

TEST Z JĘZYKA ANGIELSKIEGO DLA KANDYDATÓW DO SZKOŁY DOKTORSKIEJ NAUK SPOŁECZNYCH UŁ 2023

I. Listen to the business interview and decide if the statements below are True or False.

- 1) HomeworX is an application created to offer more revision exercises for students. [False]
- 2) According to Anna Oliveira, parents should always help their teenage children with homework. [False]
- 3) Parents do not often have sufficient knowledge to help their children with homework. [True]
- 4) The app allows students to work with tutors online. [True]
- 5) It is necessary to sign up for online support. [True]
- 6) The app connects tutors and students within the same city. [False]
- 7) The tutoring service of HomeworX is free of charge. [False]
- 8) The application is beneficial for both students and tutors. [True]
- 9) Anna's personal problems resulted in her creating HomeworX. [True]
- 10) The application lacks popularity. [False]

(Adapted from English File, fourth edition, OUP)

II. Listen to five people talking about learning words and languages. Match each speaker to the situation they mention.

Speaker 1 [associating the name of an object with an unrelated image]

Speaker 2 [confusing the meaning of words which sound the same]

Speaker 3 [learning the word for the first time]

Speaker 4 [misunderstanding a regional accent]

Speaker 5 [misspelling words]

(Adapted from English File, fourth edition, OUP)

III. Read the following extract and do the subsequent exercises:

To the brain, reading computer code is not the same as reading language

In some ways, learning to program a computer is like learning a new language. It requires learning new symbols and terms, which must be organized correctly to instruct the computer what to do. The computer code must also be clear enough that other programmers can read and understand it. Despite those similarities, MIT neuroscientists have found that reading computer code does not activate the regions of the brain that are involved in language processing. Instead, it activates a distributed network called the multiple-demand network, which is also needed for complex tasks such as solving math problems or doing crossword

puzzles. However, although reading computer code activates the multiple-demand network, it appears to rely on different parts of the network than math or logic problems do, suggesting that coding does not precisely replicate the cognitive demands of mathematics either.

"Understanding computer code seems to be its own thing. It's not the same as language, and it's not the same as math and logic," says Anna Ivanova, an MIT graduate student and the lead author of the study. Evelina Fedorenko, the senior author of the paper, researchers from MIT's Computer Science and Artificial Intelligence Laboratory, as well as Tufts University, were also involved in the study. "Here, we were interested in exploring the relationship between language and computer programming, partially because computer programming is such a new invention that we know that there couldn't be any hardwired mechanisms that make us good programmers," Ivanova says.

There are two schools of thought regarding how the brain learns to code, she says. One holds that to be good at programming, you must be good at math. The other suggests that because of the parallels between coding and language, language skills might be more relevant. To shed light on this issue, the researchers set out to study whether brain activity patterns while reading computer code would overlap with language-related brain activity. The subjects in the study were all young adults proficient in the language they were being tested on. While the programmers lay in a functional magnetic resonance (fMRI) scanner, the researchers showed them snippets of code and asked them to predict what action the code would produce. The researchers saw little to no response to code in the language regions of the brain. Instead, they found that the coding task mainly activated the so-called multiple-demand network. This network, whose activity is spread throughout the frontal and parietal lobes of the brain, is typically recruited for tasks that require holding many pieces of information in mind at once and is responsible for our ability to perform a wide variety of mental tasks. "It does pretty much anything that's challenging and makes you think hard," Ivanova says.

Previous studies have shown that math and logic problems seem to rely mainly on the multiple demand regions in the left hemisphere, while tasks that involve spatial navigation activate the right hemisphere more than the left. The MIT team found that reading computer code appears to activate both the left and right sides of the multiple-demand network. This finding goes against the hypothesis that math and coding rely on the same brain mechanisms. The researchers say that while they didn't identify any regions that appear to be exclusively devoted to programming, such specialized brain activity might develop in people who have much more coding experience. "It's possible that if you take people who are professional programmers with 30 or 40 years' experience of coding in a particular language, you may start seeing some specialization, or some crystallization of parts of the multiple demand system," Fedorenko says. "In people who are familiar with coding and can efficiently do these tasks, but have had relatively limited experience, it just doesn't seem like you see any specialization yet."

The findings suggest there isn't a definitive answer to whether coding should be taught as a math-based skill or a language-based skill. In part, that's because learning to program may draw on both language and multiple demand systems, even if - once learned - programming doesn't rely on the language regions, the researchers say.

(Adapted from Science Daily, an online magazine)

a) Decide whether the following statements are True or False:

1. Learning to program on a computer and learning a new language are thought to be somewhat similar. [True]
2. MIT researchers have validated the popular belief that language learning and programming have a lot in common. [False]

3. The article refers to a study conducted by MIT scientists only. [False]
4. The multiple-demand network comprises separate areas responsible for computer code reading and doing math. [True]
5. Being good at math is one of the two prerequisites for successful programming. [True]
6. The fMRI experiment showed no activity in the language region of the brain whatsoever. [False]
7. Mental tasks that pose a challenge are handled by the multiple-demand network. [True]
8. Unlike the parietal lobes, the frontal lobe isn't part of the multiple-demand network. [False]
9. Prolonged brain activity of one kind may lead to noticeable specialization of certain regions. [True]
10. The research gave an exhaustive answer to the question of how programming should be taught. [False]

b) For each word or phrase below, find a synonym in the text as in the example. Write ONE word in each space:

0. needs - requires

1. tasks that you do by using your skill or knowledge, questions that test your ingenuity – [puzzles]
2. relating to mental activities like learning and thinking – [cognitive]
3. to a limited extent only – [partially]
4. similarities – [parallels]
5. be similar, have some parts in common – [overlap]
6. competent, skilled – [proficient]
7. carry out, conduct – [perform]
8. existing before sth else, prior – [previous]
9. a statement that offers a scientific explanation and needs to be tested – [hypothesis]
10. final, ultimate – [definitive]

IV. Fill in the gaps with the words listed below. There is one word you will not need.

JOURNAL PRACTICE ALREADY REQUIRES PURELY ACADEMIC

It's rare for a university-level text to be **1)** [purely] descriptive. Most **2)** [academic] writing is also analytical. Analytical writing includes descriptive writing, but also **3)** [requires] you to re-organize the facts and information you describe into categories, groups, parts, types, or relationships.

Sometimes, these categories or relationships are **4)** [already] part of the discipline, while in other cases you will create them specifically for your text. If you're comparing two theories, you might break your comparison into several parts, for example: how each theory deals with social context, how each theory deals with language learning, and how each theory can be used in **5)** [practice].

Unnecessary word: [journal]

(Adapted from <https://www.sydney.edu.au/students/writing/types-of-academic-writing.html>)

V a. Language elements - multiple choice.

1) Could you tell me how much [a]

- a. this book cost?
- b. this book costed?
- c. did the book cost?
- d. this books cost?

2) They are exhausted as [c].

- a. they were working hard.
- b. they always work hard,
- c. they have been working hard.
- d. they working hard now.

3) This is [b] that I can't buy it.

- a. so an expensive book
- b. such an expensive book
- c. a very expensive book
- d. a really expensive book

4) He is believed [a] the experiment soon.

- a. to finish
- b. to have finished
- c. he finish
- d. he finished

5) This time tomorrow I [a] the museum.

- a. will be visiting
- b. am gonna to visit
- c. may visiting
- d. should have visited

6) Watch [d]! You could have broken it.

- a. in
- b. on
- c. up
- d. out

7) They look as [a] they are sleeping.

- a. though
- b. now
- c. like
- d. currently

8) The supervisor suggested the student [c].

- a. to do it.
- b. doing it.
- c. should do it.
- d. will have done it.

9) The students can [b] write an essay nor prepare a poster. They have to give a presentation.

- a. either
- b. neither
- c. or
- d. not

10) They do a lot of sport, [a] is healthy.

- a. which
- b. that
- c. what
- d. but

Vb. Word formation. Complete each sentence with the correct word derived from the words in capitals.

- 1) [Scientists] are warning about the effects of global warming. **SCIENCE**
- 2) Many people came to the [conclusion] that it was a good investment. **CONCLUDE**
- 3) What an [astonishing] achievement! **ASTONISH**
- 4) There is a high [probability] they will receive the grant. **PROBABLE**
- 5) The company lost much money due to employing [incompetent] staff. **COMPETENCE**
- 6) You should put the helmet on for your own [safety]. **SAFE**
- 7) He has [recently] prepared a few articles. **RECENT**
- 8) There is a [shortage] of food in this area. **SHORT**
- 9) This lab is very well- [equipped]. **EQUIP**

VI. Complete the letter by choosing the correct word or phrase. Write your answers in the spaces.

To (1) [Whom] (**Who / Whom**) It May Concern:

It is with great enthusiasm that I submit my application to join the faculty at the University of Oregon. In reviewing the research interests of your department, it seems that the opportunity (2) [for] (**for / to**) collaboration is great. I am particularly excited about potential collaborations (3) [involving] (**dealing / involving**) the role of calcium in skeletal muscle physiology. I have spent the last 12 years (4) [developing] (**developing / develop**) as a scientist and believe that I am ready to lead my own lab group.

My interest in Muscle Physiology stems (5) [from] my interest in sports supplements with an application to human performance. As I progressed through my graduate career I drifted away from sport supplement work towards fundamental issues of muscle pathophysiology including disuse atrophy and muscle dystrophy. My own grandmother is partially (6) [responsible for] (**in charge with / responsible for**) this change in direction. Following open heart surgery in her upper 80's she was left wheelchair bound due to severe muscle atrophy (7) [caused by] (**caused by / resulted from**) prolonged bed rest.

The focus of my graduate work at the University of Florida was centered around the development (8) [of] (**of / in**) countermeasures for disuse atrophy and potential mechanisms to augment muscle regrowth. It became clear that in order to answer many questions of physiology I would need a new set of skills. I completed my

post-doc in a lab that routinely uses molecular biology techniques in order to gain a mechanistic understanding of skeletal muscle disease and function.

(9) [Along] (**Along / Regarding**) with those tools, I also developed a passion for the study of muscular dystrophy. In concert with techniques I have learned previously, molecular biology techniques allow me (10) [to answer] (**answering / to answer**) questions ranging from broad questions regarding muscle physiology to very precise questions about a single disease. My research plan calls for continued investigations into disuse atrophy and muscle regrowth as (11) [well] (**well / long**) as muscular dystrophy.

Several features of this department are particularly attractive. The first is that (12) [there] (**there / it**) is an abundance of experience in this department, which will undoubtedly be useful for a new faculty member. While I do believe that I am prepared to function (13) [independently] (**with respect to / independently**), I am eager to collaborate with existing faculty and feel that I can (14) [both] (**benefit from / both**) learn from their expertise but also complement their lines of research. Additionally, this department has an interest in skeletal muscle research. I have chosen not to apply to several other departments/universities because they lacked a nucleus of interest.

I hope that you will carefully review my application for employment and give serious consideration to granting an interview. I am eager to discuss my potential role as a faculty member of the Department of Human Physiology. As requested, please find my CV. I have asked several people to submit letters on my behalf. They should be arriving under separate cover. For your convenience, I have also included the names and contact information of these people. I look forward to hearing from you soon.

(15) [Yours faithfully], (**Yours faithfully / Faithfully**)

J.B. Jobs, Ph.D.

Department of Physiology

(Source: <https://studentlife.utoronto.ca/wp-content/uploads/Academic-Cover-Letter>)