dark matter that scientists say we can't see directly but that dominates the universe. Another is the imbalance between matter and antimatter in the present-day universe. Our current theories suggest there would have been almost exactly equal amounts of matter and antimatter in the early universe. But somehow the antimatter decayed, allowing the universe that we know made entirely of matter to emerge.

Physicists have proposed a range of theories, such as "supersymmetry", to answer these questions and that also predict the existence of new particles and subtle changes to the behaviour of known particles. By colliding particles at energies measured at 13 teraelectronvolts, researchers may also find evidence of the hidden extra dimensions that feature in many theories. Or it could show that the Higgs boson, the particle associated with giving mass to the other particles that make up matter, is one of a whole family of related particles.

The significance of almost doubling the energy at which particles are fired around the LHC is that the resulting collisions should produce new particles that were inaccessible before. Rarer processes should also become more frequent and so easier to distinguish from the approximately 600m "ordinary" collisions that occur in each experiment each second. And the rate at which Higgs bosons are produced should increase, allowing researchers to determine their true nature.

There are several different experiments scheduled for the higher-energy LHC. My team at the University of Lancaster is part of the ATLAS experiment and we will be looking studying how the Higgs boson decays into a particle called the tau, a heavier version of the electron. We will be seeing if the decay exhibits what is called CP violation, a process that distinguishes between matter and antimatter and might help explain the matter-antimatter imbalance.

The improvements to the ATLAS detector for measuring the paths of the particles produced by collisions and the points where they decay

mean we in Lancaster will be able to make really precise measurements of CP violation and particle lifetimes in more conventional particles. The extremely large samples of the relevant decays will also contribute to the high precision required to see the influence of any new physics effects such as supersymmetry.

We will also be looking for other new particles, particularly those that decay into two "jets" of ordinary particles. This is really important for understanding how often you get double collisions between the particles inside the protons. The energy signature from these double collisions can mimic some of the effects predicted by new theories. So we need to understand the collisions before we can claim them as evidence for those theories.

The two-year period during which the LHC was offline was an intensely busy time for the accelerator and detector teams. But the work will now intensify at major analysis centres such as Lancaster to extract the relevant results from the large volumes of data the LHC is producing. For the young physicists doing their PhD studies or in their first research positions and the older hands directing them, this is the most exciting time when the work all comes together.

What will be found is unknown – and an unexpected finding could transform our whole programme of work. Whatever nature reveals, it will be interesting and potentially could profoundly change our view of the fundamental workings of the universe.

https://theconversation.com/large-hadron-collider-is-back-to-change-our-understanding-of-the-universe-again-42775

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into 3-5 logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:
a) What is Large Hadron Collider?
b) Was it used to prove the existence of the Higgs boson?
c) What is the goal of the research group CERN?

d) What evidence can be found by colliding the particles?

e) There are several different experiments scheduled for HLC, aren't they?

f) What experiments is the team at Lancaster University doing?

g) Why is it important to understand the collisions between the particles inside the protons?

2. Make a summary of the article.

3. State:

a) the topic of the article,

b) the message of the article,

c) the author's attitude to the issue discussed,

d) your attitude.

UNIT 3 LINGUISTICS

Scan the fragments from the articles and choose the one that best fits your specialization:

a) No mainstream political party in Britain has ever declared itself as anti-business. In practice, most parties recognise the importance of meeting business needs. Governments are ultimately bound in their policy choices by the reality that they have to protect jobs, induce private investment and raise revenue by taxing companies.

b) One of the main solutions to this problem is large-scale electricity storage technologies. These work by accumulating electricity when supply exceeds demand, then releasing it when the opposite happens. However, one issue with this method is that it involves enormous quantities of electricity.

c) Konglish is the term used to describe the variety of English unique to Korea. It is just one of many varieties of the English language that exists far beyond the borders of so-called "inner circle" Englishes – those spoken in countries such as Britain and the US, for example. As such, Konglish is sometimes met with hostility – even by Koreans themselves – and some regard it as synonymous with errors and failed attempts to learn "proper" English.

d) Our brain is the most complex organ in the body. Not only does it control basic life functions like breathing, organ function, and movement, it's also behind more complex processes – everything from thought, controlling our behaviour and emotions, and creating memories. But despite how important our brains are, many people still know very little about it.

e) One particularly well documented syndrome, thought to be first identified by Charles Darwin, involves an unsettling exhibition of

uncontrolled emotion. It is clinically characterised by frequent, involuntary and uncontrollable outbursts of laughing and crying. This is a distressing disorder of emotional expression at odds with the person's underlying feelings. The condition is known as pseudobulbar affect syndrome and may be expressed in several different neurological conditions.

Text 1

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *multilingualism, anthropology, marginalized language, recognized language, heritage language, standardization, linguistic marginalization, language repertoire, revitalization.*

4. Match the term and its definition:

validation, multilingual, heritage, standardization, marginalization, repertoire, flexible

a) the act of treating someone or something as if they are not important,

b) speaking or using several different languages,

c) the process of making things of the same type all have the same basic features,

d) all the things that a person is able to do,

e) features belonging to the culture of a particular society, such as traditions, languages, or buildings, that were created in the past and still have historical importance,

f) able to change or be changed easily according to the situation,

g) the act or process of making something officially or legally acceptable or approved.

5. Fill in the gaps with the appropriate term:

diverse, globalize, revitalization, universality, policy, vitality, benefit

a) The discovery of oil brought many …s to the town.

b) New York is a very culturally/ethnically … city.

c) A new indoor sports arena has played a key role in the … of its neighborhood.

d) According to the packet, these vitamin pills will restore lost … .

e) She wrote about the … of the themes of world mythology.

f) Satellite broadcasting is helping to … television.

g) They believe that Europe needs a common foreign and security … .

6. Pay attention to the grammar constructions used in the article.

HOW A CHILD'S FIRST LANGUAGE INCLUDES MORE THAN WORDS

Shannon Ward

Assistant Professor, Anthropology, University of British Columbia

This International Mother Language Day (Feb. 21), Canadians celebrated their multilingual heritage by recognizing flexible uses of languages. According to UNESCO, "Mother tongue or mother language refers to a child's first language, the language learned in the home from older family members." As a linguistic anthropologist who studies language use in diverse communities, I know that multilingualism is part of our general human capacity for language.

In a globalized world, many associate multilingualism with mobility and migration. Increasingly, multilingualism appears to be the new norm.

But more than that, linguistic anthropology shows that multilingualism is an essential aspect of how we form belonging and difference. Research on language learning, especially heritage language learning and language revitalization, shows the universality of our capacity for multilingualism.

<…>

Language recognition as a human right

Recognizing a language is the first step to supporting its speakers. Each International Mother Language Day, we should celebrate marginalized languages and language varieties in addition to major world languages. <…>

Language recognition has material consequences for communities. It is associated with increased access to socio-economic stability and mobility. Communities that speak recognized languages receive supports, including representation in language policy, formal education and access to media.

In contrast, some communities speak unrecognized languages. These languages are viewed merely as broken forms of a dominant language rather

than as complex codes in their own right. Members of communities who speak unrecognized languages face stigma over their mother languages <…>

How to foster flexible multilingualism

<…>

My own research with Tibetan families living in urban centres shows that parents encourage children to speak a standard language rather than their regional mother language. Despite the significance of regionally diverse mother languages to adults' identities, Tibetan communities face pressure to unify heritage language learning around a single standard variety.

In this case, language standardization has prevented Tibetan children from accessing forms of linguistic belonging available to adults. It has also unintentionally contributed to a language shift away from Tibetan mother languages and to dominant languages, including Mandarin and English.

In such situations, immigrant and minority children face two forms of linguistic marginalization. First, a nation's official languages exclude their recognized heritage language. Second, a standard language spoken within their community excludes their native, mother languages.

These challenges can be overcome with flexible multilingualism which refers to the ongoing validation of diverse language repertoires and acceptance of language change.

<…>

In short, flexible multilingualism contributes to the vitality of diverse mother languages and brings tangible benefits to language learners.

https://theconversation.com/how-a-childs-first-language-includes-more-than-words-132232

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:

a) What holiday is celebrated on the 21st of February?

b) What is mother tongue or mother language according to UNESCO?

c) Is multilingualism a part of general human capacity?
d) What do people associate multilingualism with?
e) What is language recognition associated with?
f) How does the author characterize language situation in Tibet?
g) What forms of linguistic marginalization do immigrant and minority children face in Tibet?
h) What is flexible multilingualism?

2. Make a summary of the article.

3. State:
a) the topic of the article,
b) the message of the article,
c) the author's attitude to the issues discussed,
d) your attitude to the issues discussed.

Text 2

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *idiom, phoneme, consonant, vowel, intonation pattern, computational linguistics, linguistic diversity, indigenous language***.**

4. Match the term and its definition:

idiom, phoneme, consonant, vowel, intonation pattern, computational linguistics, indigenous language

a) a language that is native to a region,
b) any one of the set of smallest units of speech in a language that make the difference between one word and another,
c) a group of words whose meaning is different from the meanings of the individual words,
d) a speech sound made by completely or partly stopping the flow of air through the mouth or nose,

e) a speech sound in which the mouth is open and the tongue is not touching the top of the mouth, the teeth, etc., so that the flow of air is not limited,

f) the study of language and speech using computers,

g) the way a person's voice raises and lowers depending on what they are talking about.

5. Fill in the gaps with the appropriate term:

weird, survey, strategy, documentation, to give a better understanding of, linguistic diversity, available

a) That's … – I thought I left my keys on the table but they're not there.

b) The document sets out the government's new … .

c) Tickets are currently … at reduced prices from the festival office.

d) It prohibits discrimination against people belonging to a minority group and demands respect for cultural, religious and … .

e) The report will … a … … of the workings of Parliament.

f) Each product is fully supported with user … .

g) We are conducting a … to find out what our customers think of their local bus service.

6. Pay attention to the grammar constructions used in the article.

LINGUISTS FOUND THE 'WEIRDEST LANGUAGES' – AND ENGLISH IS ONE OF THEM

Adam Schembri
Reader in Linguistics, Department of English Language and Linguistics, University of Birmingham

Is English "weird"? Many of us might feel this is true when we're trying to explain the complex spelling rules of the language, or the meanings of idioms such as "it's raining cats and dogs" to someone who is learning English. Teaching or learning any language is, however, never an easy task.

But what is a "weird" language anyway? <…>

Some computational linguists have used data in the World Atlas of Language Structures (WALS) to explore (tongue firmly in cheek) which languages might be considered the "weirdest". This was not just a value judgement: they systematically compared the information in the WALS website for 239 languages from different parts of the world.

Their aim was to find out which languages had the largest number of features that differed most from other languages. In this survey, English

came in 33rd position out of 239 languages. So it definitely has more atypical features than over 80% of the other languages in the survey. <…>

English sounds strange

English probably sounds a little strange to many speakers of other languages. According to the WALS, the average number of distinctive speech sounds in the world's languages is about 25-30 – known as "phonemes". Pirahã, an indigenous language spoken in the Amazon region of Brazil, has an unusually small set of phonemes. It has eight consonants, and just three vowels: /i/, /a/ and /o/. <…>

English has more phonemes than many languages, with around 44, depending on which variety of English you speak. It has an unusually large set of vowel sounds – there are around 11. According to WALS, most spoken languages only have between five to six vowel sounds. <…>

The question of questions

English grammar is also sometimes unusual. English uses varying word orders to distinguish between questions and statements – meaning that the subject of the sentence precedes the verb in statements. Take the phrase "life is a box of chocolates" for example. Here, the order is subject ("life") followed by the verb ("is"). In the question, "is life a box of chocolates?", the order of these elements is reversed.

In a WALS survey of 955 languages, fewer than 2% of languages in the sample used English-like differences in sentence structure for questions. Over 50% of the languages added a question particle to differentiate a question from a statement.

In Japanese, for example, you add the question particle "ka" to a statement to turn it into a question. The second most common strategy in WALS was to change the intonation pattern, such as changing a falling intonation pattern (for a statement) to a rising one (for a question). <…>

That said, it is impossible to conclusively make the argument that English is, or isn't, "weird" because all the data needed to make this judgement is not available. As several thousand languages have not yet been included in WALS, this means WALS can only be used to compare English with a small proportion of the estimated 7000 languages in the world today. More language documentation is ultimately needed to give a better understanding of the world's amazing linguistic diversity.

https://theconversation.com/linguists-found-the-weirdest-languages-and-english-is-one-of-them-113621

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:

a) Why can English seem weird?

b) What data have been used to explore which language might be considered the "weirdest"?

c) How many languages have been compared to do it?

d) What position does English come out of all the languages explored?

e) Why does English sound strange?

f) Why is English grammar sometimes unusual?

g) Is it possible to prove scientifically that English is weird?

h) What should be done to give a better understanding of the world's linguistic diversity?

2. Make a summary of the article.

3. State:

a) the topic of the article,

b) the message of the article,

c) the author's attitude to the issues discussed,

d) your attitude to the issues discussed.

Text 3

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *sign language, visual language, regional dialect, deaf community, repository, digital video, linguistic heritage, local identity***.**

4. Match the term and its definition:

sign language, visual language, regional dialect, community, repository, heritage, identity, corpus, footage

a) a system of communication using visual elements,

b) a system of communicating using hand movements rather than spoken words, as used by people who cannot hear,

c) the history, traditions, buildings and objects that a country or society has had for many years and that are considered an important part of its character,

d) the characteristics, feelings or beliefs that make people different from others,

e) the distinct form of a language spoken in a particular geographical area,

f) a place where something is stored in large quantities,

g) a collection of written or spoken texts,

h) all the people who live in a particular area, country, etc. when talked about as a group,

i) part of a film showing a particular event.

5. Fill in the gaps with the appropriate term:

to vary, to assume, to emerge, to overlook, to confirm, to explore, to constitute, to identify

a) First of all we must … the problem areas.

b) It is generally …ed that stress is caused by too much work.

c) Please write to … your reservation.

d) He …ed from the shadows.

e) He seems to have …ed one important fact.

f) Westerners did not set out to … the world until the fifteenth century.

g) Class size …s greatly.

h) The increase in racial tension …es a threat to our society.

6. Pay attention to the grammar constructions used in the article.

HOW BRITISH SIGN LANGUAGE DEVELOPED ITS OWN DIALECTS

Adam Schembri
Reader in Linguistics, Department of English Language and Linguistics, University of Birmingham
Kearsy Cormier
Reader in Sign Linguistics, UCL Deafness Cognition and Language Research Centre, UCL

There are many different ways of speaking English in the UK, with people using different regional dialects in different parts of the country. For example, some people would say "give it me" while others might say "give it to me". <…>

What is perhaps much less well known is that the majority sign language of the UK's deaf community, British Sign Language (BSL), also varies from one part of the country to another – it is clear that BSL has dialects. <…>.

Many people mistakenly assume that sign language is some kind of universal form of communication. In fact, there are over 100 different sign languages in the world today. Like all natural sign languages, BSL was not invented by any single individual, but developed spontaneously.

BSL began to emerge centuries ago when deaf people gathered together to form communities across the country. As it developed separately from English, BSL has vocabulary and grammar that is different. For example, a single sign can be used to mean "I haven't seen you in ages". <…>

When modern BSL was used in the first schools for deaf children in the late 18th century, there was limited contact between the communities in various parts of the country. As a result, different signs for the same meaning emerged independently of each other – particularly in residential schools for deaf children in the 19th century, where deaf children in the playgrounds and dormitories created some of their own signs.
<…>.

To understand this variation better, we (a team of deaf and hearing researchers) created the BSL Corpus Project. A corpus is a collection of linguistic data, created specifically as a representative sample of a community's language. What we created is a unique repository of the rich variation in the sign language of the British deaf community, an often overlooked but vital part of the UK's cultural and linguistic heritage.

As it is a visual language, we used digital video to create the data. Our team filmed 249 deaf people from eight cities across the UK – London, Bristol, Birmingham, Manchester, Newcastle, Glasgow, Cardiff and Belfast. Using this footage, we analysed variation and confirmed strong regional differences in vocabulary. This was true in signs for colours – we found around 17 different signs for "purple". <…>

We also found that place name signs may work to show local versus non-local identities. <…> This shows that, like regional differences in British English, variation in BSL is tied to strong feelings of local identity.

All of the regional variations we found are documented in BSL SignBank, an online BSL dictionary based on signs from the corpus. There is still so much to explore in the corpus data, so we may yet find evidence of BSL "accent" variation. If there were systematic differences in the shape of the hands, or where the hands are located or how they move, for example, then this could constitute "accent". No such differences have yet been identified – although there might be evidence for a "late learner" accent, categorised by larger, more erratic movements, this is related to fluency and not to region.

https://theconversation.com/how-british-sign-language-developed-its-own-dialects-112445

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:
a) What language do members of the deaf community use?
b) Is sign language a universal form of communication?
c) How many sign languages are there in the world?
d) Who invented BSL?
e) When and how did BSL emerge?
f) Is BSL different from English?
g) What did the authors of the article create to understand the variation of BSL?

h) Who took part in the project?

i) What facts confirm regional differences of BSL?

j) What do the researchers mean by possible "accent" variation of BCL?

2. Make a summary of the article.

3. State:

a) the topic of the article,

b) the message of the article,

c) the author's attitude to the issues discussed,

d) your attitude to the issues discussed.

Text 4

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *robotics, interaction, computational creativity, digital, synthetic, renowned, to generate, to draft, to co-author, to mimic.*

4. Match the term and its definition:

robotics, interaction, to co-author, creativity, literary criticism, interface, output, digital, renowned

a) to write a book or an article with somebody else,

b) the science of designing and operating robots,

c) the use of skill and imagination to produce something new or to produce art,

d) connected with the use of computer technology, especially the internet,

e) famous and respected,

f) the act of communicating with somebody, especially while you work, play or spend time with them,

g) the study, evaluation, and interpretation of literature,

h) *(computing)* the way a computer program presents information to a user or receives information from a user, in particular the layout of the screen and the menus,

i) the amount of something that a person, a machine or an organization produces.

5. Fill in the gaps with the appropriate term:

to explore, to co-exist, to mimic, to generate, to select, to ignore, to given credit, to guide

a) I … him … for (= thought that he would have) better judgment than he showed.

b) The robot was programmed to … a series of human movements.

c) Different traditions … successfully side by side.

d) The city is best …ed on foot.

e) We need someone to … new ideas.

f) Six theatre companies have been …ed to take part in this year's festival.

g) We cannot afford to … their advice.

h) Trust your own judgment and don't be …ed by what anyone else thinks.

6. Pay attention to the grammar constructions used in the article.

WE, ROBOT: THE COMPUTER CO-AUTHORING A STORY WITH A HUMAN WRITER

Leah Henrickson
PhD Candidate, Loughborough University

In Isaac Asimov's I, Robot, a collection of nine short stories about robotics, Asimov explores the possibilities of human-computer interaction. How can humans and computers co-exist? How can they work together to make a better world?

A research group from the Meertens Instituut in Amsterdam and the Antwerp Centre for Digital Humanities and Literary Criticism recently introduced a new digital creative writing system. Using a graphical interface, an author drafts a text sentence by sentence. Then, the system proposes its own sentences to continue the story. The human and the computer work together to create what the system's developers call "synthetic literature".

<…>

How to train your robot

To learn language and sentence structure, the system has been trained using the texts of 10,000 Dutch-language e-books. Additionally, the system was trained to mimic the literary styles of such renowned authors as Asimov and Dutch science fiction author Ronald Giphart by generating sentences that use similar words, phrases, and sentence structures as these authors.

Dutch author Ronald Giphart is writing a tenth I, Robot story to complement Isaac Asimov's collection of nine stories about human-computer interaction. <…>

As Giphart types new sentences into the system's graphical interface, the system responds by generating a selection of sentences that could be used to continue the story. Giphart can select any of these sentences, or ignore the system's recommendations altogether. <..>

Can a computer be creative?

The "synthetic literature" referred to by this system's developers implies a combined production effort of both human and computer. Of course, the human still guides production. <…> The system follows its user's direction, responding by using its own capacity for creativity.

But can a computer ever be truly creative? This is a question that the field of computational creativity has been studying since computers were invented. The field generally accepts that a computer can be called creative if its output would be considered creative had it been produced by a human.

Computational creativity debates are all rooted in one underlying question: is the computer merely a tool for human creativity, or could it be considered a creative agent itself? <…>

Computer systems can be trained to mimic the language and sentence structure of particular writers. The co-creative writing system Giphart is using isn't able to produce an entire book by itself, but it can produce paragraphs that continue Giphart's story for him. Giphart, though, ultimately has the power to choose what computer output he uses.

But does this mean that Giphart alone will be credited as the author of his Ik, robot story, or will his computer be given credit as a co-author? <…>

One Nederland Leest blog post compares this new method of writing to the evolution of the electric guitar. It may have existed for nearly a century, but it wasn't until Jimi Hendrix showed us how to really play the instrument that its potential was realised. Similarly, we still need to discover how to "play" this writing system to get the best results, whatever they might be.

So is synthetic literature the future? Maybe. Keep reading to find out.

https://theconversation.com/we-robot-the-computer-co-authoring-a-story-with-a-human-writer-84932

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:

a) What does I.Asimov explore in his collection of short stories "I, Robot"?

b) What system has a research group from the Meertens Instituut in Amsterdam and the Antwerp Centre for Digital Humanities and Literary Criticism introduced?

c) What is "synthetic literature" according to the system's developers?

d) How has the system been trained to learn language and sentence structure?

e) Who is complementing I.Asimov's collection of short stories? What is he doing for it?

f) What view on computational creativity is accepted today?

g) Can the creative writing system produce an entire book?

h) Why is this digital creative writing system compared with the evolution of the electric guitar?

2. Make a summary of the article.

3. State:

a) the topic of the article,

b) the message of the article,

c) the author's attitude to the issues discussed,

d) your attitude to the issues discussed.

UNIT 4 HISTORY

Scan the fragments from the articles and choose the one that best fits your specialization:

a) The disappearance of the smooth handfish highlights how sensitive this family of fishes are to environmental disruptions such as climate change, habitat destruction, and pollution, because the smooth handfish was almost certainly common when scientists documented it for the first – and last – time, more than 200 years ago. Scientists say this milestone serves as a warning for what may come for other handfish species and other vulnerable, localized species in places like Tasmania.

b) The X Games snowmobiling competitions include Snocross, in which competitors race on snowmobiles around a track with steep jumps and obstacles. Snocross competitions are held outside the X Games, too, with the world championships held in Falun, Sweden.

c) Already, in 2020, robots take inventory and clean floors in Walmart. They shelve goods and fetch them for mailing in warehouses. They cut lettuce and pick apples and even raspberries. They help autistic children socialize and stroke victims regain the use of their limbs. They patrol borders and, in the case of Israel's Harop drone, attack targets they deem hostile. Robots arrange flowers, perform religious ceremonies, do stand-up comedy, and serve as sexual partners.

d) The Rubicon is, in reality, little more than a stream. Its significance to Rome lay in its location, marking the official border between Italy and Cisalpine Gaul, the region south of the Alps governed by Julius Caesar. Despite its appearance, crossing this humble river would have serious consequences. According to the law of the Roman Republic, any provincial governor leading troops across the border back into Italy would be declared a public enemy. It was, quite simply, an act of war.

Text 1

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *issue, oath, evidence, objective, subjective, achievement, embellishment, barrister, alternative lines, feedback, uniquely mediocre.*

4. Match the term and its definition:

evidence, essay, definition, quotation, origin, to summarize, self-expression

a) a phase or short piece of writing taken from a longer work of literature, poetry, etc. or what someone else has said,

b) to express the most important facts or ideas about something or someone in a short and clear form,

c) a statement that explains the meaning of a word or phrase,

d) one or more reasons for believing that something is or is not true,

e) expression of your personality, emotions, or ideas, especially through art, music, or acting,

f) a short piece of writing on a particular subject, especially one done by students as a part of the work for a course,

g) used to describe the particular way in which something started to exist or someone started their life.

5. Fill in the gaps with the appropriate term:

to avoid, to formulate, mark, self-critical, to substantiate, oath, judicious selection thoroughly, comments

a) Witnesses in court promise to tell the truth, the whole truth and nothing but the truth. All history students should swear a similar …: to answer the question, the whole question and nothing but the question.

b) Take your time, look carefully at the wording of the question, and be certain in your own mind that you have … understood all its terms.

c) If you are asked to explain the successes of a particular individual, again … writing the first thing that comes into your head.

d) You … an argument, or perhaps voice alternative lines of argument, that you will … later in the essay.

e) You must give a … … of evidence (i.e. facts and quotations) to support the argument you are making.

f) A good essay, especially one that seems to have been effortlessly composed, has often been revised several times; and the best students are those who are most….

g) Don't just look at the … your essay gets; read the … carefully.

6. Pay attention to the grammar constructions used in the article.

HOW TO WRITE A GOOD HISTORY ESSAY

Robert Pearce

First of all we ought to ask, What constitutes a good history essay? Probably no two people will completely agree, if only for the very good reason that quality is in the eye – and reflects the intellectual state – of the reader. What follows, therefore, skips philosophical issues and instead offers practical advice on how to write an essay that will get top marks.

Witnesses in court promise to tell the truth, the whole truth and nothing but the truth. All history students should swear a similar oath: to answer the question, the whole question and nothing but the question. This is the number one rule. You can write brilliantly and argue a case with a wealth of convincing evidence, but if you are not being relevant then you might as well be tinkling a cymbal. In other words, you have to think very carefully about the question you are asked to answer. <…> Take your time, look carefully at the wording of the question, and be certain in your own mind that you have thoroughly understood all its terms.<…>

If you are asked to explain the successes of a particular individual, again avoid writing the first thing that comes into your head. Think about possible successes. In so doing, you will automatically be presented with the problem of defining 'success'. What does it really mean? Is it the achievement of one's aims? Is it objective (a matter of fact) or subjective (a matter of opinion)? Do we have to consider short-term and long-term successes? If the person benefits from extraordinary good luck, is that still a success? This grappling with the problem of definition will help you compile an annotated list of successes, and you can then proceed to explain them, tracing their origins and pinpointing how and why they occurred. Is there a key common factor in the successes? If so, this could constitute the central thrust of your answer. The key word in the above paragraphs is *think*. <…>

First Paragraph. Every part of an essay is important, but the first paragraph is vital. This is the first chance you have to impress – or depress – an examiner, and first impressions are often decisive. You might therefore try to write an eye-catching first sentence. <…> More important is that you demonstrate your understanding of the question set. Here you give your carefully thought out definitions of the key terms, and here you establish the relevant time-frame and issues – in other words, the parameters of the question. Also, you divide the overall question into more manageable sub-divisions, or smaller questions, on each of which you will subsequently write a paragraph. You formulate an argument, or perhaps voice alternative lines of argument, that you will substantiate later in the essay. Hence the first paragraph – or perhaps you might spread this opening section over two paragraphs – is the key to a good essay. <...>

*Middle Paragraphs***.** It should be obvious, from your middle paragraphs, what question you are answering. Indeed it's a good test of an essay that the reader should be able to guess the question even if the title is covered up. So consider starting each middle paragraph will a generalization relevant to the question. Then you can develop this idea and substantiate it with evidence. You must give a judicious selection of evidence (i.e. facts and quotations) to support the argument you are making. You only have a limited amount of space or time, so think about how much detail to give. Relatively unimportant background issues can be summarized with a broad brush; your most important areas need greater embellishment. <…>

*Final Paragraph***.** If you've been arguing a case in the body of an essay, you should hammer home that case in the final paragraph. If you've been examining several alternative propositions, now is the time to say which one is correct. In the middle paragraph you are akin to a barrister arguing a case. Now, in the final paragraph, you are the judge summing up and pronouncing the verdict. <…>

*Final Thoughts***.** A good essay, especially one that seems to have been effortlessly composed, has often been revised several times; and the best students are those who are most self-critical. Get into the habit of criticizing your own first drafts, and never be satisfied with second-best efforts. Also, take account of the feedback you get from teachers. Don't just look at the mark your essay gets; read the comments carefully. If teachers don't advise how to do even better next time, they are not doing their job properly.<…>

There are an infinite number of ways to write an essay because any form of writing is a means of self-expression. Your essay will be unique because you are unique: it's up to you to ensure that it's uniquely good, not uniquely mediocre.

https://www.historytoday.com/archive/how-write-good-history-essay

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:
a) What constitutes a good history essay?
b) What should all history students swear?
c) Why is the first paragraph vital?
d) What should be obvious from the middle paragraphs?
e) What information should the final paragraph contain?

2. Make a summary of the article.

3. State:
a) the topic of the article,
b) the message of the article,
c) the author's attitude to the issues discussed,
d) your attitude to the issues discussed.

Text 2

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *issue, oath, fragility of human life, imposing building, implausible, perseverance, community, convert to Christianity, to be announced, poignant, hope of endurance and survival, trust.*

4. Match the term and its definition:

discovery, relics, dedicated, saint, treasure, to date to

a) believing that something is very important and giving a lot of time and energy to it;

b) very valuable, usually in the form of a store of precious metals, precious stones, or money;

c) the process of finding information, a place, or an object, especially for the first time, or the thing that is found;

d) the title given to a person who has received an official honour from the Christian, especially Roman Catholic Church for having lived in a good and holly way;

e) an object, tradition, or system from the past that continuous to exist;

f) to have existed for a particular length of time or since a particular time.

5. Fill in the gaps with the appropriate term:

significant, sources, embodiment, to dedicate, to flee, to pray, saint

a) This church, … to St Mary and St Eanswythe, is an imposing building, standing high on the cliffs from which the old part of the town winds down to the harbour.

b) They are two of the most … figures in British history.

c) Eanswythe has always been a little-known … outside Folkestone, the details of her life sparsely recorded even in Anglo-Saxon sources.

d) When you read medieval … which get closer to the heart of the practice, telling the stories of individual communities and the relics of their saints, they can be very moving.

e) For each community, their relics were literally an … of what they valued most: their faith in God and in their own history, a symbol of what they had been and what they hoped would endure.

f) When they had to … their home, they took their relics with them; when their churches burned down, they … by their relics amid the ruins.

6. Pay attention to the grammar constructions used in the article.

HOW TO LIVE FOREVER

Eleanor Parker

The recent discovery of an Anglo-Saxon saint's relics reminds us of the fragility of human life and the power of hope.

A few years ago, on a grey and rainy day in April, I happened to be in Folkestone in Kent. Since there's not much to do in a seaside town on a drizzly Sunday morning, a visit to a church seemed like the best idea. This church, dedicated to St Mary and St Eanswythe, is an imposing building, standing high on the cliffs from which the old part of the town winds down to the harbour. On that day we timed our visit well: the morning service had just finished and the rain had started coming down hard, so we were welcomed inside with solicitous kindness.

Making my way through the church, guide in hand, I was surprised by its unusual dedication to St Eanswythe (I had never heard of her), but even more surprised by what I read next: that the church believed it still possessed the relics of its Anglo-Saxon patron, which had been rediscovered in 1885, hidden in the church wall.

I could not quite believe what I was reading – not because the survival of the relics seemed implausible, but because I could not understand how I had never heard about it. St Eanswythe was the granddaughter of Ethelbert of Kent, the first Anglo-Saxon king to convert to Christianity, and his wife Bertha. They are two of the most significant figures in British history; it seemed extraordinary that a tangible link to them could exist in this young woman's bones, hidden in a seaside church, apparently hardly noticed except in the church itself.

Since my visit, many more people have now heard of Eanswythe. The relics have been analysed as part of the community-led 'Finding Eanswythe' project and in March it was announced that they date to the seventh century, Eanswythe's lifetime. They may indeed be hers.

Eanswythe has always been a little-known saint outside Folkestone, the details of her life sparsely recorded even in Anglo-Saxon sources. But that does not mean she is unimportant. Eanswythe is one of very few Anglo-Saxon saints whose relics have survived, in the same place (though not the same building) where she was first buried.

The result of this analysis is a reward for the perseverance of those who worked hard to bring it about, but also for the faith of those who carefully preserved the relics for so many centuries. How would Eanswythe's first community have felt, when they buried their young princess, to know that her bones would still be in Folkestone 1,300 years later, in a town which in every other way would be unrecognisable to their eyes? How would the people who hid her bones to save them from destruction feel to know that their treasure would survive, when so many others have been lost? They might have hoped, but they could never have guessed how successful their rescue effort would be.

It is easy to be cynical about medieval relics; today many people are, though that does not stop discoveries like this making national news. Of course, there are the well-known stories of deception and fraud in relics, the kinds of misuse that even in the Middle Ages were mocked or condemned. But that is not the whole story, as Eanswythe's relics remind us.

When you read medieval sources which get closer to the heart of the practice, telling the stories of individual communities and the relics of their saints, they can be very moving. The bones medieval churches treasured were the remains of people who had been loved and revered in life. For each community, their relics were literally an embodiment of what they valued most: their faith in God and in their own history, a symbol of what they had been and what they hoped would endure. In times of trouble, medieval communities held fast to their relics, anxious for a tangible sign that their saints were still with them. When they had to flee their home, they took their relics with them; when their churches burned down, they prayed by their relics amid the ruins. In Folkestone, they hid Eanswythe's bones.

What I find poignant about these stories is that relics offer such a fragile thread of continuity – what's more fragile than the human body? But in their vulnerability, these things of dust speak of the hope of endurance and survival, a trust that even after death we can still be connected with the people we have loved. For more than 1,300 years, that hope has lived on in Eanswythe's relics.

https://www.historytoday.com/archive/out-margins/how-live-forever

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:

a) What does the recent discovery of an Anglo-Saxon saint's relics remind us of?

b) Who was Eanswythe?

c) What can be known from medieval sources?

d) What can relics found in burial grounds tell?
e) What did medieval churches treasure?

2. Make a summary of the article.

3. State:
a) the topic of the article,
b) the message of the article,
c) the author's attitude to the issues discussed,
d) your attitude to the issues discussed.

Text 3

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *personal and professional challenges, crisis, financial insecurity, social inequality, immediate neighbours, medieval anchorites*, *resource, accident, digital, to be aware, access*

4. Match the term and its definition:

challenge, chronicle, to broaden, antidote, research, to foresee, scholar

a) a way of preventing or acting against something bad;
b) a person who studies a subject in great detail, especially at a university;
c) something that needs great mental or physical effort in order to be done successfully and therefore tests a person's ability;
d) to become wider, or to cause something to become wider;
e) to know about something before it happens;
f) a written record of a historical events;
g) a detailed study of subject, especially in order to discover new information or reach a new understanding.

5. Fill in the gaps with the appropriate term:

to face, cells, cloisters insecurity, freedom, researches, to foresee, to predict, inequality, access, fatigue, frustration, medieval

a) We can …, but cannot yet …, how this crisis and its long-term impact will influence the practice of history.

b) There are immediate personal and professional challenges to … for students, teachers and researchers; schools and universities are hastening to adapt, but there are serious questions about how financial …, social … and uneven … to resources, all of which have been intensified by the pandemic, will affect the field for years to come.

c) Institutions that make their collections easy to discover and use digitally will receive more attention than ever from … unable to visit libraries in person.

d) Alongside an increased dependence on online resources, I wonder if we will see growing digital … and … with the limitations of these tools, necessary and useful as they are.

e) As we deal with the unusual experience of isolation, it has also been popular to make comparisons with the lives of … anchorites, or monks and nuns.

f) From their … and …, medieval historians did often write what we would now call local history, chronicles of their own institutions and surrounding areas, and very useful they are too.

g) As historians, there is one thing we can learn from them: physical isolation does not have to limit the scope of your interests or the … of your mind.

6. Pay attention to the grammar constructions used in the article.

WORLDS LITTLE AND LARGE. WILL THE PANDEMIC SEE A BOOM IN LOCAL HISTORY, OR WILL IT SPUR A DESIRE FOR GLOBAL PERSPECTIVES? PERHAPS BOTH

Eleanor Parker

The events of the past few months have changed all our lives in ways we could not have imagined at the start of the year. Back in January, historians were playfully predicting what our version of the 'Twenties' might look like: would it be a repeat of the Roaring 1920s, or would it be more like the 520s, the 1020s, or 1620s? Those carefree jokes make poignant reading now.

We can predict, but cannot yet foresee, how this crisis and its long-term impact will influence the practice of history. There are immediate personal

and professional challenges to face for students, teachers and researchers; schools and universities are hastening to adapt, but there are serious questions about how financial insecurity, social inequality and uneven access to resources, all of which have been intensified by the pandemic, will affect the field for years to come.

There may also be less tangible ways in which it might influence our work in future. Will it change our scholarly priorities? Surely we will be more alert to thinking about the historical experience of plagues and epidemics, even after the current rash of Black Death think pieces has died down.

Then there is the issue of the resources we use. Institutions that make their collections easy to discover and use digitally will receive more attention than ever from researchers unable to visit libraries in person. That in itself can affect the kinds of sources which attract scholarly interest and drive future directions for research. If continuing travel restrictions mean scholars are limited to their immediate area, will historians respond by broadening their fields of interest, becoming more eager to travel far abroad in mind even when they cannot travel in body? Or will we instead see a golden age of local history, as researchers decide to make the best of those resources closest at hand?

Even as we have been forced ever more into the virtual realm, a place of disembodied heads floating in Zoom meetings, many people have found comfort in some of the oldest crafts in the world – gardening, baking bread – as if the physical act of grasping hold of dirt or dough was an antidote to having so many other forms of contact snatched away into the intangible. Alongside an increased dependence on online resources, I wonder if we will see growing digital fatigue and frustration with the limitations of these tools, necessary and useful as they are. I'm grateful for e-books, of course, but they do make me miss real books – books you can come across by accident on a library shelf, without having to wrestle with an online catalogue which never understands what you're looking for; books you can flick through and browse, touch, smell and feel, seeing the marks of the people who have touched them before you. This all shapes how we read, how we engage with our sources.

The weeks of lockdown, when it was not possible to travel further than a few miles from home, seemed to make some people more intensely aware of their local area, of their immediate neighbours and small changes visible from day to day – a tree gradually coming into leaf, fluctuating numbers of cars on the road, looks on the faces of strangers in the street. The joke going around was that it was like living in a Regency novel and it was indeed a

sudden plunge into pre-modern estimations of distance and time – helpful for historians of earlier periods to understand from personal experience, as well as in theory.

As we deal with the unusual experience of isolation, it has also been popular to make comparisons with the lives of medieval anchorites, or monks and nuns. Though in many ways these are only surface parallels, it may again turn more scholarly interest in the direction of that way of life, until now so foreign to most of us. As historians, there is one thing we can learn from them: physical isolation does not have to limit the scope of your interests or the freedom of your mind. From their cells and cloisters, medieval historians did often write what we would now call local history, chronicles of their own institutions and surrounding areas, and very useful they are too. But they also wrote ambitious 'world chronicles', aspiring to tell the history of all human civilization known to them, with a vast temporal and geographical remit covering places and peoples they had never seen, except in imagination. Perhaps that is the kind of ambition we will need over the next few years.

https://www.historytoday.com/archive/out-margins/worlds-little-and-large

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:

a) How have the events of the first half of 2020 changed all our lives?

b) Can we predict and foresee, how the crisis and its long-term impact will influence the practice of history?

c) How did the weeks of lockdown, when it was not possible to travel further than a few miles from home change the way people live and communicate?

d) What can we learn from the unusual experience of isolation?

e) What comparisons with the lives of medieval anchorites, or monks and nuns can modern historians make?

2. Make a summary of the article.

3. State:
a) the topic of the article,
b) the message of the article,
c) the author's attitude to the issues discussed,
d) your attitude to the issues discussed.

Text 4

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *Encyclopedia of Infectious Diseases, physician, iconic, plague, genuine, circumstances, apothecaries, medicine, to be considered, beak mask costume, macabre symbol.*

4. Match the term and its definition:

outfit, mask, essential, inhalation, fictional, beak, carnival

a) necessary or needed;
b) something imaginary;
c) a set of clothes worn a particular occasion or activity;
d) the hard, pointed part of a bird's mouth;
e) a covering for all or part of the face that protects, hides, or decorates the person wearing it;
f) a special occasion or period of public enjoyment and entertainment involving wearing unusual clothes, dancing, and eating and drinking, usually held in the streets of a city;
g) the action of breathing air, smoke, or gas into your lungs.

5. Fill in the gaps with the appropriate term:

costume, period, protecting, Black Death, astrology, outfit, feature, medicine, causes

a) Plague Doctors, with infamous beak masks, are a commonly associated with the….

b) The first mention of the famous plague doctor … is found in a mid-17th century work written by Charles de Lorme, a royal physician in the service of King Louis XIII of France. De Lorme wrote that during a 1619 plague outbreak in Paris, he developed an … made entirely of Moroccan goat leather, including boots, breeches, a long coat, hat and gloves.

c) The main … of the outfit was a tight-fitting mask, complete with crystal eyepieces.

d) Physicians of the later medieval and early modern … aren't represented by a single outfit.

e) In 1348, the king of France asked the professors for their advice as the plague approached the royal capital. The professors combined … with…, which was generally considered a serious science at that time, to explain the cause and spread of the plague.

f) The costume represents changing ideas about the … and transmission of disease, about the relationship between doctors and patients, and about the role of the state in … public health.

6. Pay attention to the grammar constructions used in the article.

PLAGUE DOCTORS: SEPARATING MEDICAL MYTHS FROM FACTS

Winston Black

Plague Doctors, with infamous beak masks, are a commonly associated with the Black Death. However, these costumes were far less common and emerged much later, in the 17th century.<…>

According to Michel Tibayrenc's book "Encyclopedia of Infectious Diseases" (John Wiley & Sons, 2007), the first mention of the famous plague doctor costume is found in a mid-17th century work written by Charles de Lorme, a royal physician in the service of King Louis XIII of France. De Lorme wrote that during a 1619 plague outbreak in Paris, he developed an outfit made entirely of Moroccan goat leather, including boots, breeches, a long coat, hat and gloves. Wearing this protective equipment suggests that doctors had grown more concerned about catching plague directly from their patients, rather than from the air itself.

The main feature of the outfit was a tight-fitting mask, complete with crystal eyepieces. This extended into a long beak, which was about half

a foot (15 centimeters) long and filled with perfume or aromatic herbs. The beak was the most iconic feature of the outfit, and was thought to be essential for the doctor to prevent the inhalation of "pestilential miasma," or disease-ridden air coming directly from the patient.

<…>

The plague doctor getup, and especially the beaked mask, has become one of the most popular costumes in the "Carnevale," or Carnival of Venice in Italy. In fact, some historians have argued that the beaked plague doctor was nothing but a fictional and comedic character at first, and that the theatrical version inspired genuine doctors to use the costume during the outbreaks of 1656 and 1720.

Without more informative written reports and images from this period, which can help us understand under what circumstances the outfit was used, it is impossible to tell which came first: the plague doctor's protective outfit, or the carnival costume.

Physicians of the later medieval and early modern periods aren't represented by a single outfit. Ideas about the cause and spread of plague changed over several centuries, as did the clothing worn by plague doctors and the methods they used to treat the disease. Plague prevention and care came from college-trained physicians, surgeons, barbers, apothecaries, midwives, herbalists and priests.

These doctors were working long before germ theory and antibiotics and were unable to cure plagues. However, they deserve more credit than they usually receive, because they recognized the spread and symptoms of plague and gave people hope in an age of constant medical crisis.

According to Susan L. Einbinder's book "After the Black Death" (University of Pennsylvania Press, 2018), many plague doctors wrote short books, known as plague treatises, to advise their peers and the literate public on plague prevention.<…>

Using ancient and medieval medical theories, plague doctors argued that the Black Death was a pestilential fever that corrupted the humors, causing horrific plague buboes, or lymph nodes swollen with blood and pus. Plague doctors recognized that buboes tended to form in the groin, armpits and neck, and saw them as evidence of the body expelling humors from the nearest major organs: the liver, heart and brain, respectively.

According to these doctors, plague could be prevented by strengthening the humors or keeping them in balance through a detailed medical plan or regimen, including changes in diet, taking drugs that caused "beneficial" vomiting and urination, and prophylactic bloodletting. All of these

procedures were intended to expel corrupted humors from the body and to keep black bile, known as melancholia, from dominating the body. This bile was considered at the time to be the most dangerous of the humors.

<…>

One of the most popular theories was described at length by the faculty of medicine at the University of Paris. In 1348, the king of France asked the professors for their advice as the plague approached the royal capital. The professors combined medicine with astrology, which was generally considered a serious science at that time, to explain the cause and spread of the plague.

The air of the Earth, they said, was overheated and corrupted by a 1345 conjunction of the planets Mars, Saturn and Jupiter (all of which were considered hot, violent or corrupt in its astrological influence) in the zodiac sign of Aquarius (a wet sign). This unnaturally hot and moist air blew across Asia toward Europe, causing plague wherever it passed. When medieval doctors referred to a pestilence, they often did not mean the disease itself, but the poisoned air that engendered the disease in human bodies.

<…>

Although the beak mask costume has since become a theatrical and macabre symbol of a primitive time in medical history, in truth it represents how for centuries physicians, scientists and health officials have thought about the spread and prevention of plague. The costume represents changing ideas about the causes and transmission of disease, about the relationship between doctors and patients, and about the role of the state in protecting public health.

https://www.livescience.com/plague-doctors.html

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:
a) Why did plague doctors wear beak masks?
b) Who were the plague doctors?

c) How could plague be prevented according to medieval doctors?

d) What was one of the most popular theories described by the faculty of medicine at the University of Paris in the 14th century?

e) What does the plague costume represent according to modern historians?

2. Make a summary of the article.

3. State:

a) the topic of the article,

b) the message of the article,

c) the author's attitude to the issues discussed,

d) your attitude to the issues discussed.

UNIT 5 JURISPRUDENCE

Scan the fragments from the articles and choose the one that best fits your specialization:

a) A court in Japan on Monday sentenced to death a man who fatally stabbed 19 people in 2016 at a center for the disabled, one of the worst mass murders in the country's history. The killer, Satoshi Uematsu, 30, had told the court in Yokohama that he had carried out the assault in an effort to rid Japan of people with mental and physical handicaps, telling officials he had been inspired by Hitler, according to news reports.

b) The council's Online Dispute Resolution Advisory Group has recommended setting up a pilot programme that would introduce online dispute resolution as an integral part of the court service. This parallel service – Her Majesty's Online Court – would provide court users with a three-tiered service that would offer legal advice and guidance, a means to negotiate a settlement through mediation and a service for disputes not yet settled a binding online adjudication by members of the Judiciary.

c) The digital economy is a term that captures the impact of digital technology on patterns of production and consumption. This includes how goods and services are marketed, traded and paid for. The term evolved from the 1990s, when the focus was on the impact of the internet on the economy. This was extended to include the emergence of new types of digitally-oriented firms and the production of new technologies.

d) The combination of networked and digital technologies certainly gives crime a boost in terms of the volume and speed of crime and the distance across which it is committed. The steady increase in computing power and fall in associated costs means that one person can now control a complete crime operation by themselves. Put another way, why commit a high risk robbery (with a gang of criminals), when you can now commit many low risk £1 thefts or frauds in the comfort of your own home?

Text 1

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *sentence to death, stab, assault, mental and physical handicaps, rampage, stigma, threaten, trial, eligible for, the death penalty, persuade, wounded, verdict, the bereaved, the injured, execution*

4. Match the term and its definition:

assault; appeal, handicapped; threaten; eligible for; sentence; bereaved; execution

a) a person who has a relative or close friend who has recently died;

b) having the right to do or obtain something; satisfying the appropriate conditions;

c) declare the punishment decided for an offender;

d) state one's intention to take hostile action against (someone) in retribution for something done or not done;

e) the carrying out of a sentence of death on a condemned person;

f) (of a person) having a condition that markedly restricts their ability to function physically, mentally, or socially;

g) apply to a higher court for a reversal of the decision of a lower court;

h) a violent attack, either physical or verbal.

5. Fill in the gaps with the appropriate term:

inspire; stab; victim; hearing; jury; verdict; carry out

a) The first … was appealed by the defendants and the prosecutor.

b) A … may be awarded damages by a court in criminal proceedings.

c) There's certainly enough evidence to bring him before a … .

d) The Financial Investigation Unit may … an administrative seizure for a period of up to 48 hours.

e) Stephen was …ed to death in an unprovoked attack nearly five months ago.

f) We should try to … and encourage our kids, Sue, not humiliate and crush them.

g) The sentencing … was conducted on 3 September 2003.

6. Pay attention to the grammar constructions used in the article.

JAPANESE MAN WHO MURDERED 19 DISABLED PEOPLE IS SENTENCED TO DEATH

Ben Dooley

The 30-year-old killer, who used a knife in a deadly attack on a care center, said he had been inspired by Hitler.

TOKYO — A court in Japan on Monday sentenced to death a man who fatally stabbed 19 people in 2016 at a center for the disabled, one of the worst mass murders in the country's history.

The killer, Satoshi Uematsu, 30, had told the court in Yokohama that he had carried out the assault in an effort to rid Japan of people with mental and physical handicaps, telling officials he had been inspired by Hitler, according to news reports.

The rampage profoundly shocked Japan, where violent crime is relatively unknown, and it offered a searing reminder of the deep stigma attached to disabilities in Japanese society.

Mr. Uematsu had spent years working at the suburban Tokyo center where he carried out the attack, but had left several months beforehand. He had been briefly committed to a hospital by the local authorities after trying to give a politician a letter threatening to kill hundreds of disabled people "for the sake of Japan."

After the attack, he turned himself in to the police.

Speaking at the sentencing hearing on Monday, a judge described Mr. Uematsu's actions as "so grave it is impossible to compare them to previous cases," adding that they "can be met with nothing but the death penalty," the national broadcaster, NHK, reported.

As the families of victims looked on, the judge refused a request from Mr. Uematsu to make a statement, NHK said. As of Monday, his lawyers had not filed an appeal, the broadcaster added.

The trial was one of the few criminal cases in Japan to be conducted in front of a jury — the system is reserved for severe crimes, including those eligible for the death penalty.

Mr. Uematsu's defense team had tried to persuade jurors that their client's mental state did not allow him to understand the seriousness of his actions.

But the judge and jurors concluded that Mr. Uematsu bore full responsibility for the attack.

Speaking at a news conference after the announcement of the sentence, Takashi Ono, whose son was among more than two dozen people wounded during the assault, said that he was relieved by the verdict.

"This was the result that the bereaved and the families of those injured had hoped for," he told reporters.

Japan is one of a dwindling number of developed nations to maintain the death penalty, with public support for the practice remaining high. The country carries out a small number of executions each year.

https://www.nytimes.com/2020/03/16/world/asia/japan-death-penalty-disabled.html

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:
a) What crime did Satoshi Uematsu commit?
b) What explanation for the reason of the crime did he give?
c) Why did the rampage shock Japan?
d) What preceded the assault?
e) Did he try to abscond after having committed the assault?
f) Was he ruled insane?
g) Were the relatives of the victims satisfied with the verdict?
h) What was Satoshi Uematsu sentenced to?
i) Do the Japanese support retaining of the death penalty?

2. Make a summary of the article.

3. State:
a) the topic of the article,
b) the message of the article,
c) the author's attitude to the issues discussed,
d) your attitude to the issues discussed.

Text 2

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *barrister, dispute resolution, three-tiered, to negotiate a settlement, mediation, adjudication, judiciary, enforceable, to envisage, complainant*

4. Match the term and its definition:

barrister, defendant, hearing, to negotiate, judge, adjudication

a) the process of making an official decision about who is right when two groups or organizations disagree; the decision that is made;

b) a person in a court who has the authority to decide how criminals should be punished or to make legal decisions;

c) an individual, company, or institution sued or accused in a court of law;

d) a lawyer in the UK who has the right to argue cases in the higher courts of law;

e) try to reach an agreement or compromise by discussion;

f) an official meeting at which the facts about a crime, complaint, etc. are presented to the person or group of people who will have to decide what action to take.

5. Fill in the gaps with the appropriate term:

fairness, dispute, judgement, claim, pilot, lag behind, bring the case to court

a) Persons subjected to torture by officials during investigation have the right to … in accordance with the Criminal Procedure Code.

b) In a final section of this report, more detailed information for a proposal of a short-term … programme on a certification of origin system is presented.

c) We can put forward a … for compensation in the event of cancellation.

d) The country still continues … in education and child mortality indicators.

e) After a short …, we reached an agreement.
f) The judge pronounced the final ….
g) The … of the judge's decision was undoubted.

6. Pay attention to the grammar constructions used in the article.

ONLINE COURTS MUST NOT COMPROMISE FAIRNESS

Julia Hörnle,
Professor of Internet Law, Queen Mary University of London

Can the serious atmosphere of court, standing in the dock facing a be-wigged judge and barristers, be carried over into the world of video-conferencing? <…>

The council's Online Dispute Resolution Advisory Group has recommended setting up a pilot programme that would introduce online dispute resolution as an integral part of the court service <…>

This parallel service – Her Majesty's Online Court – would provide court users with a three-tiered service that would offer legal advice and guidance, a means to negotiate a settlement through mediation and a service for disputes not yet settled a binding online adjudication by members of the Judiciary. This process would be based on documents shared online, and through online video-conferencing – not that different to FaceTime or Skype. Judgements given during Tier 3 hearings would be fully enforceable legal judgements as from any other court.

Saving time and cost

It is envisaged that costly and complex cases may not be suitable for online courts and would be dealt with in a traditional courtroom. <…> Online courts would probably be suitable for small claims civil cases, those with a value below £10,000, which currently make up a large majority of cases filed in court.

<…> Online dispute resolution would provide complainants with easier access to justice, sooner. It could reduce some of the barriers that prevent some people from going to court, such as the need for legal advice and official documents. <…>

Improving access to justice

But can online dispute resolution offer the same gravitas as the physical courts, and offer defendants their "day in court"?

The authority of online courts would be established by the expertise and high standing of the facilitators and judges. There is no reason why

civil justice must be meted out exclusively in a physical building. One of the keystones of fairness is due process and open justice. Traditionally court hearings have been open to the public. But there is no reason why this cannot be implemented through technology. <…>

Ensuring fairness

<…> If the proposed online court service becomes the mandatory track for certain types of disputes (such as small claims) it will have to provide for due process and a fair hearing.<…> The parties must have an equal and fair chance to present their case and respond to the other.

<…> A future HM Online Court Service would have the authority of the state with the power to bring people to court, and this is why procedural fairness protections are so fundamental.

<…>

Various European countries already use online resolution for small claims disputes. <…> To bring online dispute resolution within the courts service is revolutionary in the UK – but lags behind Australia, Singapore and Canada who have taken the step already. <…>

An online court service is necessary in order to make the civil courts more efficient but also chimes with the expectations of increasingly digitally native court users. But it will also lead to greater access to justice, if it is implemented in a way which guarantees procedural fairness. <…>

https://theconversation.com/online-courts-must-not-compromise-fairness-37692

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:

a) What pilot programme has been recommended by The Online Dispute Resolution Advisory Group?

b) What service will be provided by Her Majesty's Online Court? What will it be based upon?

c) What are some of the major pros of the online justice?

d) Would all types of claims be suitable for online courts?

e) Why are procedural fairness protections so fundamental for the Online Court Service?

f) Will The United Kingdom be the first country to introduce online dispute resolution?

g) Will online judgements be of equal value with legal judgements of physical courts?

2. Make a summary of the article.

3. State:

a) the topic of the article,

b) the message of the article,

c) the author's attitude to the issues discussed,

d) your attitude to the issues discussed.

Text 3

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *consumption, emergence, artificial intelligence, augmented and virtual reality, cloud computing, algorithm, consumers*

4. Match the term and its definition:

infrastructure, consumption, digital, artificial intelligence, provider, app

a) a person or an organization that supplies somebody with something they need or want;

b) the study and development of computer systems that can copy intelligent human behaviour;

c) connected with the use of computer technology, especially the internet;

d) a program designed to do a particular job; a piece of software;

e) the basic systems and services that are necessary for a country or an organization to run smoothly, for example buildings, transport and water and power supplies;

f) the purchase of goods and services by the public.

5. Fill in the gaps with the appropriate term:

cost-effectively, mobile applications, e-commerce, cloud computing, enable, respond

a) Many new companies are now running on a … service rather than investing in hardware or software.

b) Travel companies have moved from the traditional bricks and mortar environment to … .

c) There are the … that can help farmers produce better crops. They can provide advice on the best time for planting, soil quality and dealing with pests.

d) Green initiatives allow you to warm your house easily and … .

e) The government needs to listen to the public and … accordingly.

f) This approach …s the company to focus on its core business.

6. Pay attention to the grammar constructions used in the article.

THE DIGITAL ECONOMY IS BECOMING ORDINARY. BEST WE UNDERSTAND IT

Brian Armstrong,
Professor in the Chair of Digital Business at the Wits Business School, University of the Witwatersrand

<…> The digital economy is a term that captures the impact of digital technology on patterns of production and consumption. This includes how goods and services are marketed, traded and paid for.

The term evolved from the 1990s, when the focus was on the impact of the internet on the economy. This was extended to include the emergence of new types of digitally-oriented firms and the production of new technologies.

Today <…> this includes artificial intelligence, the internet of things, augmented and virtual reality, cloud computing, blockchain, robotics and autonomous vehicles.

The digital economy is now recognised to include all parts of the economy that exploit technological change that leads to markets, business models and day-to-day operations being transformed. So it covers

everything from traditional technology, media and telecoms sectors through to new digital sectors. These include e-commerce, digital banking, and even "traditional" sectors like agriculture or mining or manufacturing that are being affected by the application of emerging technologies. <…>

The digital core

At the centre of the digital economy is a 'digital core'. This includes the providers of physical technologies like semiconductors and processors, the devices they enable like computers and smartphones, the software and algorithms which run on them, and the enabling infrastructure these devices use like the internet and telecoms networks.

This is followed by 'digital providers'. These are the parties that use these technologies to provide digital products and services like mobile payments, e-commerce platforms or machine learning solutions.

Lastly, there are the 'digital applications'. This covers organisations that use the products and services of digital providers to transform the way they go about their business. Examples include virtual banks, digital media, and e-government services. <…>

Digital versus traditional

So what makes the digital economy different to the traditional economy?

Firstly, digital technologies allow firms to do their business differently as well as more efficiently and cost-effectively. <…>

Take navigation apps. No team of people would ever be able to provide real time, traffic-aware navigation in the way that smartphone apps do.

This means that products and services can be offered to more consumers, particularly those who couldn't be served before.

Secondly, these effects are giving rise to entirely new market structures that remove, among other things, transaction costs in traditional markets. The best example of this is the rise of digital platforms such as Amazon, Uber and Airbnb. These companies connect market participants together in a virtual world. They reveal optimal prices and generate trust between strangers in new ways.

<…>

The digital economy is with us. <…> We all need to understand the nature of this change to be able to respond at every level: society, corporate and personal.<…>

https://theconversation.com/the-digital-economy-is-becoming-ordinary-best-we-understand-it-130398

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:
a) What is meant by 'the digital economy'?
b) When did the term evolve? Has the meaning changed since then?
c) What does digital economy cover at present?
d) What does a 'digital core' include? What is it followed by?
e) In what way does the digital economy differ from the traditional economy? Provide the examples.
f) What are some of the prospects of further development of the digital economy?

2. Make a summary of the article.

3. State:
a) the topic of the article,
b) the message of the article,
c) the author's attitude to the issues discussed,
d) your attitude to the issues discussed.

Text 4

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *cybercrime, estimate, abrupt, fraud, extortion, multiple, hacking, harassment, reduction*

4. Match the term and its definition:

decline, increase, fraud, evidence, phishing, harassment, leap,

a) the activity of tricking people by getting them to give their identity, bank account numbers, etc. over the internet or by email, and then using these to steal money from them;

b) the act of annoying or worrying somebody by putting pressure on them or saying or doing unpleasant things to them;

c) the facts, signs or objects that make you believe that something is true; the information that is used in court to try to prove something;

d) a dramatic increase in price, amount, etc.; a sudden abrupt change or transition;

e) the crime of cheating somebody in order to get money or goods illegally;

f) a rise in the size, amount, or degree of something;

g) a gradual and continuous loss of strength, numbers, or value.

5. Fill in the gaps with the appropriate term:

multiple, violence, hacking, estimate, crime rate, defraud

a) Police do not think this killing was a random act of … .

b) The deal is ...d to be worth around $1.5 million.

c) The government tax website is vulnerable to …, putting taxpayers' information at risk.

d) He used a second identity to … the bank of thousands of pounds.

e) What country has the lowest … in the world?

f) There were … stab wounds on his body.

6. Pay attention to the grammar constructions used in the article.

IT'S ABOUT TIME CYBERCRIMES APPEARED IN CRIME FIGURES IF WE ARE TO TAKE THE PROBLEM SERIOUSLY

David S. Wall,
Professor of Criminology, University of Leeds

The dramatic 40% increase in the recently published crime statistics for England and Wales might appear an abrupt end to the year-on-year decline in crime rates over the past 20 years or so. But in fact this substantial leap is explained by the inclusion for the first time of estimates of online fraud and cybercrime in the official statistics. <…>

Is crime migrating online?

The combination of networked and digital technologies certainly gives crime a boost in terms of the volume and speed of crime and the distance across which it is committed. The steady increase in computing power and fall in associated costs means that one person can now control a complete crime operation by themselves. <…>

The evidence from research suggests online and offline crime is conducted by very different offending groups. This is especially the case with the more serious cyber-enabled crime such as frauds, or cyber-dependent crimes which only exist because of the internet – for example extortion using denial of service attacks. However, while there is a logical appeal to the idea that the fall in crime was accounted for by crime migrating online, there's actually little evidence to support it – and much arguing against it.

There has not been a migration of either crimes or criminals: these are entirely new opportunities for crime that have appeared alongside old opportunities, which suggests that a more fundamental change in behaviour has taken place.

Instead, falling crime rates seem to be the result of multiple factors. These include the long-term reduction of violence due to cutting lead out of petrol, careful management of statistics by the police, improvements to locks and security technology, demographic decline in the numbers of those at the key offending ages, or <…> an increase in time spent by young people doing online activities that keep them off the streets but also which appear to reduce offending practices through peer-to-peer "civilising".

The smoke and mirrors of statistics

There are many practical problems in identifying to what extent a fraud is a cyber-fraud. This is especially the case when the obtaining of personal financial information takes place online through phishing or from a dark web site that sells stolen credit card details, but when the monetary defrauding takes place offline, often by different people. Here the boundaries between frauds and cybercrimes can become confused. <…> Of course cybercrime is a broader range of criminal behaviour than just fraud, including hacking, offensive and obscene content, and harassment. <…>

Making online crime more visible in the statistics indicates that society is getting real about new offending areas like cybercrime and online fraud. The new statistics will help us to learn how to manage them, because they are not going away. But crime statistics simply give us year-on-year information about changes in criminal behaviour and are little more than tools to guide policing policy and indicate its effects. <…>

https://theconversation.com/uk/topics/cybercrime-3809

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:

a) How has the combination of networked and digital technologies affected the volume and speed of crime in England and Wales?

b) Are online and offline crimes conducted by the same offending groups?

c) What has the decline of crime rates resulted from?

d) Is it an easy thing to distinguish between a crime and a cybercrime? Provide the examples.

e) What is online crime statistics needed for?

2. Make a summary of the article.

3. State:

a) the topic of the article,

b) the message of the article,

c) the author's attitude to the issues discussed,

d) your attitude to the issues discussed.

UNIT 6 PEDAGOGY

Scan the fragments from the articles and choose the one that best fits your specialization:

a) The gene editing technique CRISPR has been in the limelight after scientists reported they had used it to safely remove disease in human embryos for the first time. This follows a "CRISPR craze" over the last couple of years, with the number of academic publications on the topic growing steadily.

b) Throughout history, whenever new technologies have emerged that change our means of production and ability to communicate they have tended to transform society. The rapid technological development of the past century – in biotechnology, information technology, nanotechnology and artificial intelligence – holds the promise to do the same for our current, post-industrial world.

c) A previously unknown canyon has been discovered in Greenland, hidden beneath the ice. It is at least 750 kilometres long. To put that in perspective, imagine a ten kilometre wide gorge, up to 800 metres deep, running from the Southern coast of England and into Scotland. This is on the same scale as parts of the Grand Canyon.

d) If approved by parliament, the Counter-Terrorism and Border Security Bill would make it a crime to express views favourable to terrorist groups, or to view terrorist material online. Javid argues that the threat of terrorism requires this kind of innovation, and that current laws need extending so that the police can keep citizens safe without breaking the law themselves.

e) Praise for students may be seen as affirming and positive, but a number of studies suggest that the wrong kinds of praise can be very harmful to learning. Other research argues that praise which is meant to be en-

couraging and protective of low-attaining students can actually convey a message of the teacher's low expectations. What is important is praise which is valued by the learner.

Text 1

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *gradient, exposure, apparent, pre-school, provision, impinge, attachment, career progression***.**

4. Match the term and its definition:

leveller, gradient, exposure, provision, attachment, outcome, progression

a) a feeling of love for somebody/something,

b) *(specialist)* the rate at which temperature, pressure, etc. changes, or increases and decreases, between one region and another,

c) the act of supplying somebody with something that they need or want; something that is supplied,

d) the process of developing gradually from one stage or state to another,

e) the fact of experiencing something new or different,

f) an event or a situation that makes everyone equal whatever their age, importance, etc.,

g) the result or effect of an action or event.

5. Fill in the gaps with the appropriate term:

apparent, responsive, to narrow a gap, to pay off, to impinge on, to make a difference, to lag behind

a) We still … far … many of our competitors in using modern technology.

b) Her unhappiness was … to everyone.

c) Your age shouldn't … any … to whether you get the job or not.

d) All her hard work … …in the end, and she finally passed the exam.

e) The government's spending limits will seriously … … the education budget.

f) The president singled out education as a vital tool in … the … between the rich and poor.

g) She wasn't … to questioning.

6. Pay attention to the grammar constructions used in the article.

EARLY YEARS EDUCATION IS A CLASS LEVELLER, NOT AN OPTIONAL EXTRA

Naomi Eisenstadt
Honorary Research Fellow, Department of Education,
University of Oxford

Learning certainly starts at birth, and some believe even before. <…>

By three years of age, children are feeding and dressing themselves, have a reasonable vocabulary and a strong personality distinct from their parents and other children. By three, the social class gradient in exposure to language is also apparent: children from better off families have heard more words, use more complex grammar and have received more praise.

Disadvantage starts early for poorer children. And language development is critical to future success.

Can high-quality early education narrow the gap in language development, as well as social development, and thereby increase the chances of poorer children doing better at school later on? Yes and no.

High-quality early education does lead to better school outcomes, but the investment pays off the most if schools themselves are high quality. A child who has experienced a high-quality pre-school and primary school is more likely to do better than a child from the same social background who experienced high-quality early years but poor-quality primary education. <…>

What is good pre-school care?

What does quality look like in pre-school provision? There are a range of factors that affect quality falling into two basic categories: the quality of the pedagogy and the structural factors that impinge on pedagogy. The structure of the school is considerably easier to influence through policy than its quality.

Quality pedagogy with small children includes responsive care giving, secure attachments, play-based activities and routines, support for language development and opportunities for physical activity. Structural factors include adult-to-child ratios, group size, physical space, and staff qualifications <…>.

Better pay needed

So why do some countries, including England, struggle to deliver the quality early years education young children need to make a difference to longer-term outcomes? The simple answer is lack of adequate investment. Early education is a classic example where money is essential to solve a problem but is not sufficient on its own without clear goals.<…>

While England has done particularly well with a guaranteed free early education place of 15 hours per week for all three and four-year-olds, it still lags behind Nordic countries in terms of qualified staff for early years education, particularly graduate leadership. <…>

Wages are low and career progression limited, so early education is not likely to attract the most able candidates. The social class gradient that determines outcomes for us all is replicated in an education system that pays the most to those teaching the most privileged, university students and pays the least to those working with the youngest children.

If early education is meant to narrow the gap in outcomes between the poorest and the rest, those who work with the youngest and often the poorest children should not be the least well-paid of all teachers.

https://theconversation.com/early-years-education-is-a-class-leveller-not-an-optional-extra-24379

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:

a) What can children do by three years of age?

b) Is the social class gradient in exposure to language apparent by three?

c) Why is language development critical to child's future success?
d) What important question is raised in the article?
e) What factors affect the quality of preschool education?
f) What does quality pedagogy with small children include?
g) What do structural factors include?
h) Why does England lag behind Nordic countries in terms of early years education?
i) What is needed to improve early years education in England?

2. Make a summary of the article.

3. State:
a) the topic of the article,
b) the message of the article,
c) the author's attitude to the issues discussed,
d) your attitude to the issues discussed.

Text 2

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *determinant, concern, challenge, sedentary, rigid, to negotiate, to access, to assess, to diminish***.**

4. Match the term and its definition:

determinant, concern, challenge, benefit, network, retention, well-being, outcome, sedentary, rigid

a) the action of keeping something rather than losing it or stopping it,
b) a closely connected group of people, companies, etc. that exchange information, etc.
c) general health and happiness,
d) a factor that decides whether or how something happens,
e) a worried or nervous feeling about something, or something that makes you feel worried,

f) an advantage that something gives you; a helpful and useful effect that something has,

g) the result or effect of an action or event,

h) involving little exercise or physical activity,

i) very strict and difficult to change.

5. Fill in the gaps with the appropriate term:

to engage in, to express oneself, to diminish, to get used to, to measure, to assess, to access, to encourage

a) Interviews allow you to … the suitability of candidates.

b) Teenagers often have difficulty … ….

c) The world's resources are rapidly …ing.

d) We … … … to a cold climate, so the weather didn't bother us.

e) The new teaching methods … children to think for themselves.

f) This machine … your heart rate.

g) Students need a card to … restricted areas such as residences and labs.

6. Pay attention to the grammar constructions used in the article.

OUTDOOR LEARNING HAS HUGE BENEFITS FOR CHILDREN AND TEACHERS — SO WHY ISN'T IT USED IN MORE SCHOOLS?

Emily Marchant
PhD Researcher in Medical Studies, Swansea University
Charlotte Todd
Research Assistant in Child Health and Well-being, Swansea University
Sinead Brophy
Professor in Public Health Data Science, Swansea University

Research shows that healthier and happier children do better in school, and that education is an important determinant of future health. But education is not just about lessons within the four walls of a classroom. The outdoor environment encourages skills such as problem solving and negotiating risk which are important for child development.

But opportunities for children to access the natural environment are diminishing. Children are spending less time outside due to concerns over safety, traffic, crime, and parental worries. Modern environments have reduced amounts of open green spaces too, while technology has increased

children's sedentary time. It is for these reasons and more that many think schools have arguably the greatest potential – and responsibility – to give children access to natural environments. <…>

School adventures

Through interviews and focus groups, we asked teachers and pupils their opinions on outdoor learning. The participants we spoke to all take part in the HAPPEN project, our primary school health and education network. These educators and students (aged between nine and 11) engage in outdoor learning <…> for at least an hour a week. Overall, the participants spoke of a wide range of benefits to pupils' well-being and learning. However, a number of challenges also existed.

The pupils felt a sense of freedom when outside the restricting walls of the classroom. They felt more able to express themselves, and enjoyed being able to move about more too. They also said they felt more engaged and were more positive about the learning experience. In addition, we also heard many say that their well-being and memory were better. <…>

Importantly, the teachers spoke of increased job satisfaction, and that they felt that it was "just what I came into teaching for". This is particularly important as teacher well-being is an essential factor in creating stable environments for pupils to learn, and current teacher retention rates are worrying.

Rules and boundaries

At first the teachers had concerns over safety, but once pupils had got used to outdoor learning as part of their lessons, they respected the clear rules and boundaries. However, the teachers also told us that one of the main reasons why they didn't use outdoor learning more often was because it made it difficult to measure and assess learning outcomes. <…>

Funding was also raised an issue as outdoor clothes, teacher training and equipment all need additional resources.

Our findings add to the evidence that just an hour or two of outdoor learning every week engages children, improves their well-being and increases teachers' job satisfaction. If we want our children to have opportunities where "you don't even feel like you're actually learning, you just feel like you are on an adventure" and teachers to "be those people we are, not robots that it felt like we should be", we need to change the way we think about school lessons. Teaching doesn't need to follow a rigid classroom format – a simple change like going outside can have tremendous benefits.

https://theconversation.com/outdoor-learning-has-huge-benefits-for-children-and-teachers-so-why-isnt-it-used-in-more-schools-118067

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:
a) What does research show?
b) What skills does the outdoor environment encourage?
c) Why are opportunities for children to access the natural environment diminishing?
d) What project is described in the article?
e) How do the pupils feel about outdoor learning and what do they say about it?
f) What benefits of outdoor learning do the teachers speak of?
g) What difficulties do the teachers face when they use outdoor learning?
h) Why shouldn't teaching follow a rigid classroom format?

2. Make a summary of the article.

3. State:
a) the topic of the article,
b) the message of the article,
c) the author's attitude to the issues discussed,
d) your attitude to the issues discussed.

Text 3

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *challenge, counterpart, peer, preschool, repertoire, transition, curriculum, external assessment, mainstream, unsullied, cajole***.**

4. Match the term and its definition:

challenge, counterpart, transition, curriculum, assessment, unsullied, mainstream, government school, independent school, preschool

a) not made less good by anything; still pure or in the original state,

b) a new or difficult task that tests somebody's ability and skill,

c) the process of testing students and making a judgement about their knowledge, ability or progress,

d) a school for children between the ages of about two and five,

e) the process or a period of changing from one state or condition to another,

f) a person or thing that has the same purpose as another one in a different place or organization,

g) the subjects studied in a school, college, etc. and what each subject includes,

h) in the UK, a school that does not receive money from the government,

i) used to refer to education for children who can be taught in the same way as most other children, or to people, schools, etc. connected with this type of education.

5. Fill in the gaps with the appropriate term:

to capture smb's attention, to grapple with, to make progress, to overtake, to spark interest, to match, to speed up, to pressure, to implement

a) The project has …ed the … of the local public.

She was …ed into joining the club.

The new government has yet to … … the problem of air pollution.

b) The organizers are hoping to … some … in young people.

c) Nuclear energy may … oil as the main fuel.

d) The train soon …ed … .

e) A new work programme for young people will be …ed.

f) The severity of the punishment should … the seriousness of the crime.

6. Pay attention to the grammar constructions used in the article.

KIDS CHOOSE THEIR OWN WORK IN A MONTESSORI CLASSROOM

Susan Feez
Senior Lecturer, School of Education, University of New England

Every day, in classrooms everywhere, teachers grapple with the age-old challenge of how to capture the attention of young people and engage them with the things we think they should know about. In 1907, in the slums of Rome, Dr Maria Montessori designed an experiment to tackle this challenge.

In a room housing about 50 very young street children, Dr Montessori placed some carefully designed learning materials, showed the children how to use the materials, and then left them free to choose their own activity. These unlikely children made rapid progress, both socially and academically. They soon overtook their counterparts in schools where the harsh traditional methods of the era were in force.

More than a century later Dr Montessori's experiment has become an educational tradition that spans the globe. <…>

What is Montessori education?

The majority of Montessori schools in Australia are preschools, but there are also quite a few that provide classes for children from preschool age to Year 6, and in some cases to Year 10 or Year 12.

Montessori classrooms are filled with materials designed to spark interest and purposeful activity. Children are free to choose their own materials and to work with them for as long as they wish. At the heart of the Montessori approach is the view that children's freely chosen activity builds independence, self-discipline and the ability to concentrate.

Montessori teachers are trained to observe children's activity very carefully so lessons are matched to each child's developing needs and interests. Each lesson is selected from an extensive repertoire of graded lessons and exercises. Using child-sized, but functional, objects – cloths, brushes, buckets, brooms and jugs – children learn how to complete practical everyday tasks.

In Montessori preschools children learn to write before they read, by tracing sandpaper letters and making words with movable alphabets. Once children know their sounds, grammar games involving lots of drama and movement speed up the transition to fluent reading as they move into primary school. Active games lead on to the study of mathematics. <…>

All students in Montessori classes, whether in government schools or independent Montessori schools, are required to address Australian curriculum outcomes. For example, students in Montessori primary and secondary classrooms participate in external assessment such as NAPLAN.

While the Montessori tradition can accommodate external assessment – in fact, Dr Montessori realised children in her schools were achieving better results than their peers in mainstream schools because they sat external examinations – the results of this type of assessment are considered a by-product, and never a goal, of Montessori education. The results of external tests might be helpful information for teachers and parents, but are never used to punish, cajole, compare or praise students.<…>

To meet the perceived needs of today's children, Montessori schools are often pressured to update aspects of the traditional program. Recent studies in the United States, however, tentatively point in a different direction. The Montessori programs that produce the most significant gains in student achievement relative to other schools appear to be those strictly implementing the traditional Montessori blueprint, unsullied by supplementary materials of more recent origin.

https://theconversation.com/kids-choose-their-own-work-in-a-montessori-classroom-26452

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:

a) What challenge do teachers grapple with in classrooms every day?

b) Who designed an experiment to tackle this challenge?

c) What did the teacher do?

d) Did the children involved in the experiment make any progress?

e) What kinds of schools are Montessori schools in Australia?

f) Why are children free to choose their own materials and activities in Montessori schools?

g) How are children taught to complete practical tasks?
h) How are children taught writing? reading? grammar? maths?
i) How are children assessed?
j) Should Montessori schools update aspects of the traditional program nowadays?

2. Make a summary of the article.

3. State:
a) the topic of the article,
b) the message of the article,
c) the author's attitude to the issues discussed,
d) your attitude to the issues discussed.

Text 4

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *testing regime, to boycott, SATs (standardized achievement tests), awareness, anxiety, distracting behaviour, overall prevalence, to combat a problem, to nurture resilience.*

4. Match the term and its definition:

regime, SATs (standardized achievement tests), awareness, prevalence, resilience, petition, stressed out, distracting, sensitive

a) the ability of people or things to recover quickly after something unpleasant, such as shock, injury, etc.,
b) (in England) a test taken by children at the ages of 7 and 11,
c) a method or system of organizing or managing something,
d) a written document signed by a large number of people that asks somebody in a position of authority to do or change something,
e) too anxious and tired to be able to relax,

f) the fact of existing or being very common at a particular time or in a particular place,

g) easily offended or upset,

h) taking your attention away from what you are trying to do.

5. Fill in the gaps with the appropriate term:

To boycott, to involve, to abolish, to have a bearing on smb., to pick up on smb., to result in smth., to suffer from smth., to familiarize

a) As a teacher I try to … students with a wide variety of fiction.

b) Increasing numbers of children are … … mental health problems.

c) Slavery was …ed in the US in 1865.

d) We are asking people to … goods from companies that use child labour.

e) Regular exercises … a direct … … fitness and health.

f) The test will … answering questions about a photograph.

g) She failed to … … … the humour in his remark.

h) The fire … … damage to their property.

6. Pay attention to the grammar constructions used in the article.

STRESSED OUT: THE PSYCHOLOGICAL EFFECTS OF TESTS ON PRIMARY SCHOOL CHILDREN

Laura Nicholson
Researcher, Faculty of Education and Associate Tutor,
Department of Psychology, Edge Hill University

Some parents are so angry with the testing regime facing their children that they have come together in an attempt to boycott primary school exams. Preparations by teachers for these standardised achievement tests (SATs) in England have involved a narrowing of the curriculum, including a specific focus on spelling, punctuation and grammar.

Parents believe that their children should be stimulated instead by more enriching activities and projects. There is also a worry that the tests may cause undue stress and pressure on their young children to perform well. These beliefs are widespread: more than 49,000 parents have signed a petition to abolish SATs altogether.

An awareness of pressure

Teachers are under considerable pressure for pupils to perform well on SATs. Performance-related pay and position in school league tables depend on test results. Parents believe that exam results will have a bearing on their young child's future and understandably want them to do well.

But the children are also well-aware that their performance on the SATs is important to their teachers and parents. Teachers may unwittingly transmit the stress they are under to their pupils. Children can also pick up on their parents' attitudes and associated behaviour and feel under pressure to make them proud. <…>

Test anxiety

Stress and pressure about forthcoming exams can result in what education researchers have termed "test anxiety". This can present itself via a number of symptoms.

Children can suffer from negative thoughts such as: "If I don't pass this test, I will never get a good job". They can also suffer physiological symptoms such as tight muscles or trembling and distracting behaviours such as playing with a pencil. The effects of anxiety during a test can influence the child's ability to process and understand test questions and perform at their best.

It is well established that pupils with high levels of test anxiety perform more poorly in their exams. The overall prevalence of test anxiety in primary school children is on the increase and it is fairly common for children at the end of primary school. <…>

Reducing the pressure

How resilient a child is can reduce the negative effects of test anxiety on performance. Specifically, children who believe they can succeed, trust and seek comfort from others easily and who are not overly sensitive, can be better at combatting the problems associated with test anxiety. Parents may therefore help their children by attempting to nurture and boost their resilience.

Keeping SATs "low-key" is crucial to minimising anxiety and stress among children. Parents should reassure their children that results are not critical and that the most important thing is that they try their best. In the classroom, teachers should direct time and effort towards familiarising children to the format and procedures involved in standardised testing. For instance, practising with past test papers while children sit at individual desks, could help. <…>

These strategies may go some way to reducing the pressure of tests on young children. It is essential that schools and teachers take the time to focus on the social, emotional and mental health and development of children.

https://theconversation.com/stressed-out-the-psychological-effects-of-tests-on-primary-school-children-58913

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:
a) Why are some parents angry today? What do they try to do?
b) Why do parents worry about SATs?
c) How many parents have signed a petition to abolish SATs?
d) Why are teachers under considerable pressure for pupils to perform well on SATs?
e) What can stress and pressure about exams result in?
f) What are the symptoms of test anxiety?
g) How do the effects of anxiety can affect a child?
h) What do the negative effects of anxiety depend on?
i) Who can better combat anxiety?
j) What should parents do to mimimise anxiety?
k) What should teachers do to mimimise anxiety?

2. Make a summary of the article.

3. State:
a) the topic of the article,
b) the message of the article,
c) the author's attitude to the issues discussed,
d) your attitude to the issues discussed.

UNIT 7 PHYSICAL CULTURE AND SPORTS

Scan the fragments from the articles and choose the one that best fits your specialization:

a) The least fit ten-year-old English child from a class of 30 in 1998 would be one of the five fittest children in the same class tested today. These are the worrying findings of a new piece of research that has crystallised the need to focus on a sharp decline in fitness levels, not obesity, when it comes to improving children's health.

b) The importance of promoting activity in young people cannot be overstated. It is a public health priority. And yet a new study reports that school-based physical activity programmes are ineffective at improving the activity levels of young people. <…> But that is not to say that schools should be cut out of the equation. In fact, we think they should remain a priority alongside other places.

c) Physical Education (PE) is often viewed as a marginal subject within the curriculum. And many secondary schools actively reduce PE time to make way for what are deemed more "serious" or "important" subjects.

Research from the Youth Sport Trust shows that 38% of English secondary schools have cut timetabled PE for 14- to 16-year-olds.

d) Have you recently taken ownership of a shiny new activity tracking device? For many people, the essential fitness kit now includes gadgets designed not for sitting and staring at a screen, but for encouraging users to get up and move.

Text 1

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *threat, obesity, elimination, body mass index, cardiovascular, survey, calories, hysteria, measurement, percentage, evaluation*

4. Match the term and its definition:

body mass index, to measure, obesity, decline, data, pandemic, to assess

a) to make a judgement about the nature or quality of somebody/ something;

b) a disease that spreads over a whole country or the whole world;

c) a continuous decrease in the number, value, quality, etc. of something;

d) facts or information, especially when examined and used to find out things or to make decisions;

e) a measure of whether somebody weighs too much or too little, calculated by dividing their weight in kilograms by their height in metres squared;

f) the fact of being extremely fat, in a way that is dangerous for health;

g) to find the size, quantity, etc. of something in standard units.

5. Fill in the gaps with the appropriate term:

focus, impact, obesity, acute need, calories, to host, indicators

a) South Africa …ed the World Cup finals.

b) A fried egg contains about 100 … - about the same as you would burn off if you ran a mile.

c) Around 1,600 refugee families were in … of shelter.

d) This year's economic … have been better than expected.

e) The National Institute of Health is discussing ways of tackling the problem of childhood … .

f) It is too early to notice any … from the recent changes to the rules.

g) A sharp decline in fitness levels has become the … for a growing field of analysis.

6. Pay attention to the grammar constructions used in the article.

POOR FITNESS IS A BIGGER THREAT TO CHILD HEALTH THAN OBESITY

Gavin Sandercock,
Reader in Sports Science (Clinical Physiology), University of Essex

<…> The least fit ten-year-old English child from a class of 30 in 1998 would be one of the five fittest children in the same class tested today. These are the worrying findings of a new piece of research that has crystallised the need to focus on a sharp decline in fitness levels, not obesity, when it comes to improving children's health. <…>

Fitness has been declining even faster over the past six years than in the decade before.

Analysing pupils' actual test performance (how many shuttles they run) shows just how big the fall in fitness from 1998 to 2014 is. In 1998, the average boy ran 60 shuttles (1.2 km) before stopping; in 2014, they ran only 33 (660 m). To put this in context, in 1998 the average boy could run a mile in 7 minutes 50 seconds but it would take boys today 9 minutes and 40 seconds. That's nearly two minutes slower. Girls are also 1 minute 40 seconds slower than in 1998, and it would now take the average girl over ten minutes to cover a mile.

Our fitness data also told us why the BMI [body mass index] had gone down. By process of elimination, it could not be that children were expending more energy by being more active as this would have improved, or at least maintained their cardiovascular fitness. Instead, combining our BMI and fitness findings told us that children are eating less and doing less exercise.

Low activity levels won't come as a surprise: national surveys repeatedly show an inactivity pandemic; however, the idea that children are eating less might. We purchase around 30% fewer calories today than 20 years ago and there is evidence we've been eating less and less since the 1970s. Given the current hysteria over sugar it's worth mentioning that as well as eating less, the percentage of calories children get from sugar has also declined since the 1990s.

BMI isn't everything

<…>

We agree with UK Active that there is an acute need to increase the physical activity levels of young people. Yet activity itself is notoriously difficult to measure. Fitness is the single most important indicator of

someone's health and can be measured safely and objectively in the general population. Perhaps most importantly, and unlike weight or BMI, fitness is very sensitive to changes in physical activity behaviour. You may know (or be) someone who has found it hard to lose weight, but have you ever met anyone who didn't get any fitter when they started exercising?

The UK spent just nearly £9 billion on hosting the 2012 Olympics hoping to "inspire a generation" but we have no idea if this has had any effect on children's health or fitness. The government is currently investing £150m annually through the primary school PE and sport premium but again, no one is evaluating whether this is going to have any impact on children's health and fitness.

Six years since it was first proposed, the need to systematically assess children's health-related fitness seems greater than ever. The need to drastically increase children's physical activity levels is even more pressing but it is only through measurement and evaluation that we can see what works. <…>

https://theconversation.com/poor-fitness-is-a-bigger-threat-to-child-health-than-obesity-43653

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:

a) What problem should be focused on when analyzing children's health?

b) How did the results of pupils' actual test performance change from 1998 to 2014?

c) According to the survey done, are children eating more or less then in 1970s?

d) Can physical activity be measured safely and objectively in the general population?

e) Why are measurement and evaluation important?

2. Make a summary of the article.

3. State:
a) the topic of the article,
b) the message of the article,
c) the author's attitude to the issues discussed,
d) your attitude to the issues discussed.

Text 2

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *crucial, priority, perspective, provision, emphasis, moderate-to-vigorous activity, guideline, schemes, to associate, curricula, adjustment, support, issue*

4. Match the term and its definition:

benefit, curriculum, conventional, to encourage, to improve, core

a) to become better than before; to make something/somebody better than before;
b) the subjects that are included in a course of study or taught in a school, college, etc.;
c) most important; main or essential;
d) to persuade somebody to do something by making it easier for them and making them believe it is a good thing to do; to give somebody support, courage or hope;
e) an advantage that something gives you; a helpful and useful effect that something has;
f) following what is traditional or the way something has been done for a long time.

5. Fill in the gaps with the appropriate term:

vigorous, promote, physical activity, to approach, crucial, undergo,

a) Winning this competition is absolutely … to your long term success.

b) Some children … a complete transformation when they become teenagers.

c) What's the best way to … this problem?

d) We think football can help … the idea of a multicultural and multiethnic society.

e) Our fitness instructors offer guidance on how to improve diets and promote … .

f) Take … exercise for several hours a week.

6. Pay attention to the grammar constructions used in the article.

SCHOOLS ARE A CRUCIAL PLACE FOR PHYSICAL ACTIVITY PROGRAMMES – HERE'S HOW TO MAKE THEM WORK

Michaela James, Research assistant, Swansea University,
Sinead Brophy, Professor in Public Health Data Science,
Swansea University

The importance of promoting activity in young people cannot be overstated. It is a public health priority. And yet a new study reports that school-based physical activity programmes are ineffective at improving the activity levels of young people. <…>

But that is not to say that schools should be cut out of the equation. In fact, we think they should remain a priority alongside other places. <…>

What young people want

We've found that one of the best ways to find out what works for different children is to ask what they want in terms of exercise provision. The young people we have spoken to are disappointed with what is on offer for them in terms of school activity. They say there is not enough choice, and that the same sports (netball, football, rugby, athletics) are continuously cycled throughout their school life.

They also say that schools do not allocate enough time to exercise. Other core subjects take priority and there are less opportunities to play as primary schools remove break times and support staff to increase teaching time and save money. This leaves little room for young people to explore different activities and find what they like.

As curricula in UK schools undergo a key period of change, now is the best time to rethink how we approach physical activity. And as physical activity has been shown to improve concentration, attention and memory, it is in schools' best interests that they help children move more and sit less.

Another perspective

But just as school settings cannot be ignored, this is not something that can be solved by simply restructuring different activity schemes. Another issue that we need to address is the emphasis placed on moderate-to-vigorous activity (MVPA). Global guidelines suggest that young people should do an hour of MVPA every day, and different schemes encourage this as a high priority. However, there are health benefits associated with all types of activity from light to vigorous. By focusing on MVPA, we might be missing the benefits that come with less conventional types of activity such as cycling or skateboarding.

Thinking outside the box, and looking at other opportunities to get young people moving, such as encouraging easy changes like walking to school, can go some way towards improving their activity levels. Active travel has been associated with healthier body composition and fitness in children. Yet it would not meet the MVPA criteria. Moving in any way is better than not moving at all. And by encouraging life adjustments like this we could also help combat the idea that activity needs to be high exertion to be effective, something that often puts young people off.

While we can't ignore that research has found school activity schemes to be ineffective so far, we shouldn't give up. Our evidence shows that the school remains an important setting, particularly for deprived children. Instead of changing settings, perhaps the way researchers and practitioners approach physical activity needs to change. We should stop quantifying activity and start asking what evidence and support is needed for different schools and children with different needs.

https://theconversation.com/schools-are-a-crucial-place-for-physical-activity-programmes-heres-how-to-make-them-work-110215

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:

a) Are school-based physical activity programmes effective in promoting young people's physical?

b) What do school-based physical activity programmes lack from young people's point of view?

c) Why is little room left for young people to explore different activities?

d) What are some of the important academic benefits of physical activity?

e) What is MVPA? Should school physical activity progammes focus on MVPA solely?

f) What are other opportunities to improve young people's activity levels?

2. Make a summary of the article.

3. State:

a) the topic of the article,

b) the message of the article,

c) the author's attitude to the issues discussed,

d) your attitude to the issues discussed.

Text 3

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *marginal, psychological health, nurture, cognitive performance, issue, unique, multitude, endeavor, major, cause, urgent, overhaul, cross-curricular.*

4. Match the term and its definition:

downtrend, nurture, collaborate, to prop up, foster, relief

a) to encourage something to develop;

b) the feeling of happiness that you have when something unpleasant stops or does not happen;

c) to give support to something, especially a country or organization, so that it can continue to exist in a difficult situation;

d) to care for and protect somebody/something while they are growing and developing;

e) a situation in which business activity or performance decreases or becomes worse over a period of time;

f) to work together with somebody in order to produce or achieve something.

5. Fill in the gaps with the appropriate term:

endeavor, award, contribution, cognitive, well-being, potential

a) The disease has the … to cause a global health emergency.

b) Physical and emotional … are closely linked.

c) This is both a … and an emotional process.

d) An athlete is expected to use his or her best …s to win a competition.

e) These measures would make a valuable … towards reducing injuries.

f) He was nominated for the best athlete … .

6. Pay attention to the grammar constructions used in the article.

PHYSICAL EDUCATION IS JUST AS IMPORTANT AS ANY OTHER SCHOOL SUBJECT

Andrew Sprake, Lecturer in Physical Education, University of Central Lancashire
Clive Palmer, Senior Lecturer in PE and Sports Studies, University of Central Lancashire

Physical Education (PE) is often viewed as a marginal subject within the curriculum. And many secondary schools actively reduce PE time to make way for what are deemed more "serious" or "important" subjects.

Research from the Youth Sport Trust shows that 38% of English secondary schools have cut timetabled PE for 14- to 16-year-olds. <…>

Despite these cuts, however, PE is still championed for its potential to promote health and encourage lifelong physical activity. <…>

PE is also praised for its contribution to improved psychological health, for helping to nurture social and moral development – as well as supporting cognitive and academic performance.

The Association for Physical Education maintains that high quality PE fosters the physical, moral, social, emotional, cultural and intellectual

development of pupils. But the many aims for PE – such as health promotion, skills development as well as a focus on social and moral issues – has resulted in confusion about the subject and has done little to further the educational experiences in practice. In fact, it has been argued that PE offers more entertainment than education.

Not intellectual enough

A waste of time and a bit of entertainment, or vitally important to the education and development of a child – which is it?

Part of the problem seems to be that PE is often viewed as an opportunity for pupils to be active and to enjoy themselves. Or in some cases, as a form of stress relief and to serve as a break from traditional learning.

Clearly, these areas are valuable for pupils' general well-being and there is a growing evidence base to suggest that physical activity has the potential to support learning more broadly. But the role of PE is not merely to prop up and support pupils' learning in other subjects. Instead, it should provide meaningful learning experiences within the subject itself. <…>

The potential of PE

PE, sport and physical culture each offer a unique platform on which to explore a multitude of holistic learning opportunities. <…>

The Sports Monograph is a recent project we worked on, which invited learners to collaborate and share their opinions and experiences about sport and what it means to them. The project included primary and secondary school pupils, as well as undergraduate and postgraduate students, who were all supported by their teachers and lecturers.

As part of the project, not only were the pupils recognised for their written contributions at school awards evenings, but unlike in traditional PE, their work left a trail of learning evidence and intellectual engagement – which the schools recognised and celebrated. PE was effectively standing shoulder to shoulder with other subjects in the curriculum as a valuable educational endeavour, with written evidence to support the claim. These pupils now have publications that are being used to teach undergraduate students at the University of Central Lancashire.

Future health

The spiralling downtrend of PE time in secondary schools is a major cause for concern and it would seem that PE is in urgent need of an overhaul. But while the future of PE may be uncertain, there are certainly many opportunities for cross-curricular links and integrative learning in PE. <…>

https://theconversation.com/physical-education-is-just-as-important-as-any-other-school-subject-103187

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:
a) Is Physical Education paid much attention as a school subject?
b) How has PE timetable changed in English secondary schools?
c) What does PE improve and foster?
d) What arguments does PE as a school subject cause?
e) How is PE usually viewed?
f) What project was worked on to prove that PE provides meaningful learning experiences within the subject? What did it result in?

2. Make a summary of the article.

3. State:
a) the topic of the article,
b) the message of the article,
c) the author's attitude to the issues discussed,
d) your attitude to the issues discussed.

Text 4

Pre-reading tasks

1. Read the title of the article and guess what the article is about.

2. Read the first sentence of the paragraphs and tell what issues are discussed in the article.

3. Check whether you know how to pronounce the following words: *gadget, wearable, entrepreneurs, treadmill, dumb bell, commercialization, undetectable, sophisticated, data*

4. Match the term and its definition:

sophisticated, profit, to hinder, habit, data, activity tracking device

a) a device that you can wear that records your daily physical activity, as well as other information about your health, such as your heart rate;

b) a thing that you do often and almost without thinking, especially something that is hard to stop doing;

c) facts or information, especially when examined and used to find out things or to make decisions;

d) to limit the ability of someone to do something, or to limit the development of something;

e) the money that you make in business or by selling things, especially after paying the costs involved;

f) (of a machine, system, etc.) clever and complicated in the way that it works or is presented.

5. Fill in the gaps with the appropriate term:

facilitate, monitor, determinant, gadget, gymnasium, treadmill

a) I try to do half an hour's exercise on the … every morning.

b) We live in a world filled with high-tech …s.

c) We need to … how the situation develops.

d) There is an indoor swimming pool for patients and a well-equipped … .

e) Structured teaching …s learning.

f) We need to identify the social and economic …s of ill health.

6. Pay attention to the grammar constructions used in the article.

A BRIEF HISTORY (AND A LOOK INTO THE FUTURE) OF FITNESS TECHNOLOGY

Brad Millington, Lecturer, Department for Health, University of Bath

Have you recently taken ownership of a shiny new activity tracking device? For many people, the essential fitness kit now includes gadgets designed not for sitting and staring at a screen, but for encouraging users to get up and move.

And they even come with political recommendations. For the UK Government, apps like MapMyRun and Strava and wearable technologies made by Fitbit and Jawbone are the future. According to one official document: "[They] will define the world of sport and physical activity in the coming decade." <…>

The future of fitness

Today, digital and wearable health and fitness technologies are seamlessly integrated into our everyday lives. Your smartphone itself is a fitness tracking device. So what makes our present day technologies unique?

For one thing, their personalisation. The health and fitness entrepreneurs of the early 1900s spoke to the masses, but while the treadmills of the 1970s and 1980s marked an important step towards customisation, today's wearable devices and health and fitness apps are deeply personal. They track and monitor seemingly everything, from what we eat, to how we sleep, to how often we move, to the composition of our bodies.

Then there's portability. In the late 1800s, the American orator, preacher, and educator Charles Wesley Emerson lamented that while exercise equipment such as dumb bells had value, they hindered mobility: "We cannot carry gymnasiums about with us." Even near the end of the 20th century, health and fitness practices were largely confined to the gymnasium and the home.

Today's technologies are for anywhere and anytime. They travel with us wherever we go. Technology facilitates, rather than hinders, mobility.

A final factor is commercialisation <…>. Whereas in the past it was just the technologies themselves that were sold for profit, today, so is our data. A study by the US Federal Trade Commission found that 12 health and fitness apps shared user data with 76 third parties, advertisers among them. Or, as a Wall Street Journal report bluntly put it: "Your apps are watching you."

So where next? We should expect the health and fitness technologies of the future to be even more personalised in assessing our bodies and daily habits. We should also expect them to be further integrated into our daily lives, to the point where their presence is undetectable. And we should expect technologies to be more sophisticated than ever in producing data from which value can be extracted (such as helping companies know consumer habits and preferences).

For the UK government, the future of health and fitness technology is cause for optimism. But ever more personalisation should not overshadow what we know about the social determinants of health, meaning the wider conditions in which people are born, grow, live and work.

The combination of ever more intimate data and the profit motive to mine these data is also cause for concern when it comes to privacy and security. So while trackers might make us feel like we have more control

and a more personal relationship with fitness, a degree of scepticism would be healthy.

https://theconversation.com/a-brief-history-and-a-look-into-the-future-of-fitness-technology-89884

While-reading tasks

1. Note down 3-5 key words and word combinations in each paragraph.

2. Divide the article into logical parts and make an outline of the article.

Post-reading tasks

1. Answer the questions:

a) What are modern fitness kits aimed to encourage?

b) What are the main characteristics of present day fitness tracking devices?

c) What personal information do fitness apps track and monitor?

d) Do today's technologies facilitate or hinder mobility?

e) What are some of the prospects of further development of health and fitness technologies?

f) Is the future of health and fitness technology a cause for optimism for concern?

2. Make a summary of the article.

3. State:

a) the topic of the article,

b) the message of the article,

c) the author's attitude to the issues discussed,

d) your attitude to the issues discussed.

C O N T E N T S