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АНГЛИЙСКИЙ ЯЗЫК ДЛЯ АКАДЕМИЧЕСКИХ ЦЕЛЕЙ

ENGLISH FOR ACADEMIC PURPOSES

УЧЕБНОЕ ПОСОБИЕ
ДЛЯ БАКАЛАВРИАТА И МАГИСТРАТУРЫ

Под редакцией Т. А. Барановской

*Рекомендовано Учебно-методическим отделом высшего образования
в качестве учебного пособия для студентов высших учебных заведений,
обучающихся по гуманитарным направлениям*

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Данное учебное пособие разработано коллективом авторов — профессора и преподавателей Департамента английского языка Национального исследовательского университета «Высшая школа экономики» — на основе образовательных стандартов и положений Концепции преподавания иностранных языков, принятых в Высшей школе экономики, с учетом требований ФГОС-3. В книге отражен результат многолетней практики преподавания иностранного языка для студентов академического бакалавриата, реализован компетентностный подход в преподавании английского языка.

Подходит для студентов, обучающихся по различным специальностям, так как освещаемые в пособии темы носят универсальный академический характер. Может быть полезно как преподавателям в аудиторной и внеаудиторной работе, так и учащимся при самоподготовке.

Соответствует актуальным требованиям Федерального государственного образовательного стандарта высшего образования.

Учебное пособие предназначено для студентов высших учебных заведений, обучающихся по гуманитарным направлениям и специальностям.

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BOOK

Unit	Section	Reading	Speaking
1 What Is Science?	1. Modern Science: What Is It?	<ul style="list-style-type: none"> Science: An Overview Misconceptions about Science. 	<ul style="list-style-type: none"> Agreeing/disagreeing Describing things
	2. Modern Science: How Does It Work?	<ul style="list-style-type: none"> How Does Science Work? Research: Young People Migrate to Cities with Good Reputation 	Telling explanatory stories
	3. History of Science	<ul style="list-style-type: none"> History of Science Research: Beauty Remains Women's Main Asset 	Giving definitions
2 Science for Life	1. Science and Higher Education	The HSE in the Global Academic Space	Oral presentation skills
	2. Science Development and Research University	Without Modern Science, a Country's Prospects for Development Are Uncertain	Making academic presentation
	3. Academic Career	<ul style="list-style-type: none"> What Is an Academic Career? To Enjoy Academic Freedom at the HSE 	Summarising
3 International Academia	1. Education in Russia	Education in Russia	<ul style="list-style-type: none"> Arguing/discussing Asking/answering questions
	2. Education in the USA	Education in the United States	<ul style="list-style-type: none"> Learning style Cause and effect
	3. Education in the UK	Education in the UK	<ul style="list-style-type: none"> Classifying/categorizing Exemplifying

MAP

Writing	Vocabulary	Grammar	Study Skills
Guidelines on writing a summary	<ul style="list-style-type: none"> Data, evidence and facts Academic vocabulary 	Genitive: possessive form of nouns	<ul style="list-style-type: none"> Answering questions about research Before reading strategies
Note-taking and note-making	Commonly misused words: <i>expand/expend</i> , <i>infer/imply</i>	Nouns: plurals, countable, uncountable	Mind mapping
<ul style="list-style-type: none"> Pre-writing strategies Writing an explanatory essay 	Academic vocabulary list	Articles	Critical reading
Definition and academic clarity	<ul style="list-style-type: none"> Academic vocabulary Commonly misused words: <i>assess/access</i> 	Relative clauses	Research design (1)
Hedging	<ul style="list-style-type: none"> Prepositions Commonly misused words: <i>very/vary</i> 	<ul style="list-style-type: none"> Making connections Linking words 	Questions or hypothesis
Avoiding accidental plagiarism	<ul style="list-style-type: none"> Academic vocabulary Word family 	Reporting verbs	Research design (2)
Writing process	Commonly misused words: <i>issue/problem</i>	Passive voice	Understanding text structure/organization
Academic CV	Nominalisation	Conditionals (I–II types)	Identifying reference in the text
Writing an email	<ul style="list-style-type: none"> Commonly misused words: <i>continual/continuous</i> Abbreviations and acronyms 	Relative clauses: defining and non-defining	Proof-reading written English

Предисловие (Preface)

Данное учебное пособие адресовано прежде всего преподавателям дисциплины «Английский язык». Цель книги — способствовать развитию языковой компетенции для академических целей, которая представляет собой одно из приоритетных направлений языковой подготовки современности. Содержание пособия определяется, с одной стороны, практическими потребностями студентов, связанными с выполнением академических и профессиональных задач, с другой стороны, требованиями, предъявляемыми образовательными программами к качеству языковой подготовки.

Пособие может применяться для обучения английскому языку студентов всех специальностей, поскольку выбранные темы носят универсальный академический характер и способствуют созданию у учащихся целостной картины научного мира, последовательно раскрывая вопросы о современном понимании науки, ее роли в жизни общества. Наряду с решением практической задачи формирования языковой компетенции происходит и формирование академических компетенций, в том числе исследовательских. Таким образом, пособие помогает решить следующие задачи:

1) развитие языковых компетенций (академических интегрированных языковых умений — говорения, чтения, письма, а также навыков — лексических и грамматических);

2) развитие академических компетенций, к которым относятся: эффективная работа с первоисточниками (текстовыми и аудио); составление вторичных документов и документов, востребованных в академической среде, в том числе международной; подготовка и проведение публичных выступлений, участие в дискуссиях и круглых столах;

3) совершенствование академического стиля письменной и устной речи;

4) формирование научного мировоззрения и базовых представлений об исследовательской деятельности.

В результате освоения материала учащиеся должны:

знать

- широкий спектр академической лексики и лексики, связанной с проблематикой научного общения и исследовательской работой;
- правила грамматики, необходимые для грамотной иноязычной коммуникации как в устной, так и в письменной форме;
- ключевые вопросы академической тематики, в том числе: современная наука, ее аспекты и проблемы, организация научной жизни, роль ученого в современном мире, академическая среда, ее особенности, исследовательские университеты, академическая жизнь в зарубежных странах;

уметь

- быстро ознакомиться с текстом, выделить важную информацию, передать его основное содержание, определить актуальность рассматриваемых

положений и найти ответы на вопросы, связанные с содержанием текста (*чтение*);

- в диалоге: давать подробные ответы на интересующие собеседника вопросы академической и профессиональной сферы, описывать явление или ситуацию, а также развивать отдельные мысли, подкрепляя их дополнительными положениями и примерами (*говорение*);

- в монологической речи: строить четкую систему аргументации, высказывать собственную точку зрения, отмечая достоинства и недостатки различных систем или теорий, включаться в дискуссию и выходить из нее, используя необходимую лексику и лексико-грамматические обороты (*говорение*);

- сопоставлять или противопоставлять имеющиеся данные, делать заметки по ходу прочитанного или прослушанного материала, обобщать прочитанный материал и кратко излагать его содержание, составлять академическое резюме, писать электронные письма (*письмо*);

владеть навыками

- самостоятельной работы с языковым материалом (с использованием справочной литературы, словарей, информационных сайтов);

- извлечения необходимой информации из оригинального текста на английском языке;

- выражения собственного отношения к изучаемому явлению как при межличностном, так и при академическом общении;

- восприятия, анализа и создания устных высказываний и письменных текстов общеакадемической направленности.

Для успешного освоения материала уровень владения английским языком по шкале IELTS должен быть не ниже 6–6,5.

Книга состоит из трех частей (**Unit**), в каждой из которых раскрываются темы, связанные с организацией и деятельностью научного мира, его основными закономерностями, а также со сферой международного высшего образования. Части состоят из блоков (**Section**), каждый из которых посвящен изучению определенной тематики в рамках основной темы и усвоению языковых навыков и умений, необходимых для общения в научной и академической сфере. Все блоки содержат большое количество аутентичных текстов, а также разнообразные упражнения и задания, направленные на развитие и совершенствование лексических и грамматических навыков, отработку языковых и академических умений. В конце каждой части приводится список вопросов по закреплению изученного материала (**Check Understanding**) и список использованных источников информации (**Sources**).

Ответы к упражнениям даны в разделе «Ключи» (**Keys**) в конце книги. Наличие этого раздела позволит учащимся самостоятельно осваивать материал, проверяя корректность выполнения заданий.

В конце пособия также приводится словарь (**Glossary**), который включает основные научные термины, встречающиеся в текстах, и их толкование на английском языке.

Учебное пособие можно использовать в качестве основного средства обучения в аудиторной и внеаудиторной работе, а также для самоподготовки.

Short Forms and Labels

Word Classes

adj = adjective
adv = adverb
n = noun
v = verb

Codes and Labels

abb. = abbreviation
pl. = plural
smb = somebody
smth = something

Unit 1 WHAT IS SCIENCE?

Objectives of the unit:

- to understand the essentials of science
- to develop language skills: reading (for gist and for detail), speaking (describing objects, explanations, giving definitions, reporting) and writing (a summary, an explanatory essay, making notes)
- to develop crucial study skills (critical reading, designing mind maps, talking about the research)
- to learn the vocabulary related to science and the scientific method
- to practice grammar: genitive, nouns in academic English, articles

Section 1. Modern Science: What Is It

LEAD-IN

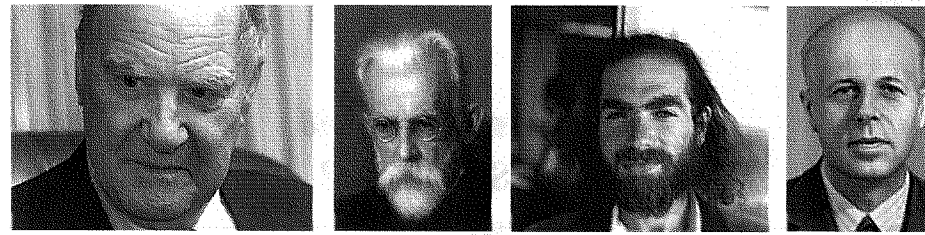
Exercise 1. Read the statements about science and decide whether you agree or disagree with them.

Statements	Agree	Disagree
1. Scientific ideas are absolute and unchanging.		
2. Science can only disprove ideas.		
3. The job of a scientist is to find support for his/her hypotheses.		
4. Science is pure. Scientists work without considering the applications of their ideas.		

Exercise 2. Use the words below to give your own definition of science.

way testing gathered process behavior natural ideas structure
 organized world knowledge study relies built

Exercise 3. Do you know these scientists? Tell others what you know about them and their scientific careers.



READING

Science: An Overview

The word 'science' probably brings to mind many different pictures: a fat textbook, white lab coats and microscopes, an astronomer peering through a telescope, a naturalist in the rainforest, Einstein's equations scribbled on a chalkboard, the launch of the space shuttle, bubbling beakers... All of those images reflect some aspect of science, but none of them provides a full picture because science has so many facets:

- *Science is both a body of knowledge and a process.* In school, science may sometimes seem like a collection of isolated and static facts listed in a textbook, but that's only a small part of the story. Just as importantly, science is also a process of discovery that allows us to link isolated facts into coherent and comprehensive understandings of the natural world.

- *Science is exciting.* Science is a way of discovering what's in the universe and how those things work today, how they worked in the past, and how they are likely to work in the future. Scientists are motivated by the thrill of seeing or figuring out something that no one has before.

- *Science is useful.* The knowledge generated by science is powerful and reliable. It can be used to develop new technologies, treat diseases, and deal with many other sorts of problems.

- *Science is ongoing.* Science is continually refining and expanding our knowledge of the universe, and as it does, it leads to new questions for future investigation. Science will never be 'finished'.

- *Science is a global human endeavor.* People all over the world participate in the process of science.

Science is complex and multi-faceted, but the most important characteristics of science are straightforward:

- Science focuses exclusively on the natural world, and does not deal with supernatural explanations.

- Science is a way of learning about what is in the natural world, how the natural world works, and how the natural world got to be the way it is. It is not simply a collection of facts; rather it is a path to understanding.

- Scientists work in many different ways, but all science relies on testing ideas by figuring out what expectations are generated by an idea and making observations to find out whether those expectations hold true.

- Accepted scientific ideas are reliable because they have been subjected to rigorous testing, but as new evidence is acquired and new perspectives emerge these ideas can be revised.

- Science is a community endeavor. It relies on a system of checks and balances, which helps ensure that science moves in the direction of greater accuracy and understanding. This system is facilitated by diversity within the scientific community, which offers a broad range of perspectives on scientific ideas.

Many students have misconceptions about what science is and how it works. The most common misconceptions about science are listed below.

Misconception 1: *Science is a collection of facts.*

CORRECTION: Because science classes sometimes revolve around dense textbooks, it's easy to think that's all there is to science: facts in a textbook. But that's only part of the picture. Science is a body of knowledge that one can learn about in textbooks, but it is also a process. Science is an exciting and dynamic process for discovering how the world works and building that knowledge into powerful and coherent frameworks.

Misconception 2: *Science is complete.*

CORRECTION: Since much of what is taught in introductory science courses is knowledge that was constructed in the 19th and 20th centuries, it's easy to think that science is finished — that we've already discovered most of what there is to know about the natural world. This is far from accurate. Science is an ongoing process, and there is much more yet to learn about the world. In fact, in science, making a key discovery often leads to many new questions ripe for investigation. Furthermore, scientists are constantly elaborating, refining, and revising established scientific ideas based on new evidence and perspectives.

Misconception 3: *There is a single Scientific Method that all scientists follow.*

CORRECTION: 'The Scientific Method' is often taught in science courses as a simple way to understand the basics of scientific testing. In fact, the Scientific Method represents how scientists usually write up the results of their studies (and how a few investigations are actually done), but it is a grossly oversimplified representation of how scientists generally build knowledge. The process of science is exciting, complex, and unpredictable. It involves many different people, engaged in many different activities, in many different orders.

Misconception 4: *The process of science is purely analytic and does not involve creativity.*

CORRECTION: Perhaps because the Scientific Method presents a linear and rigid representation of the process of science, many people think that doing science involves closely following a series of steps, with no room for creativity and inspiration. In fact, many scientists recognize that creative thinking is one of the most important skills they have — whether that creativity is used to come up with an alternative hypothesis, to devise a new way of testing an idea, or to look at old data in a new light. Creativity is critical to science!

Misconception 5: *Experiments are a necessary part of the scientific process. Without an experiment, a study is not rigorous or scientific.*

CORRECTION: Perhaps because the Scientific Method and popular portrayals of science emphasize experiments, many people think that science can't be done *without* an experiment. In fact, there are *many* ways to test almost any scientific idea; experimentation is only one approach. Some ideas are best tested by setting up a controlled experiment in a lab, some by making detailed observations of the natural world, and some with a combination of strategies.

[1]

ACTIVITIES

Exercise 1. Read the text *Science: An Overview* and answer the questions below.

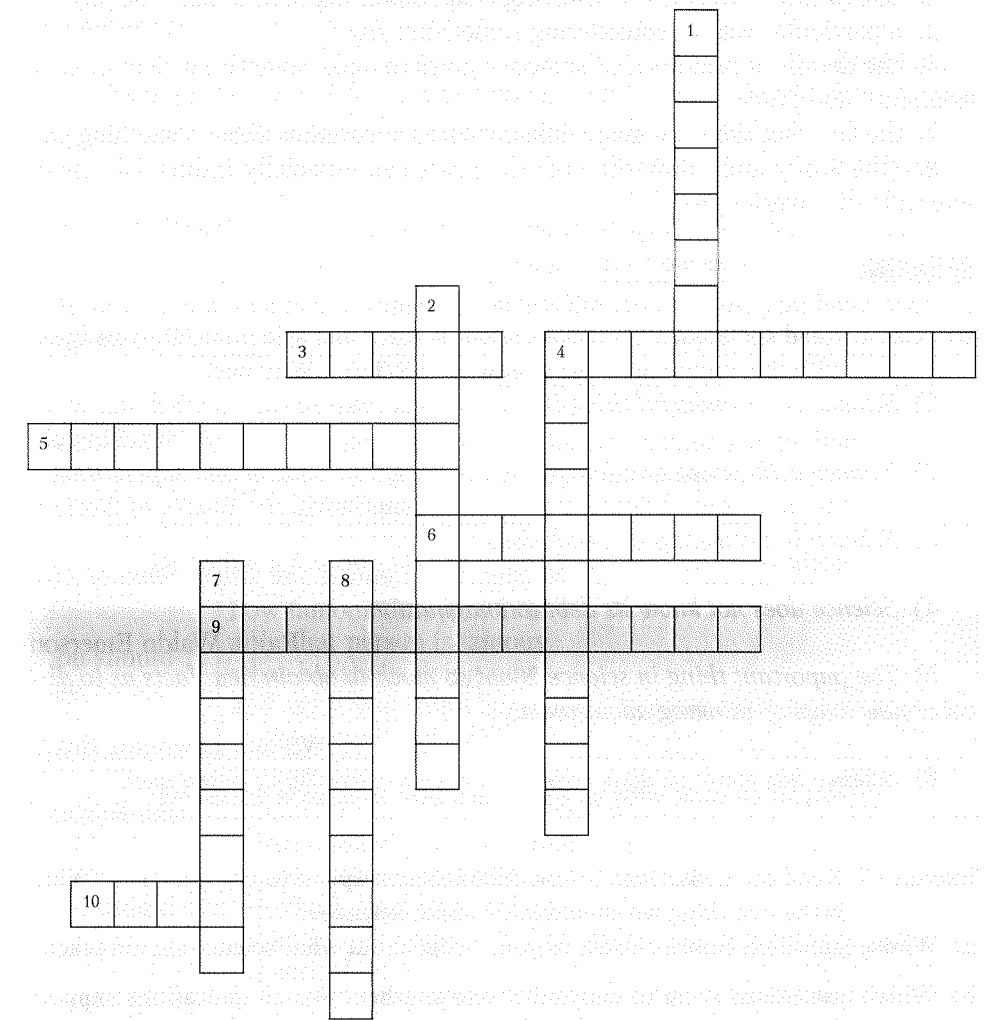
1. What is science?
2. What is the scientific method?
3. Is the scientific method a philosophy?
4. What is the difference between a hypothesis and a theory?
5. Why do scientists often seem tentative about their explanations?
6. What does science have to say about ghosts, ESP, and astrology?

Exercise 2. Use the on-line dictionary to define the following words.

Dictionary: <http://dictionary.cambridge.org/dictionary/learner-english>

Word	Definition + Example	Collocation(s)
evidence	Something that makes you believe that something is true or exists: <i>There is no scientific evidence that the drug is addictive.</i>	<i>give evidence / be in evidence</i>
experiments		
fact		
hypothesis		
method		
observation		
reliable		
testing		

Exercise 3. Scan through the text and find words which can help you do the crossword.



Across

3. one part of a subject, situation, etc. that has many parts /n/
4. a test done in order to learn something or to discover if something works or is true /n/
5. an idea or explanation for something that is based on known facts but has not yet been proved /n/
6. a mathematical statement in which you show that two amounts are equal using mathematical symbols /n/
9. the act or process of examining a crime, problem, statement, etc. carefully, especially to discover the truth /n/
10. something that is known to have happened or to exist, especially something for which proof exists, or about which there is information /n/

Down

1. one or more reasons for believing that something is or is not true /n/
2. a particular way of considering something /n/
4. the details or reasons that someone gives to make something clear or easy to understand /n/
7. the fact that there are many different ideas or opinions about something /n/
8. (the study and knowledge of) the practical, especially industrial, use of scientific discoveries /n/

SPEAKING

Exercise 4. Read six famous quotations about science and scientists. Do you agree with the authors of these quotations? Why? / Why not?

- 1) *Science is a wonderful thing if one does not have to earn one's living at it.*
Albert Einstein
- 2) *Science is the great antidote to the poison of enthusiasm and superstition.*
Adam Smith, *the Wealth of Nations*
- 3) *Science is a cemetery of dead ideas.*
Miguel de Unamuno, *the Tragic Sense of Life*
- 4) *Science does not know its debt to imagination.*
Ralph Waldo Emerson
- 5) *The important thing in science is not so much to obtain new facts as to discover new ways of thinking about them.*
William Lawrence Bragg
- 6) *Science has made us gods even before we are worthy of being men.*
Jean Rostand

Exercise 5. Read the quotations below. All of them respond to the question "What is the one thing we should learn about science?"

- a) Whose quotation comes closest to your belief about what science should teach?
- b) Which quotations seem to contradict one another? Which quotations support one another?
 - 1) *Science is about uncertainty. We do not yet know the answers to most of the most important questions.*
Freeman Dyson
 - 2) *I would teach the world that science is the best way to understand the world, and that for any set of observations, there is only one correct explanation.*
Lewis Wolpert
 - 3) *I would teach the world that scientists start by trying very hard to disprove what they hope is true... a scientist always acknowledges the possibility of error, and is less likely to be mistaken than one who always claims to be right.*
Anthony Hoare
 - 4) *I would teach the world that science is imagination plus humility.*
Michael Baum

5 *Perfect as the wing of a bird may be, it will never enable the bird to fly if unsupported by the air. Facts are the air of science. Without them a man of science can never rise.*

Ivan Pavlov

6 *Science is built up of facts, as a house is built of stones; but an accumulation of facts is no more a science than a heap of stones is a house.*

Henri Poincaré

Exercise 6. Practice answering questions. You must speak for at least two minutes. Try to use some of the words and phrases from exercises above.

Describe a science programme or a scientific experiment you have seen and enjoyed.	
You should say:	where and when you saw the programme / experiment what happened in the programme / experiment why the programme / experiment was enjoyable and explain what you learnt from watching it
Describe a famous scientist you have met or know about	
You should say:	how famous that person is why that person is famous what he/she is doing now and say if you think he/she will become more or less famous in the future, and why
Describe a project you had to do in your studies or job.	
You should say:	who asked you to do that project what the main aim of the project was who helped you with it and say if you think that project was a success or not, and why

WRITING

SUMMARY

How to Write a Summary: Some Guidelines

- 1) **Shorten the text** in such a way that all facts are in the summary. Leave out examples, evaluations and interpretations.
- 2) **Skim** the text. You should know what the **main content** of it is. Read the headline carefully. It is important.
- 3) Read the text again to understand more **details**. You must understand the whole text.
- 4) Make **notes** (use keywords). Underline important words in the text.
- 5) **Form** sentences with the help of your **keywords**. These sentences should reflect the main content of the text.

6) **Connect the sentences** using suitable conjunctions. The first sentence should describe the main content of the text.

7) Use **Simple Present** or **Simple Past**. Write sentences in Reported speech.

8) Sometimes you have to **change the persons**.

9) **Check** your summary. Watch out for spelling mistakes.

Exercise 7. Read the text and write a summary.

Baby's First Research

A geneticist working at her lab bench and a six-month-old baby playing with his food might seem to have little in common. After all, the scientist is engaged in serious research to uncover the very nature of the physical world, and the baby is, well, just playing... right? Perhaps, but some developmental psychologists have argued that this 'play' is more like a scientific investigation than one might think.

Take a closer look at the baby playing at the table. Each time the bowl of cereal is pushed over the table edge, it falls to the ground — and, in the process, it reveals critical evidence about how physical objects interact: bowls of cereal (as well as pacifiers, blocks, books, bananas, and other physical objects) do not float in mid-air, but require support to remain stable. It is likely that babies are not born knowing this basic fact of the universe; nor are they ever explicitly taught it. Instead, babies may form an understanding of object support through repeated experiments — systematic interactions with the world around them — and then build on this knowledge to learn even more about how objects interact (e.g., how much physical contact is necessary for support, how the shape of the objects affects one's ability to support the other). Though their scales and accoutrements differ, the baby's investigation and the physicist's experiment appear to share the same aim (to learn about the natural world), overall approach (gathering direct evidence from the world), and logic (are my observations what I expected?).

Though the claim is controversial, some psychologists have argued that many of children's ideas of how the world works resemble scientific theories:

- These ideas are relatively coherent explanations for some set of phenomena in the natural world.
- Children use them to generate expectations about how people and objects will behave.
- They can be revised or rejected in favor of a new explanation if the weight of evidence goes against the currently accepted explanation.

Some psychologists propose that young children learn about more than just the physical world in this way — that they investigate human psychology and the rules of language using similar means. For example, it may only be through repeated experiments, evidence gathering, and finally overturning a pet theory, that a toddler will come to accept the idea that other people can have different perspectives and desires than he or she has — that, for example, inappropriate behavior can be hidden from a parent's view by simply moving behind the sofa or that, unlike the child, Mommy actually doesn't *like* graham crackers.

Viewing childhood development as a scientific investigation provides insight into how children learn, but it also offers a provocative perspective on science and scientists. Why do young children and scientists seem to be so much alike? Psychologists Alison Gopnik, Andrew Meltzoff, and Patricia Kuhl have proposed that science as an endeavor — the impulse to explore, explain, and understand our world — is simply a holdover from our infancies. Perhaps evolution endowed human babies with curiosity and a natural drive to explain their worlds — and adult scientists simply tap into the same explanatory drive that served them as infants. The same cognitive systems that make young children feel good about figuring something out may have been unwittingly co-opted by adult scientists. As Gopnik and her colleagues put it, 'It is not that children are little scientists but that scientists are big children.'

[2]

VOCABULARY

Exercise 8. Read the three texts, do the tasks, and answer the questions.

Data, Evidence and Facts

Data

Data is a set of values of qualitative or quantitative variables. Data is **measured, collected and reported**, and **analyzed**, whereupon it can be visualized using graphs or images. Data as a general concept **refers to** the fact that some existing information or knowledge is **represented** in some form suitable for better usage or processing.

Raw data, i.e. unprocessed data, is a collection of numbers, characters. **Field data** is raw data that is collected in an uncontrolled *in situ* environment. **Experimental data** is data that is generated within the context of a scientific investigation by observation and recording.

The word 'data' used to be considered the plural of 'datum', and still is by some English speakers. Nowadays, though, 'data' is most commonly used in the singular, as a mass noun (like 'information', 'sand' or 'rain').

A. Translate from English into Russian the words and word combinations in bold.

B. Answer the questions:

- 1) What is data? What type of data do you plan to collect and analyse for your research?
- 2) What is the difference between raw and field data?
- 3) Will you use experimental data in your research?

Evidence

Evidence, broadly construed, is anything presented in support of an **assertion**. This support may be strong or weak. The strongest type of evidence is that which provides direct proof of the truth of an assertion. At the other extreme is evidence that is merely consistent with an assertion but does not rule out other, contradictory assertions, as in circumstantial evidence.

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Scientific evidence consists of **observations** and **experimental results** that serve to support, refute, or modify a scientific hypothesis or theory, when collected and interpreted **in accordance with** the scientific method.

In scientific research evidence is **accumulated** through observations of **phenomena** that occur in the natural world, or which are created as experiments in a laboratory or other controlled conditions. Scientific evidence usually goes towards **supporting** or **rejecting a hypothesis**.

One must always remember that the burden of proof is on the person making a contentious **claim**. Within science, this translates to the burden resting on presenters of a paper, in which the presenters argue for their specific **findings**. This paper is placed before a panel of judges where the presenter must defend the **thesis** against all challenges.

A. Translate from English into Russian the words and word combinations in bold.

B. Answer the questions:

- 1) What is the difference between evidence and scientific evidence?
- 2) How is evidence accumulated in scientific research?
- 3) What is a *claim*? How to prove a claim?

Facts

A **fact** is something that has really occurred or is actually the case. The usual test for a statement of fact is **verifiability** – that is, whether it can be demonstrated to correspond to experience. Standard **reference works** are often used to check facts. Scientific facts are verified by repeatable careful observation or measurement (by experiments or other means).

A. Translate from English into Russian the words and word combinations in bold.

B. Read the statements below and decide, if they are facts or opinions:

- 1) The Russian Department of Agriculture recommends that adults consume three to four cups of vegetables per day.
- 2) Playing team sports is the better way to lose weight.
- 3) Research shows that a diet low in salt helps people to lower their blood pressure.
- 4) Home-cooked meal tastes better than meal in restaurants.
- 5) Research indicates that young people who ate meals with their parents did well academically.

Exercise 9. Choose the word from the box to fill in the gaps. Explanation of the missing word is given in brackets.

conflicting; empirical; accurate; reliable; comprehensive

1. Unfortunately, there is scarce **data** (*can be trusted*) to suitably determine the various internal commercial links.

2. A substantial amount of **data** (*based on observation rather than theory*) was required for the verification of assumptions, estimation of parameters, fitting of distributions and validation of output.

3. The apparatus used in the experiment is simpler than that which would be desirable to obtain fully **data** (*correct, exact, without any mistakes*).

4. The design of semi-structured interviews enables interviewees to elaborate on their answers, and the interviewer to ask probing questions, so **data** (*full, complete*) can be obtained.

5. The present essay is a comment on Nagel's 'Brain Bisection and the Unity of Consciousness' (1971) in which he argues that the data relating to patients who have undergone corpus callosotomy constitute **data** (*contradictory*) with regard to the idea of the necessary unity of consciousness of a person or mind, and of mind being something numerically absolute.

Exercise 10. From the following list use one word to complete the sentences. You may need to change the form of some words.

assign /v/; context /n/; criterion /n/; data /n/; denote /v/; devise /v/;
formulate /v/; impact /n/; impact /v/

1. The Health Service should not be judged by financial alone.
2. In this example 'X' the time taken and 'Y' denotes the distance covered.
3. The data was/were by various researchers.
4. The report the blame for the accident to inadequate safety regulations.
5. Businesses are beginning to feel the full of the recession.
6. It is important to see all the fighting and bloodshed in his plays in historical
7. She has lots of good ideas, but she has difficulty them.
8. Falling export rates have on the country's economy quite considerably.
9. A new system has been to control traffic in the city.

Exercise 11. Read the two parallel texts in Russian and English. Translate the missing words (phrases).

Образование, и в частности высшее образование, представляет собой путь к (1) <i>расширению прав и возможностей людей</i> и развитию наций.	Education, or more specifically, higher education, is the pathway to 1..... and the development of nations.
В наше время (2) <i>источником роста и преуспеяния</i> стало производство знаний, а не владение средствами производства и не производительность труда.	Knowledge generation has replaced ownership of capital assets and labor productivity as the 2..... .

Слово «инновация» звучит как своего рода «мантра» развития.	Innovation is seen as the mantra for development.
Осознание этого (3) <i>настолько широко распространилось</i> , что страны соревнуются между собой в создании институтов и организаций, которые (4) <i>способствовали бы</i> производству знаний.	This realization is 3..... that nations are scrambling to create institutions and organizations that would 4..... the process of knowledge creation.
Это производство подразумевает наличие сети ученых, (5) <i>активно вовлеченных</i> в данный процесс, поскольку поиск нового — это результат деятельности увлеченных умов, постоянно (6) <i>ставящих под сомнение</i> уже известное (при условии, что сама деятельность осуществляется в (7) <i>благоприятных условиях</i>).	Knowledge creation requires a network of scholars 5..... in its pursuit because the search for the unknown is a product of engaged minds, constantly 6..... the known in an 7..... .
Университет стал одним из важнейших учреждений, созданных за всю историю человечества и (8) <i>выдержавших испытание временем</i> .	In human history, the university has been one of the great institutions that 8..... .
(9) <i>Тем не менее</i> его структура за столетия претерпела определенные изменения.	Its structure, 9....., has changed over the centuries.
Абстрактная мысль в рамках философии и математики служила (10) <i>доминантной парадигмой</i> .	Abstract thought through philosophy and mathematics was the 10..... .
Методы схоластики использовались для понимания и объяснения (11) <i>сводов законов</i> , поддержания работы сложных политических институтов в Болонье и Париже.	Scholastic methods were employed to understand 11..... and reasoning, supporting complex political institutions in Bologna and Paris.
(12) <i>Представление об университете</i> как об исследовательском институте появилось в XIX веке в Германии — в эпоху (13) <i>бурного развития новых идей</i> , когда промышленная революция незаметно проникла в мир.	12..... as a research institution arose in 19th-century Germany, at a time when the Industrial Revolution had crept upon the world in the age of 13..... .
Это (14) <i>потребовало</i> проведения эмпирических исследований в лабораториях до того, как правильность их результатов была бы (15) <i>подтверждена на практике</i> и появились бы новые технологии.	This 14..... empirical research to be undertaken in laboratories before results could be 15..... for new technology to emerge.

(16) <i>Приоритетность исследования</i> над преподаванием выкристаллизовалась в гумбольдтианской модели университета с присущим ей (17) <i>поиском знаний как непрерывной деятельности</i> .	16..... over teaching was solidified in the Humboldtian version of the university, with the 17..... .
(18) <i>Характерными чертами</i> современного университета стали значительное финансирование и поддержка исследовательской работы со стороны государства.	18..... of the modern university was the provision of substantial public funding to support research.
Современный исследовательский университет предлагает также (19) <i>специализацию по дисциплинам</i> .	The modern research university has also encouraged 19..... .
Разделение знаний на дисциплины и области (20) <i>обеспечивает</i> глубину их понимания во все более усложняющемся мире.	Dividing knowledge into disciplines and fields 20..... depth of understanding in an increasingly complex world.
Однако растет осознание того, что проблемы XXI века требуют (21) <i>целостного понимания различных аспектов знания</i> .	However, a growing understanding has appeared that the problems of the 21st century require a 21..... .
Сегодня новые знания (22) <i>появляются на стыке</i> существующих дисциплин, и имеется множество способов их взаимного обогащения. [3]	New knowledge today 22..... of existing disciplines, and cross-fertilization of disciplinary understanding occurs in myriad ways. [4]

GRAMMAR

GENITIVE: THE POSSESSIVE FORM OF NOUNS

I. Position of the 's with authors and referees

Context	Comment
Smirnov's paper is an excellent introduction to the problem.	The 's is placed after the last letter of the author (or name, country, etc.).
Shools's research paper.	Even if the last letter of the author's name is an s, then still put an 's. Exceptions: non-English surnames that end in a silent -s (e.g., <i>Camus' first novel, Descartes' meditations</i>).
Stain and Simpson's paper. Black et al's project...	When a paper has been written jointly by two authors, only put an 's after the last name or after <i>et al</i> .

Context	Comment
Stain's paper and Simpson's paper take two very different positions.	If two papers were written by two authors separately, then the 's must be used for both authors.
It is each applicant's responsibility to ensure that the three Referees' Reports are submitted by...	If the noun is in the plural (e.g., those authors, editors), then put just an apostrophe after the plural -s.
They answered the three referees' questions, and specifically, we have added a new section as per Referee 1's request.	When a referee is referred to by a number, put the 's after the number.

Exercise 12. Underline the correct form. If both are correct, underline both.

- Tim** / **Tim's** paper was the first to...
- Tim's et al.** / **Tim et al's** articles were the first to...
- Smits** / **Smits's** / **Smits'** most recent investigation into...
- We met all the **referee** / **referee's** / **referees'** requests.
- Turing** / **Turing's** / **The Turing's** original thesis was that... He then went on to reformulate this thesis by...
- In our work **Fourier** / **Fourier's** analysis was used to derive the...
- Physicist Stephen **Hawking** / **Hawking's** early career was...

II. Theories, instruments, etc.

Context	Comment
Adrian Wallwork's manual on academic writing.	Do not use construction " the + name of person + 's".
As predicted by Newton's theory of gravity, Mercury's orbit is elliptical. The premise of Darwin's theory of evolution is that...	" the + name of person + noun": This construction can be used instead of the genitive, with no change in meaning. This construction is very formal and is used only with famous scientists. This means that you cannot write <i>the Adrian Wallwork theory of writing</i> , because Adrian Wallwork (the author of this book) is not sufficiently famous!
Fourier's analysis of linear inequality systems highlights that he placed more importance on... Turing's machine was designed to be an idealized model of a human computer.	"name of person + 's + noun": The focus is usually more on the scientist. We are talking about their original concept, their life, etc.

Exercise 13. Underline the correct form. If both are correct, underline both.

- Beer** / **The Beer's** / **Beer's** findings, together with those of Johann Heinrich Lambert, make up **Beer-Lambert** / **the Beer-Lambert** / **Beer-Lambert's** law.
- A **Boolean** / **Boolean's** operator may refer to one of the following...
- They used a **Turing** / **Turing's** machine simulation to obtain their result.
- A **Turing** / **Turing's** machine is a device that...
- We used an **Apple** / **Apple's** G6 Powerbook laptop running LION to...
- Apple** / **Apple's** / **The Apple's** initial decision to make iPods solely compatible with iTunes caused...
- The iPad** / **iPad's** potential for education has been investigated...
- The Thatcher** / **Thatcher** / **Thatcher's** administration caused tremendous...

STUDY SKILLS

Exercise 14. Read the abstract of the research paper and answer the questions.

Youth Take Longer to Leave Their Parents

Young Russians are in no hurry to start living on their own. The age of moving out from the parental home has increased from 18-20 for previous generations to 23-25 for today's youth. Instead, young people are spending more time in search of themselves and taking longer to get education and choose a partner, according to a study by Ekaterina Mitrofanova, Junior Research Fellow at the HSE Institute of Demography, and Alina Dolgova, student at the HSE Faculty of Social Sciences.

Leaving the parental home usually precedes major demographic milestones, such as getting married (or moving in with a partner) and having children. Typically, this move requires finding a home of one's own and having a certain degree of socioeconomic independence based on education, employment and financial self-sufficiency. At least, this was the 20th century stereotype, but it does not necessarily hold true today.

Today, individual lives tend to be more diverse and less linear than before, while different life stages, such as going to school, starting a family, getting a job, and retirement often follow new sequences and are based on more careful and rational planning guided by individual preferences rather than social norms. Thus, the timing of certain life events may vary.

A typical young Russian today matures rather slowly. They tend to be more pragmatic, spend more time on education and self-exploration and put off getting married and having children. As to cohabitation, young people are ready to move in together much earlier than their predecessors and experience an earlier sexual debut. Reflecting a new perspective on family values, marital behavior tends to be more rational, with young people choosing life partners by trial and error. And since 'adult children' are in no hurry to make lifelong decisions, they postpone moving out from the parental home.

In their article *The start of an independent life by Russians: the intergenerational aspect* published in *Demoscope Weekly*, **Mitrofanova** and **Dolgova** examine in retrospect the behavioural changes in terms of leaving the parental home observed in

Russia over generations, and particularly the age of separation from one's family of origin. Their analysis is based on the findings from three waves (2004, 2007 and 2011) of the study 'Parents and Children, Men and Women in Family and Society'. Their sample of 4,687 respondents included those born between 1930 and 1986 who first left their parental family between the ages of 15 and 30.

Sometimes They Come Back

Most respondents (97%) have had some experience of living separately from their parents, and 12% of those were living with their parents again at the time of the survey. i.e. their independence turned out to be partially reversible for whatever reason, such as breaking up with a partner, needing to save money, having no place of their own, etc.

Comparing the number of respondents living on their own in different generations, one can see that the proportion of respondents born in the 1980s who had never lived separately from their parents at the time of the survey was quite high at 20%. Perhaps, at the time of the survey some of them were just too young to live on their own; anyway, their demographic behavior is different from that of their parents who used to 'leave the nest' at an earlier age.

Older Generations Became Independent Earlier

According to the authors, the highest proportion of respondents who left their parents at 18 was found in the generation born between 1950 and 1959, while subsequent generations showed an increasing proportion of those who continued to live with their parents up to the age of 25.

Curiously, the 1970s generation demonstrated a tendency to leave the parental home at an earlier age, while in the 1980s generation, by contrast, the average age of starting an independent life increased again and reached 20.5, which is almost the same as in the 1930s generation, whose young years fell in the post-war period when families often stayed together to increase their chances of survival.

Gender-wise, women in all observed generations tend to leave the parental home about one year earlier than men.

Some People Regret Growing up Too Fast

In addition, respondents were asked whether they felt they had left their parents' home at the right time or perhaps too early; their responses reflect a shift in the perception of maturity across generations. The proportion of men and women who believe they started living independently at the right time drops from 77% in the 1930s generation to 70% in the 1980s generation, suggesting that more recent generations are not so sure whether early independence is a good thing.

Indeed, almost a third of the respondents born between 1980 and 1986 regretted starting an independent life a bit too early.

'On the one hand, we can assume that 70% of the younger respondents had made a well thought out decision since they are sure they started off on their own at the right time for them; however, a fairly large and growing proportion had apparently taken the decision lightly and later regretted it,' note the researchers.

Stereotypes of Adulthood Need Revision

The authors examined the respondents' attitudes towards social stereotypes as to when one should start living independently.

The proportion of those who felt that 18 was the right age for starting off on one's own was high in respondents born before 1969, but declined from 44% to 42% in subsequent generations, as more people questioned whether the legal coming of age was indeed a good age for starting an independent life.

The vast majority (90%) of respondents believe that 23 to 25 is the best age for the transition to adult life, since most young people at 25 would already have an education, a job, access to socioeconomic resources and a sense of self-sufficiency.

In fact, the actual age of leaving the parental home does not confirm the stereotype that young people should leave their parents' home as they legally come of age. While many respondents still feel that starting an independent life at 18 or 20 is normal, they also agree that becoming independent at 23 to 25 is fine. According to the researchers, 'just 60% of those who left their parents at the age of 18 to 20 believe that it was the right time for them to do so'.

Young People in No Rush to Leave Parents

The authors used event history analysis to assess the chances of leaving the parental home at different ages, using the moment one starts living separately as the dependent variable. They used the data from the 2011 (third) wave of the 'Parents and Children, Men and Women in Family and Society' survey for their model as it includes a wealth of data on various demographic events. For women, the likelihood of leaving parents before 30 is 1.2 higher than for men, but later on, the chances are equal for both genders.

Event history analysis has confirmed the retrospective observation that the chances of leaving one's parents early were lower for people born in the 1930s (due to the historical context, as explained above). The retrospective findings were also confirmed for the 1950s and 1970s generations — these cohorts had the maximum probability of starting independent lives before the age of 20. But in subsequent generations, the chances of starting off on one's own before 20 consistently decreased, reaching the lowest in the 1980s generation, followed by a consistent increase after the age of 24.

Thus, recent generations tend to leave their parents at the later age of 23 to 25 than their predecessors. In addition to that, after 2007, a consistent decrease has been observed in the proportion of respondents who approve of starting an independent life before one turns 20. Conversely, leaving one's parents at 23 to 25 is becoming the new social norm, as most respondents in this age group consider it the right time to start off on their own. In other words, young people tend to postpone independence to a later age.

However, the study's authors believe that for a more complete and accurate picture, additional variables must be considered, such as education, occupation and income levels — thus mapping out a plan for their future research.

Answer the questions:

1. What is the aim of this research?
2. What problem is studied in the paper?
3. Which data/evidence is used for the purposes of this research?
4. Is the sample representative for the study?
5. What methodology is used?
6. What are the findings of the researchers?
7. How can the results of the study be used in practice?
8. What are the limitations of this research?

Exercise 15. Strategies for reading academic texts: before reading.

1. Think about your reasons for reading the text:
 - you are interested because it is about your subject, or it is related to your subject
 - you want background information, or detailed information
 - you want to know what the writer's views are
 - you are going to have a discussion
 - you are going to write an essay on this subject later.

Each reason will influence the way you read e.g., quickly or slowly, looking for fact or opinion.

2. Look at the title, headline, any sub-headings, photos or illustrations. Use these elements to predict what the text will be about – the topic.
3. Think about what you already know on this topic.
4. Write down what you would like to find out from the text. You could write actual questions you would like answers to.
5. Make a note of words or phrases connected with the topic that you may find in the text.

Use the strategies above on the following text.

Scientific Words: Their Structure and Meaning

The Purpose and Nature of Scientific Words

The development of an appropriate vocabulary is essential to the development of any subject. Words are the elements of language; language is the vehicle of ideas. By silent language thoughts are developed in the mind, and by written or spoken language thoughts are communicated to others.

It is obvious that a scientist must have names by which to identify and refer to the various chemical substances, minerals, plants, animals, structural units, instruments, etc., with which he deals. He must have suitable adjectives for describing these things and suitable verbs for defining their behaviour.

He also needs suitable names by which to identify the various abstractions with which he deals – processes, states, qualities, relationships, and so on. Thus, after Faraday had investigated the passage of electric currents through different solutions and noted the resulting liberation of chemical substances, the term *electrolysis* was invented. This one word was a kind of

shorthand symbol for the process; it 'pinned down' the process and conveniently embraced its many aspects. From then on it was possible to think about the process and to talk about it to others. Similarly, the single term *symbiosis* conveniently summarises a biological state; *diathermancy* identifies a physical quality.

Many scientific words are of this kind. Without the name (or technical term) a concept remains vague and ill-defined; the scientist is hindered in his mental processes, in his recording of what he thinks and does, and in his communication with others.

In his communication a scientist is mainly concerned with the exact and logical expression of that which he wishes to pass on to another. His purpose is to inform (as clearly as possible), not to excite emotion. It follows that each of his words must have a precise meaning, and one meaning only, so that there is no risk of confusion or ambiguity. Of course he must know himself what his words mean and he must assume that the person with whom he communicates attaches the same meanings to them. (If he is communicating with a person who is unlikely to understand his specialised terms, he must take care not to use them, even if that may mean some loss of precision or elegance. A number of 'popular' science talks fail because the speaker, often an expert scientist, thoughtlessly uses words which the ordinary person does not understand.)

The meanings of many ordinary words of our language are not single and precise. Although the original, basic meanings may be clear, the words have acquired a range of meanings over the years. Thus the familiar word *fair* has somewhat different meanings when used to describe the weather, a person's hair, an action or decision, or a boy's performance at school; some words (e.g., '*rude*') suffer a significant change in meaning. Hence a scientist avoids the ordinary words of the language; he prefers his own words. These words can then be rigorously defined and given the necessary precision of meaning.

The use of words which are 'set apart' from everyday life also enables the scientist to avoid evoking irrelevant and distorting associations. Some ordinary words convey more than their literal meanings; they evoke further images, emotions and reactions on the part of the hearer or reader. (Thus *red*, basically a word denoting a certain colour, may conjure up thoughts and feelings relating to danger, to blood, or to a particular political outlook.) The specialised words of science, if used in their proper contexts, are largely free from distorting associations. It is interesting to note that when a scientific term, originally well-defined, becomes a word of ordinary speech, it usually suffers a widening of meaning and acquires a number of associations. Thus criticism (as well as sulphuric acid) may be *vitriolic*, a man may be *electrified* into action, and people may claim to be *allergic* to all sorts of things and conditions. The word *atomic*, whose meaning is quite clear to the scientist, may conjure up in the public mind a picture of wide spread destruction or of unlimited power.

In addition to precision of meaning and freedom from associations, most scientific words have a third quality: by their form and structure they reveal something of their meanings. Many scientific words are logically built up from simpler word-elements (usually of Greek or Latin origin) and the general meaning of the whole can be inferred from an understanding of the parts. Some terms, in fact, are self-explanatory if the Latin and Greek roots are known; they have only to be 'translated' for their meanings to become apparent.

Thus a *quadrilateral* is clearly a four-sided figure, *entomology* is the study of insects, *gastrectomy* is the cutting out of the stomach (or part of it). In the case of a large number of words the full or precise meaning may not be directly disclosed but the general meaning is apparent and the word is seen to 'make sense'. Thus *cyanosis* indicates a state (possibly a morbid state) of blueness; it is a sensible word to use to denote the blue condition of the skin which results from insufficient oxygen in the blood. A *xerophyte* (literally 'a dry plant') is one which is adapted for living in very dry conditions; a *hydrophyte* is one which lives on the surface of, or submerged in, water. A *polymer* consists of 'many parts'; the term is an appropriate one for a giant molecule which is built up from a large number of simple units.

In a similar way, many chemical names are essentially descriptions of the compounds which they denote. Thus whereas the common name *aniline* for a certain oil discloses nothing about the nature of the compound (except, perhaps, that it is vaguely related to indigo), the chemical name *aminobenzene* immediately indicates the molecular composition and structure.

Scientific language, to be efficient, must be universally intelligible. The classical languages, Latin and Greek, are so fundamental to the civilised world that words constructed from elements of these languages are readily understood the world over. (Even if scientists know little of the classical languages, they can easily learn to 'translate' the scientific terms which they may meet.) Most scientific terms are effectively international.

Sources of Scientific Words

Scientific words in English may conveniently be divided, from the standpoint of their origins, into three groups:

- a. those taken from the ordinary English vocabulary;
- b. those taken virtually unchanged from another language;
- c. those which have been invented.

The third group is by far the largest.

Just as the cricketer has taken certain everyday words, such as *run*, *over*, *maiden*, from the general English vocabulary and given them specialised meanings within the context of his game, so the scientist has occasionally taken ordinary English words and endowed them with specialised meanings. *Energy*, *work*, *power*, *salt*, *base*, *fruit* are examples of such words. They are unsatisfactory as scientific terms because they lack the essential qualities which we have described. Although the scientist may give them precise meanings, they are liable to be interpreted more loosely (or even differently) by the non-scientist.

They are not free from irrelevant associations; they reveal little of their meanings by their forms; and usually, they are not understood outside the English-speaking countries. There are not many words of this kind but, unfortunately, most of them stand for concepts of fundamental importance.

The English language contains a number of words which have been taken from another language with little or no change of spelling. Amongst them are *caf*, *morgue*, *souvenir*, *trek*, *marmalade* and *agenda*. Practically all the scientific words of this kind have been taken from Latin or Greek. As examples of Latin words we may note *axis*, *fulcrum*, *larva*, *radius*, *locus*, *nimbus*, *cortex*. Many parts of the human body, e.g., *cerebrum*, *pelvis*, *cornea*, have Latin names. There are fewer unaltered Greek words — *thorax*, *stigma*, *iris*, *helix* are examples — but it should be noted that many terms adopted in Latin form, e.g., *trachea*, *bronchus*, *phylum*, were themselves based on Greek. Many of the Greek or Latin terms have retained their original meanings but in some cases the meanings have been restricted and rendered more precise.

The largest group of scientific words is those which have been invented. The advance of science during the last few centuries has been so rapid and so extensive that no language has been capable of providing, ready-made, all the words which were required. Further, the classical languages do not contain words appropriate to modern discoveries, inventions and concepts. (There is no Latin word, for example, for photography!) Hence the scientist has had to invent new words for his own purposes.

It is very rare for a scientist to make up a word 'out of his head'; the term *ester* for a compound formed by the interaction of an alcohol and an organic acid was perhaps such an invention. A small but interesting group of terms comprises those based on proper names. In the naming of the chemical elements recourse has been made to the names of places (as in *polonium*, *ytterbium*), of gods and goddesses (as in *thorium*, *vanadium*), of planets and asteroids (as in *uranium*, *cerium*), and of scientists themselves (as in *curium*, *gadolinium*). Scientists' names have also been used to provide the names of units (e.g., *watt*, *volt*, *gauss*, *joule*) and hence the names of measuring instruments (e.g., *voltmeter*). Among the other terms based on the names of scientists are *daltonism*, *nicotine*, *bakelite* and *mendelism*. A number of plants, e.g., *fuchsia*, *dahlia* are named after botanists.

In his task of inventing new terms, however, the scientist has usually turned to the classical languages for his raw material. He has taken 'bits and pieces' — roots, prefixes, suffixes — from these languages and joined them together to form the terms he needed. Thus, when he needed a general name for animals such as snails and slugs which apparently walk on their stomachs, he took the Greek roots *gast(e)ro-* (stomach) and *-pod* (foot) and formed the new word *gastropod*. When he wanted a word to describe a speed greater than that of sound he took the Latin prefix *super-* (above, beyond) and the Latin root *son-* (sound) and coined the adjective *supersonic*. Thousands of scientific words have been built up from classical word-elements in this way.

It may be asked why the scientist should have turned to the classical languages for the words and word-elements which he needed. By turning to a language other than his own he was certainly able to find words and elements which were distinct from those of ordinary speech but he turned to the classical languages for an important historical reason. The fifteenth and sixteenth centuries witnessed that great revival of classical learning which is commonly called the Renaissance. Latin was regarded as the universal language of scholarship; it was the 'perfect' language of philosophy, theology and science. This classical tradition persisted into the seventeenth century – both Harvey and Newton wrote their great works in Latin – and it was not until towards the end of that century that English was fully accepted as an adequate and suitable language for a scholarly exposition of science.

During this period many Latin words were taken into the scientific vocabulary and many new words were constructed (chiefly in the form of Latin words) from classical elements. The tradition of using the classical languages as a source of scientific words remains.

Greek was not used in the same way as a medium of expression but it was held in respect as the language of the people who at one time led the world in art, science and philosophy. Moreover, it provided a particularly suitable basis for scientific language. It had been developed by a long line of philosophers as a medium for accurate expression and its elements were such that derivatives and compounds were readily formed. The scientists therefore mainly went to the Greek for the new terms which they needed (though, as has been pointed out, the terms were at one time often framed in Latin form). Greek is still the source of most of the new terms of science and more than half of the words of the great vocabulary of science are ultimately of Greek origin.

[6]

Section 2. Modern Science: How Does It Work?

LEAD-IN

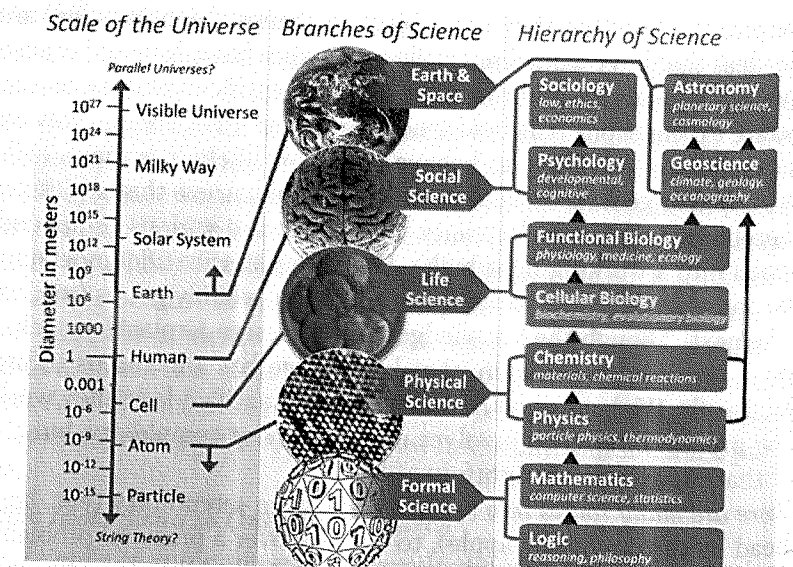
Exercise 1. Decide which of the following makes science science. Explain your choice.

Science...

- | | |
|----------------------------------|--------------------------|
| a) relies on evidence; | d) uses testable ideas; |
| b) leads to ongoing research; | e) discovers facts; |
| c) focuses on the natural world; | f) explains the reality. |

Exercise 2. Examine the chart below showing how the scale of universe is mapped to the branches of science and the hierarchy of science. Explain the connections and interrelations.

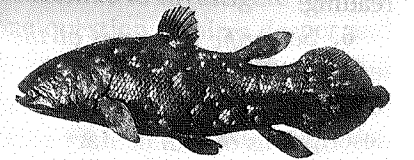
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READING

How Does Science Work?

1. Science as a collective institution aims to produce more and more accurate natural explanations of how the natural world works, what its components are, and how the world got to be the way it is now. Classically, science's main goal has been building knowledge and understanding, regardless of its potential applications – for example, investigating the chemical reactions that an organic compound undergoes in order to learn about its structure. However, increasingly, scientific research is undertaken with the explicit goal of solving a problem or developing a technology, and along the path to that goal, new knowledge and explanations are constructed. For example, a chemist might try to produce an antimalarial drug synthetically and in the process, discover new methods of forming bonds that can be applied to making other chemicals. Either way (so-called 'pure' or 'applied' research), science aims to increase our understanding of how the natural world works.



2. The knowledge that is built by science is always open to question and revision. No scientific idea is ever once-and-for-all 'proved'. Why not? Well, science is constantly seeking new evidence, which could reveal problems with our current understandings. Ideas that we fully accept today may be rejected or modified in light of new evidence discovered tomorrow. For example, up until 1938, paleontologists accepted the idea that coelacanths (an ancient fish) went extinct at the time that they last appear in the fossil record – about 80 million years ago. But that year, a live coelacanth was discovered off the coast of South Africa, causing scientists to revise their ideas and begin to investigate how this animal survives in the deep sea.

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3. Despite the fact that they are subject to change, scientific ideas are reliable. The ideas that have gained scientific acceptance have done so because they are supported by many lines of evidence. These scientific explanations continually generate expectations that hold true, allowing us to figure out how entities in the natural world are likely to behave (e.g., how likely it is that a child will inherit a particular genetic disease) and how we can harness that understanding to solve problems (e.g., how electricity, wire, glass, and various compounds can be fashioned into a working light bulb). For example, scientific understandings of motion and gases allow us to build airplanes that reliably get us from one airport to the next. Though the knowledge used to design airplanes is technically provisional, time and time again, that knowledge has allowed us to produce airplanes that fly. We have good reason to trust scientific ideas: they work!

4. The process of science involves many *layers* of complexity, but the key points of that process are straightforward:

5. *There are many routes into the process* — from serendipity (e.g., being hit on the head by the proverbial apple), to concern over a practical problem (e.g., finding a new treatment for diabetes), to a technological development (e.g., the launch of a more advanced telescope) — and scientists often begin an investigation by plain old poking around: tinkering, brainstorming, trying to make some new observations, chatting with colleagues about an idea, or doing some reading.

6. *Scientific testing is at the heart of the process.* In science, all ideas are tested with evidence from the natural world, which may take many different forms — from Antarctic ice cores, to particle accelerator experiments, to detailed descriptions of sedimentary rock layers. You can't move through the process of science without examining how that evidence reflects on your ideas about how the world works — even if that means giving up a favourite hypothesis.

7. *The scientific community helps ensure science's accuracy.* Members of the scientific community (i.e., researchers, technicians, educators, and students, to name a few) play many roles in the process of science, but are especially important in generating ideas, scrutinizing ideas, and weighing the evidence for and against them. Through the action of this community, science is self-correcting. For example, in the 1990s, John Christy and Roy Spencer reported that temperature measurements taken by satellite, instead of from the Earth's surface, seemed to indicate that the Earth was cooling, not warming. However, other researchers soon pointed out that those measurements didn't correct for the fact that satellites slowly lose altitude as they orbit and that once these corrections are made, the satellite measurements were much more consistent with the warming trend observed at the surface. Christy and Spencer immediately acknowledged the need for that correction.

8. *The process of science is intertwined with society.* The process of science both influences society (e.g., investigations of X-rays leading to the development of CT scanners) and is influenced by society (e.g., a society's concern about the spread of HIV leading to studies of the molecular interactions within the immune system).

Science Relies on Evidence

9. Ultimately, scientific ideas must not only be testable, but must actually be tested — preferably with many different lines of evidence by many different people. This characteristic is at the heart of all science. Scientists actively seek evidence to test their ideas — even if the test is difficult and means, for example, spending years working on a single experiment, travelling to Antarctica to measure carbon dioxide levels in an ice core, or collecting DNA samples from thousands of volunteers all over the world. Performing such tests is so important to science because in science, the acceptance or rejection of a scientific idea depends upon the evidence relevant to it — not upon dogma, popular opinion, or tradition. In science, ideas that are not supported by evidence are ultimately rejected. And ideas that are protected from testing or are only allowed to be tested by one group with a vested interest in the outcome are not a part of good science.

Scientific Ideas Lead to Ongoing Research

10. Science is an ongoing endeavor. It did not end with the most recent edition of your college physics textbook and will not end even once we know the answers to big questions, such as how our 20,000 genes interact to build a human being or what dark matter is. So long as there are unexplored and unexplained parts of the natural world, science will continue to investigate them.

11. Most typically in science, answering one question inspires deeper and more detailed questions for further research. Similarly, coming up with a fruitful idea to explain a previously anomalous observation frequently leads to new expectations and areas of research. So, in a sense, the more we know, the more we know what we don't yet know. As our knowledge expands, so too does our awareness of what we don't yet understand. For example, James Watson and Francis Crick's proposal that DNA takes the form of a double helix helped answer a burning question in biology about the chemical structure of DNA. And while it helped answer one question, it also generated new expectations (e.g., that DNA is copied via base pairing), raised many new questions (e.g., how does DNA store information?), and contributed to whole new fields of research (e.g., genetic engineering). Like Watson and Crick's work, most scientific research generates new expectations, inspires new questions, and leads to new discoveries.

[7]

ACTIVITIES

Exercise 1. Read the following words from the text. Check pronunciation of these words with the dictionary.

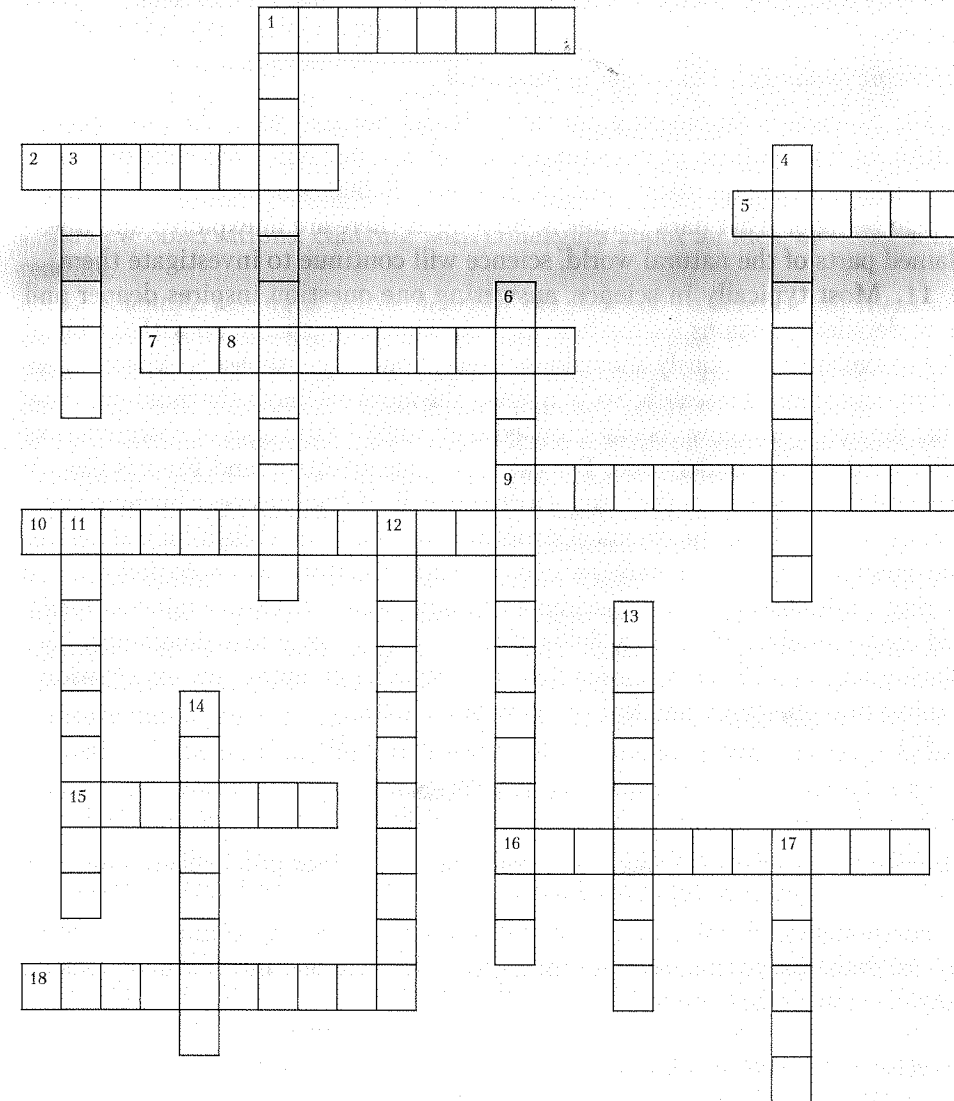
components, chemical, chemist, technology, to accept, to inherit, various, layers, diabetes, to ensure, hypothesis, to acknowledge, intertwined, society, dogma, anomalous, endeavor

Exercise 2. Answer the following questions.

1) What are the main goals of science?

- 2) What is a typical scientific process? What are the stages of a typical scientific process?
- 3) What is scientific testing?
- 4) Who are the members of the scientific community?
- 5) What are the characteristics of pure scientific knowledge?
- 6) How does science receive evidence?
- 7) What is the difference between pure scientific knowledge and alternative knowledge (life experience, horoscopes, extra sensitive knowledge, etc.)?
- 8) Describe the way science works.
- 9) What is dogma? Give some examples.

Exercise 3. Scan through the text (paragraphs 1-11) and find words which can help you do the crossword.



Across

1. modern and well developed /adj/ (para 5)
2. producing good results /adj/ (para 11)
5. to change something such as a plan, opinion, law, or way of behaviour slightly, usually to improve it or make it more acceptable /v/ (para 2)
7. the fact of finding interesting or valuable things by chance /n/ (para 5)
9. more and more /adv/ (para 1)
10. an activity or business method in which a group of people meet to suggest a lot of new ideas for possible development /n/ (para 5)
15. to make someone have a particular strong feeling or reaction /v/ (para 11)
16. to accept, admit, or recognize something, or the truth or existence of something /v/ (para 7)
18. always behaving or happening in a similar, especially positive, way /adj/ (para 7)

Down

1. correct, exact, and without any mistakes /adj/ (para 1)
3. to make known or show something that is surprising or that was previously secret /v/ (para 2)
4. the state of having many parts and being difficult to understand or find an answer to /n/ (para 4)
6. easy to understand or simple /adj/ (para 4)
8. to look at or consider again an idea, piece of writing, etc. in order to correct or improve it /v/ (para 2)
11. the act of refusing to accept, use, or believe someone or something /n/ (para 9)
12. the size, shape, quality, etc. of something, which you discover by measuring it /n/ (para 7)
13. a part that combines with other parts to form something bigger /n/ (para 1)
14. clear and exact /adj/ (para 1)
17. to make something certain to happen /v/ (para 7)

Exercise 4. Use the words from Exercise 3 to fill in the gaps. Remember to change the form of the word.

1. Sweden has a reputation for _____ and stylish design.
2. The report _____ (that) the company made a loss of £20 million last year.
3. We found it cheaper to _____ existing equipment rather than buy new.
4. The research has proved extremely _____.
5. The government may need to _____ its policy in the light of this report.
6. Her proposal met with unanimous _____.
7. As a chief, he _____ great loyalty in his employees.
8. On Thursday, participants broke into groups for _____ sessions on education.

9. We must be _____ in applying the rules.
10. Scientists have found a more _____ way of dating cave paintings.
11. I was astonished by the size and _____ of the problem.
12. Trust is a vital _____ in any relationship.
13. The government won't even _____ the existence of the problem.
14. The airline is taking steps to _____ safety on its aircraft.
15. He explained in a quite _____ way that there wasn't enough work for us all.
16. Accurate _____ is very important in science.
17. It is becoming _____ clear that this problem will not be easily solved.
18. Reading should be an adventure, a personal experience full of _____ and surprise.

Exercise 5. Match the word with its definition.

- | | |
|--------------------|---|
| 1. accept | A. To examine something very carefully in order to discover information |
| 2. applied science | B. A scientific test that involves manipulating some factor or factors in a system in order to see how those changes affect the outcome or behavior of the system. Experiments are important in science, but they are not the only way to test scientific ideas. |
| 3. endeavor | C. A detailed study of a subject, especially in order to discover (new) information or reach a (new) understanding |
| 4. experiment | D. Research undertaken with the explicit goal of solving a problem or developing a technology. The boundary between pure and applied science is fuzzy. Research undertaken in the pure pursuit of knowledge often ends up having useful applications, and research begun with an application in mind often ends up informing our understanding of the natural world more broadly. |
| 5. hypothesis | E. A proposed explanation for a fairly narrow set of phenomena, usually based on prior experience, scientific background knowledge, preliminary observations, and logic. |
| 6. pure science | F. Research undertaken to build knowledge and understanding, regardless of its potential applications. The boundary between pure and applied science is fuzzy. Research undertaken in the pure pursuit of knowledge often ends up having useful applications, and research begun with an application in mind often ends up informing our understanding of the natural world more broadly. |
| 7. research | G. An attempt to do something |
| 8. scrutinize | H. To take as the best explanation based on the evidence. In the scientific community, an idea is generally accepted when it is supported by many lines of evidence and meets other criteria (e.g., consistency with well-established ideas in related fields). |

Exercise 6. Complete the text with the sentences below.

Young People Migrate to Cities with Good Reputation

The opportunity to find an interesting and well-paid job, a comfortable socio-cultural environment, and friendly and professional contacts in the new location are all essential factors for graduates of universities from Russian regions who are planning to move to another city.

The economic advantages of moving to another city, such as higher living standards and the opportunity to find a well-paid job, are crucial, but they are not the only attractive factors for graduates of regional universities. Other two conditions that 1___ are social and psychological comfort (security and tolerance in the new community) and the city's cultural atmosphere. These findings were presented by **Saida Ziganurova** in her paper 'Graduates of regional universities as a migration potential: motives and the choice of destination' at the National Research Conference in Memory of Yury Levada 'Contemporary Russian society and sociology', which took place at HSE.

The study was based on the data of a survey among senior students in 2013 collected as part of the HSE Institute for Social Development Studies Centre of Migration Policy project. Undergraduate and master's students from five regional centres, Kaliningrad, Kemerovo, Perm, Rostov-on-Don, and Ufa, were surveyed. The sample included 1658 respondents.

Findings of the research

1. A quarter of respondents is planning to move

Migration plans were detected by the following question: 'Where are you going to live after graduation?' Exactly a half of the respondents declared that 2___. About a quarter (23%) of graduates are planning to move. Of them, 14% are going to move to another Russian city, and 9% — abroad.

There are no significant differences in terms of gender or type of education (state-funded or fee-paying) between the 'settled' and 'mobile' young professionals. Previous experience of migration is an important factor: there are more students planning to move among those students who 3_____.

Return migration (the flow of those who 4___) is lowest in Perm. There are substantially more potential migrants, including return migrants, in Ufa. At the same time, the share of those planning to move to another country is the lowest in Ufa. This means that Ufa accumulates the biggest pool of internal mobility among the surveyed cities.

2. Cities are attractive due to living standards and cultural associations

Key motives for the move were detected by means of the following question: 'Why are you going to move to this specific city/country?' The respondents could choose no more than three reasons. The following answers were in the top three: 'I can find an interesting job there' (32%), 'I can expect a good salary there' (32%), 'It is my dream city' (21%).

It's interesting that the motivation 'There is a demand for professionals in my field' is not very popular (about 12%). This means that 5_____.

To conclude, the key motivation factors for the move are often economic, but at the same time, the image of the city and related socio-cultural associations are also important.

3. *The power of atmosphere*

Factor analysis allowed the researcher to evaluate the locations' attractiveness for potential migrants.

The first detected factor is again related to socio-economic conditions in the city, such as job, salary, living standards, as well as cultural environment and tolerance (this factor makes the biggest impact on general variance – 33%). It's interesting that 6 ___ co-exist in one factor. According to the researcher, this is a sign of 'integrated' reputation of the destination city, its wealth in a broader sense. There is general perception of potential destinations, based on socio-economic and cultural characteristics.

The second factor is related to security and satisfactory conditions both in terms of ecology and social environment. The researcher defines this factor as 'comfort' (23%).

The third factor is associated with social capital (16%) – presence of friends, family and professional contacts, which facilitate the adaptation in the new city.

4. *Two capitals as dream cities*

Those who are going to move to Moscow choose this city for good salary and marriage opportunities and also evaluate their professional contacts as good ones. In other words, the choice of Moscow is determined by career or family plans.

'The choice of St. Petersburg is related to this city's image as a safe and tolerant one,' Ziganurova noticed, 'And the motivation for the choice of this city is unclear – this is a "dream city".'

The researcher concludes that 7 ___, while St. Petersburg is perceived as a comfortable city. Such attitudes are in line with existing stereotypes about these cities, Ziganurova believes.

Graduates on the move are mainly driven by economic motivation, but socio-cultural reputation of the city, its atmosphere and lifestyle are also important, the scholar concluded.

[8]

- A. have already moved from their hometown in order to study
- B. add to young professionals' positive impressions of the new location
- C. an interesting job is a priority, and not necessarily connected to the area of study
- D. they were going to stay in the same city where they had studied
- E. Moscow is seen as a city to pursue career plans
- F. are going to move back to their home city
- G. these varied characteristics of the potential migration destination

SPEAKING

Exercise 7. Try your hand at telling explanatory stories. The following exercises all describe curious things. See if you can come up with one or two explanations for each. Keep in mind: your explanation need not be true but it must be such that it would explain the phenomenon in question if it were true.

1. A survey done recently revealed that whereas 10% of all 20-year-olds are left-handed, only about 2% of all 75-year-olds are left-handed.

2. Have you ever noticed that baseball players tend to be quite superstitious? Batters and pitchers alike often run through a series of quite bizarre gestures before every pitch.

3. Americans have a serious weight problem. In the last decade, both the number of Americans who are overweight and those who are clinically obese has increased by more than 10%. The increase over the last two decades for both groups is nearly 20%.

4. Why have so many Americans switched from driving sedans to sports utility vehicles and trucks in the last few years?

5. Tall women are more likely to have twins or triplets, according to a recent study in which the average height of 129 women who gave birth to identical or fraternal twins or triplets turned out to be more than an inch greater than the average for all women.

Exercise 8. The two articles below explain curious phenomena: (1) Why are almost all cabs in Manhattan in New York yellow, while most cabs in other towns are in a variety of colours? and (2) Why have top earners' salaries been growing so much faster than everyone else's?

Work with the partner:

Student A scans through Article 1 and finds the answer to the question: *Why are almost all cabs in Manhattan in New York yellow?*

Student B scans through Article 2 and answers the question: *Why have top earners' salaries been growing so much faster than everyone else's?*

Then explain each other what lies behind each phenomenon.

ARTICLE 1

Why Are Almost All Cabs in Manhattan in New York Yellow, while Most Cabs in Other Towns Are in a Variety of Colours?

Gaze down onto 34th Street from atop the Empire State Building in Manhattan in New York and you may think that 70 per cent of all vehicles on the road are bright yellow saloons. Apart from an occasional Lotus or Lamborghini, virtually all of these yellow vehicles are taxis, most of them Ford saloons. In small towns across the world, none of the taxis are yellow and almost all of them are MPVs. Why this difference?

Although it is possible to summon a taxi by phone in Manhattan, it is far more common to hail one as it cruises by. It is therefore advantageous for taxis

to be as visible as possible. Research has shown that bright yellow is the best colour for this purpose. (Red was once thought to be the most visible colour, which is why fire engines used to be painted red. But many fire departments in the US have now begun painting their engines yellow.)

In Manhattan, the typical occupied taxi carries only a single passenger, and a taxi driver would rarely benefit by being able to carry more than four. New York taxi drivers are thus more likely to find saloons attractive because they are cheaper than MPVs and can easily accommodate most demands.

The pattern of taxi demand is different in the average small town. Owning a car is much cheaper than in Manhattan, where parking alone can cost more than £240 a month, so most people own one. Since there are relatively few people in small towns who rely on taxis, it is uneconomical for taxis to cruise the streets. Instead, people summon one by phone. Taxi drivers in small towns thus see little advantage in painting their vehicles yellow.

Someone might object that taxis in New York are yellow because city regulators require all cruising taxis to be that colour. It's true, but this objection resembles my angry correspondent's objection that Braille dots are on the key-pads of drive-up cash-point machines because regulations require them. When taxi regulators adopted the colour rule in the wake of industry scandals, their goal was to provide an easy means for passengers to identify legally licensed, regulated taxis. They chose yellow because that was the predominant colour of taxis at the time. The hypothesis that taxis are yellow because of the colour's high visibility provides a plausible account of why most taxis were yellow before the regulation was adopted.

Small-town taxi drivers favour MPVs over saloons because passengers there commonly travel in groups. Students and others who don't own cars in small towns tend to have low incomes and thus find it attractive to economise by sharing taxis. For example, while the typical La Guardia airport taxi ferries only a single passenger into New York, the typical local airport taxi carries a group of four or more.

[9]

ARTICLE 2

Why Have Top Earners' Salaries Been Growing so Much Faster than Everyone Else's?

During the three decades following the Second World War, incomes grew at almost the same rate — just under 3 per cent annually — for people up and down the income ladder. Since then, however, most income gains have gone to those at the top. Thus, although the median wage is about the same now, in purchasing power terms, as in 1975, the top 1 per cent of earners now make roughly three times as much as they did then. Higher up, the gains have been even larger. Chief executives of the largest American corporations, for example, now earn more than five hundred times as much as the average worker in the US, up from forty-two times as much in 1980. In the UK, executives have seen a salary rise of 92 per cent over the last nine years, but average workers' wages have only risen in line with inflation. Why this shift?

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Although many factors are involved, one in particular stands out — the rapid acceleration of technological changes that increase the leverage of the most able individuals.

Modern information technologies, together with lower transportation costs and tariff barriers, have increased the scope of markets. A tyre company once could have survived by being the best manufacturer in the country but today must be among a handful of the most efficient producers worldwide. With markets so much broader in scope and so much more competitive than in the past, small differences in the quality of executive decisions now translate into much bigger differences in corporate earnings.

Greater leverage and competition, of course, do not explain all increases in executive pay. As the Enron example made clear, some executives have relied on accounting fraud to increase their wealth. But studies suggest that salary gains at the top have occurred primarily because executive decisions have become much more important to the bottom line.

In product markets, the price of a good depends on its attributes. A high-definition TV, for example, commands a higher price than a conventional one. The same is true in labour markets, where the wage associated with a given job will depend on its characteristics. What economists call the theory of compensating wage differentials was originally advanced by Adam Smith in the *Wealth of Nations*.

The whole of the advantages and disadvantages of the different employments of labour and stock, must, in the same neighbourhood, be either perfectly equal, or continually tending to equality. If, in the same neighbourhood, there was any employment evidently either more or less advantageous than the rest, so many people would crowd into it in the one case, and so many would desert it in the other, that its advantages would soon return to the level of other employments.

Every man's interest would prompt him to seek the advantageous, and to shun the disadvantageous employment.

[9]

WRITING

NOTE MAKING FROM WRITTEN TEXTS

Note taking and *note making* are different academic skills.

Note taking is the practice of recording information captured from another source. By taking notes, the writer records the essence of the information, freeing their mind from having to recall everything. Notes are commonly drawn from a transient source, such as an oral discussion at a meeting, or a lecture, in which case the notes may be the only record of the event.

Note making is the practice of recording, analysing and commenting on written texts. Notes are commonly taken from articles, research papers, books. As a student, it is essential to develop effective note-making skills to ensure that you get the most out of the time that you spend reading.

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HOW TO ORGANISE EFFECTIVE NOTES FOR ACADEMIC WRITING

The *split-page method*, which explanation follows, may be a useful strategy to help you organise your notes and assist you to develop skills that are so essential for successful academic study.

1. *Bibliographic details of the source*

Make sure that you note down the appropriate bibliographic details. They may include the surname and initial of the author or editor, the title of the book/article, the title of the journal, the publisher, the place of publication, the page numbers of the article, website details, including the URL, etc.

2. *Page layout*

Divide your page into 3 columns.

The first column should be for your notes based on the reading. This section may include paraphrased information from the original text (paraphrasing means to rewrite somebody else's ideas in your own words); or direct quotes. Ultimately, most of your notemaking should paraphrase or summarise the key ideas of the author(s). Use direct quotes sparingly in assignments and only in situations where they seem to be the most appropriate way of expressing something.

The second column is used for the page number on which you have found a particular piece of information. This is essential for two reasons. Firstly, when directly quoting you must acknowledge the page number(s) on which you located information. Secondly, if you need to clarify your notes, you need to be able to quickly locate the information.

The third column is used for your comments on the text. Your comments are vital because they can give context – how you see this information in relation to your own ideas – or be simple notes clarifying why you thought an idea was useful. You can acknowledge similarities and differences with other authors, or identify where your knowledge needs further developing. This is the section that encourages you to think critically about the text, to question what the author is saying and to examine the strengths and weaknesses of the author's ideas.

Exercise 9. Use *split-page method* for making notes of the following text.

Decreased Consumption of Vodka Likely to Extend Life Expectancy for Men

Russia has a significant life expectancy gap between men and women; one of the key reasons why Russian men die earlier is excessive consumption of alcohol, particularly vodka.

In recent decades, however, vodka has become less popular among younger Russians who now tend to prefer beer.

Evgeny Yakovlev and **Lorenz Kueng** examined male alcohol consumption trends in the USSR and modern Russia and found that a decrease in vodka consumption may cause the country's male mortality to drop by a third over the next two decades, even if public policies concerning alcohol availability remain the same.

The researchers reviewed data from the HSE's Russia Longitudinal Monitoring Survey (RLMS-HSE) and presented their findings at the RLMS-HSE international conference hosted by the HSE and also published them in the latest preprint 'How Persistent Are Consumption Habits?'

A Gender Gap: the Russian Style

Between 2000 and 2009, the average male life expectancy in Russia stood at 60 years; 15 years less than in the U.S., seven years less than in Bangladesh, and four years less than in North Korea. Russia also has the biggest difference in life expectancy between men and women – the latter outlive men by 13 years on average (data for the same period of 2000 to 2009). In the three countries featured here for comparison, male and female life expectancies are much closer, the difference being seven years in the U.S. and North Korea and just one year in Bangladesh.

It is well known that alcohol consumption contributes significantly to male mortality in Russia: according to research, some 40% of all deaths each year are associated with alcohol, not just the fatal health consequences of alcoholism such as alcohol poisoning, liver cirrhosis, etc., which account for just 7% of all deaths; in addition, more than 30% of deaths are caused by road accidents, violent crimes and other occurrences resulting from alcohol consumption.

Alcohol Consumption Preferences

However, Yakovlev and Kueng expect male deaths from alcohol to decline in Russia, due to changes in alcohol consumption patterns over the past few decades. While the choice of alcoholic beverages, including *samogon* and other home brews, was extremely limited in the USSR and particularly during Gorbachev's anti-alcohol campaign, since then the situation has changed dramatically and multiple varieties of elite alcohol, wine and beer have become available, replacing vodka as the alcoholic drink of choice.

Yakovlev and Kueng have examined how alcohol consumption preferences changed between the Soviet times and post-Soviet period. Most Russian men born in the 60s and earlier who lived their formative years in the Soviet Union continue to prefer vodka. According to Yakovlev and Kueng, vodka lovers from this age cohort account for more than 60% of all male consumers of alcohol in Russia. In contrast, younger generations are less likely to prefer vodka – just 48% of men born in the 70s and even fewer born in the 80s and 90s – 32% and 19%, respectively. Beer consumption for the same age groups stands at 20%, 36%, 56% and 68%, respectively.

A Healthier Alternative?

Traditionally, vodka is considered more dangerous than beer, and not only because it can be of questionable quality. Studies show that alcohol poisoning usually results from excessive consumption rather than poor quality of alcohol, and that vodka lovers are more likely to drink excessively.

Thus, men who prefer beer have a lower risk of dying – a hypothesis confirmed by regression analysis, according to Yakovlev, who notes higher mortality rates in vodka consumers of the same age.

The researchers conclude, optimistically, that even if the current alcohol prices and alcohol-related policies remain the same, male mortality in Russia may decrease by a third over the next two decades as vodka continues to lose popularity.

Even though in his earlier reports, Yakovlev suggested that measures such as raising the price of vodka and keeping the price of beer relatively low could help reduce male mortality, this issue is complicated considering the dangers of beer alcoholism and excessive alcohol consumption among marginalised populations. In addition to this, studies confirm that cheap counterfeit alcohol continues to be consumed in Russia, and raising the price of vodka may cause less educated and poorer consumers to switch to counterfeit liquor rather than beer.

[10]

VOCABULARY

Exercise 10. Study the difference between the two words. Do tasks.

EXPAND	EXPEND
1. To become large in size, number, or amount, or to make something become larger: <i>Water expands as it freezes.</i> 2. If a company, business, etc. expands, or if something expands it, they open new shops, factories, etc.: <i>The computer industry has expanded greatly over the last decade.</i>	To use or spend a lot of energy, etc. in order to do something: <i>People of different ages expend different amounts of money.</i>

A. Fill in the gap with the correct word: *expand* or *expend*. Remember to change the form of the verb.

- The new system the role of family doctors.
- She all her efforts on the care of home and children.
- Smith large sums in pursuing his claim through the court.
- Most animals a lot of energy searching for food.
- Metals when they are heated.
- Student numbers rapidly.
- A child's vocabulary through reading.
- There are no plans the local airport.
- We the business by opening two more stores.
- The waist to fit all sizes.

INFER	IMPLY
To form an opinion that something is probably true because of information that you have: <i>A lot can be inferred from these statistics.</i>	1. To suggest that something is true: <i>Cleo blushed. She had not meant to imply that he was lying.</i> 2. If a fact, event, etc. implies something, it shows that it is likely to be true: <i>The high level of radiation in the rocks implies that they are volcanic in origin.</i>

B. Fill in the gap with the correct word: *infer* or *imply*. Remember to change the form of the verb.

- I disliked the criticism in his voice.
- His silence seemed agreement.
- Much of the meaning must from the context.
- It that we were at fault.
- The survey more people are moving house than was thought.
- The fact that she was here a degree of interest.
- It is reasonable that the government knew about these deals.
- The project an enormous investment in training.
- Sustainable development a long-term perspective.
- Readers are left the killer's motives.

Exercise 11. Use the words from the box to fill in the gaps.

reasoning; natural laws; observation; experimentation; practitioner; scientific method; research; discovery; inquiry; laboratory; objectivity

Essence of Science

Science – systematic effort of acquiring knowledge – through 1..... and 2..... coupled with logic and reasoning to find out what can be proved or not proved – and the knowledge thus acquired. The word 'science' comes from the Latin word 'scientia' meaning knowledge. A 3..... of science is called a 'scientist'. Modern science respects objective logical 4....., and follows a set of core procedures or rules in order to determine the nature and underlying 5..... of the universe and everything in it. Some scientists do not know of the rules themselves, but follow them through research policies. These procedures are known as 6.....

Basic concepts of science

- 7..... – systematic investigation into existing or new knowledge.
- Scientific 8..... – observation of new phenomena, new actions, or new events and providing new reasoning to explain the knowledge gathered through such observations with previously acquired knowledge from abstract thought and everyday experiences.
- 9..... – facility that provides controlled conditions in which scientific research, experiments, and measurement may be performed.

- 10..... – the idea that scientists, in attempting to uncover truths about the natural world, must aspire to eliminate personal or cognitive biases, a priori commitments, emotional involvement, etc.
- 11..... – any process that has the aim of augmenting knowledge, resolving doubt, or solving a problem.

Exercise 12. Match the branch of science with its description.

Branches of science are divisions within science with respect to the entity or system concerned, which typically embodies its own terminology.

Description	Branch
_____ – major branch of science, that tries to explain and predict nature's phenomena, based on empirical evidence. Here hypotheses must be verified scientifically to be regarded as scientific theory. Validity, accuracy, and social mechanisms ensuring quality control, such as peer review and repeatability of findings, are amongst the criteria and methods used for this purpose.	Social science
_____ – branches of knowledge that are concerned with systems, such as: logic, mathematics, theoretical computer science, information theory, game theory, systems theory, decision theory, statistics, and some aspects of linguistics. Unlike other sciences, it is not concerned with the validity of theories based on observations in the real world, but instead with the properties of systems based on definitions and rules.	Formal science
_____ – study of the social world constructed between humans. It usually limits itself to an anthropomorphic centric view of these interactions with minimal emphasis on the inadvertent impact of social human behavior on the external environment (physical, biological, ecological, etc.).	Applied science
_____ – branch of science that applies existing scientific knowledge to develop more practical applications, including inventions and other technological advancements.	Natural science

GRAMMAR

NOUNS: PLURALS, COUNTABLE, UNCOUNTABLE

Exercise 13. VERB AGREEMENT. Underline the correct verb.

1. Of these preprints, more than a half *deals / deal* with this problem.
2. A number of authors *has / have* argued that...
3. The number of issues per year *is / are* reported in Table 5.
4. The majority of papers only *covers / cover* social issues.
5. This group of tables *contains / contain* all the relevant results.
6. Nine kilos *is / are* enough to ensure a good performance.
7. Two thousand dollars *is / are* required.

8. People *is / are* cognitively more complex than animals.
9. The police *is / are* present in heavy numbers.
10. Fourty per cent *is / are* certainly a high rate.
11. A variety of publications *has / have* investigated this business sector.
12. None of the tools *work / works*.
13. There *is / are* a laboratory and a staff room.
14. Both clinical and neuropathological evidence *shows / show* that these symptoms are...

Exercise 14. The following sentences contain mistakes regarding uncountable nouns that have mistakenly been used as if they were countable. Identify the mistakes and correct them.

1. Many informations on the structure and function are being gathered.
2. This causes many traffics on the network.
3. There are few knowledge about the best way to do this.
4. These researches have achieved many progresses in this field.
5. I owe you ten dollar, I will give you them on Monday.
6. All patients gave a written consent to the tests.
7. Such feedbacks are crucial when analyzing the problem.
8. The time depends on the efficiency of each equipment and the number of equipments.
9. Several software packages were developed with many attentions to eradicating all bugs. However, in several situations, the results obtained from these softwares are still erroneous.
10. Special hardwares are required in some situations.

STUDY SKILLS

MIND MAPPING

A mind map is a diagram used to visually organize information. A mind map is often created around a single concept, drawn as an image in the center of a blank landscape page, to which associated representations of ideas such as images, words and parts of words are added. Major ideas are connected directly to the central concept, and other ideas branch out from those.

Mind Mapping Guidelines

1. Start in the center with an image of the topic, using at least 3 colors.
2. Use images, symbols, codes, and dimensions throughout your mind map.
3. Select key words and print using upper or lower case letters.
4. Each word/image is best alone and sitting on its own line.
5. The lines should be connected, starting from the central image. The lines become thinner as they radiate out from the center.
6. Make the lines the same length as the word/image they support.
7. Use multiple colors throughout the mind map, for visual stimulation and also for encoding or grouping.
8. Develop your own personal style of mind mapping.

9. Use emphasis and show associations in your mind map.
10. Keep the mind map clear by using radial hierarchy or outlines to embrace your branches.

Exercise 15. Draw a mind map of the following text.

Medieval Science

During late antiquity and the early Middle Ages, the Aristotelian approach to inquiries on natural phenomena was used. Some ancient knowledge was lost, or in some cases kept in obscurity, during the fall of the Roman Empire and periodic political struggles. However, the general fields of science, or natural philosophy as it was called, and much of the general knowledge from the ancient world remained preserved through the works of the early Latin encyclopedists like Isidore of Seville. Also, in the Byzantine empire, many Greek science texts were preserved in Syriac translations done by groups such as Nestorians and Monophysites. Many of these were translated later on into Arabic under the Caliphate, during which many types of classical learning were preserved and in some cases improved upon. The House of Wisdom was established in Abbasid-era Baghdad, Iraq. It is considered to have been a major intellectual center, during the Islamic Golden Age, where Muslim scholars such as al-Kindi and Ibn Sahl in Baghdad, and Ibn al-Haytham in Cairo, flourished from the ninth to the thirteenth centuries, until the Mongol sack of Baghdad. Ibn al-Haytham, known later to the West as Alhazen, furthered the Aristotelian viewpoint, by emphasizing experimental data and the reproducibility of its results. In the later medieval period, as demand for translations grew, for example from the Toledo School of Translators, Western Europeans began collecting texts written not only in Latin, but also Latin translations from Greek, Arabic, and Hebrew. The texts of Aristotle, Ptolemy, and Euclid, preserved in the Houses of Wisdom, were sought amongst Catholic scholars. In Europe, Alhazen's *De Aspectibus* directly influenced Roger Bacon (13th century) in England, who argued for more experimental science, as demonstrated by Alhazen. By the late Middle Ages, a synthesis of Catholicism and Aristotelianism known as Scholasticism was flourishing in Western Europe, which had become a new geographic center of science, but all aspects of scholasticism were criticized in the 15th and 16th centuries.

Section 3. History of Science

LEAD-IN

Exercise 1. How do we decide that something is scientific versus something that is unscientific?

Below, you will find six knowledge claim statements. Work with at least one other person and together:

- 1) Read each of the knowledge claim statements below.
- 2) Discuss and agree on an order to the claims, by letter, from that which you deem least to that which you deem most scientific.

- 3) Place the letters on the spectrum below from least scientific to more scientific.

Less scientific <-----> *More scientific*

- 4) Justification: Be ready to explain to others the justification you used for this order.

Knowledge Claim Statements

A. All living things are composed of one or more cells. We know this because every living thing examined to date has been found to be composed of one or more cells.

B. If you break a mirror, you will have seven years of bad luck.

C. The Earth is flat. Anybody can see that!

D. Taking Vitamin C prevents the common cold. Linus Pauling, the Nobel laureate who discovered the structure of Vitamin C, says it does.

E. Humans have a soul. I believe this because it says so in the Bible. The soul is what separates us from animals.

F. The rate of acceleration of all falling objects on Earth is constant. Two spheres of identical diameter and volume are dropped from the top of a building; one is made of steel, the other made of a plastic polymer. They both will accelerate at the same rate (32 ft/s²) and hit the ground at the same time.

READING

History of Science

Science in a broad sense existed before the modern era, and in many historical civilizations. Modern science is distinct in its approach and successful in its results: 'modern science' now defines what science is in the strictest sense of the term.

Science in its original sense is a word for a type of knowledge, rather than a specialized word for the pursuit of such knowledge. In particular it is one of the types of knowledge which people can communicate to each other and share. For example, knowledge about the working of natural things was gathered long before recorded history and led to the development of complex abstract thinking. This is shown by the construction of complex calendars, techniques for making poisonous plants edible, and buildings such as the pyramids. However no consistent conscientious distinction was made between knowledge of such things which are true in every community and other types of communal knowledge, such as mythologies and legal systems.

Before the invention or discovery of the concept of 'nature' (Ancient Greek *phusis*), by the Pre-Socratic philosophers, the same words tend to be used to describe the *natural* 'way' in which a plant grows, and the 'way' in which, for example, one tribe worships a particular god. For this reason it is claimed these men were the first philosophers in the strict sense, and also the first people to clearly distinguish 'nature' and 'convention'. Science was therefore distinguished as the knowledge of nature, and the things which are true for every community, and the name of the specialized pursuit of such knowledge was phi-

losophy — the realm of the first philosopher-physicists. They were mainly speculators or theorists, particularly interested in astronomy. In contrast, trying to use knowledge of nature to imitate nature (artifice or technology, Greek *technē*) was seen by classical scientists as a more appropriate interest for lower class artisans. A clear-cut distinction between formal (*eon*) and empirical science (*doxa*) was made by pre-Socratic philosopher Parmenides. Although his work *peri physeos* is a poem, it may be viewed as an epistemological essay, an essay on method in natural science. Parmenides' εὖν may refer to a formal system, a calculus which can describe nature more precisely than natural languages. 'Physis' may be identical to εὖν.

A major turning point in the history of early philosophical science was the controversial but successful attempt by Socrates to apply philosophy to the study of human things, including human nature, the nature of political communities, and human knowledge itself. He criticized the older type of study of physics as too purely speculative, and lacking in self-criticism. He was particularly concerned that some of the early physicists treated nature as if it could be assumed that it had no intelligent order, explaining things merely in terms of motion and matter. The study of human things had been the realm of mythology and tradition, and Socrates was executed. Aristotle later created a less controversial systematic programme of Socratic philosophy, which was teleological, and human-centred. He rejected many of the conclusions of earlier scientists. For example, in his physics the sun goes around the earth, and many things have it as part of their nature that they are for humans. Each thing has a formal cause and final cause and a role in the rational cosmic order. Motion and change is described as the actualization of potentials already in things, according to what types of things they are. While the Socratics insisted that philosophy should be used to consider the practical question of the best way to live for a human being (a study Aristotle divided into ethics and political philosophy), they did not argue for any other types of applied science.

Aristotle maintained the sharp distinction between science and the practical knowledge of artisans, treating theoretical speculation as the highest type of human activity, practical thinking about good living as something less lofty, and the knowledge of artisans as something only suitable for the lower classes. In contrast to modern science, Aristotle's influential emphasis was upon the 'theoretical' steps of deducing universal rules from raw data, and did not treat the gathering of experience and raw data as part of science itself.

ACTIVITIES

Exercise 1. Read the text and answer the following questions.

- 1) Who were the first scientists?
- 2) How was science connected with philosophy?
- 3) What was Parmenides famous for?
- 4) What contribution did Socrates make to science?
- 5) What role did Aristotle play in the history of science?

Exercise 2. Read the following words from the text. Check pronunciation of these words with the dictionary.

civilization, distinct, pursuit, calendar, technique, conscientious, physicist, Socrates, Aristotle, contrast /n/, contrast /v/

Exercise 3. Read the text and choose the best phrase to fill each of the gaps.

Beauty Remains Women's Main Asset

Social and cultural expectations regarding 1___ at a certain age are not as strong as they were several decades ago. At the same time, however, age is gaining importance in the process of self-representation in society. Youth is a separate indicator of success. It doesn't matter how old a person is, but it's important how they feel and how they present their age to society.

This is particularly important for women, 2___ is closely related to appearance and physicality. Centre for Youth Studies in St. Petersburg (CYS) scholars decided to look at how women in various stages of life perceive their age as related to changes in their bodies and appearances.

Real age and Psychological Age Don't Correspond

A number of studies are dedicated to age and age self-identification, 3___. These studies have drawn varied and controversial conclusions. On the one hand, age is losing its importance when it comes to determining life choices. For example, people tend to marry and have children not when 'it's time', but when they feel the need to do so. Young people don't always hurry to get jobs, since they are trying to find their real vocation. And if someone decides to change professions and goes to study for a new degree in their pre-retirement years, no one would be surprised today. 'An individual's life is now less determined by the life cycles 4___,' the researchers said.

Patriarchy Guards Beauty

Practices for looking younger are especially important for women. Women's youth is associated with beauty, and to be beautiful is a special women's 'privilege' 5___, but by means of self-realization in many professional, creative and everyday areas that have traditionally been the domain of men.

'Many researchers 6___ interpret this daily and persistent fight for a "beautiful" and "ideal" body as a manifestation of patriarchy,' the CYS researchers noted. The Russian gender order, they believe, is patriarchal. Under such an order, there are popular ideas that women obtain status and value through their appearance, while men can position themselves through a wider range of qualities, including intelligence, health, and strength.

Globally, mass culture standards are more exigent particularly to women's beauty, which is represented as 'initially requiring improvement', the researchers said. As a result, in modern society, beauty is a value 7___. In this context, body and appearance are an 'object for investment', which can not only help a successful marriage, career, etc., but bring real returns in such fields as modeling or show business.

- A. which demonstrates how perceptions of age boundaries and attitudes towards one's own age and other people's age change over time
- B. that remains relevant despite the fact that women today can express themselves not only through appearances
- C. what a person should do and who they should be
- D. that women strive for as an absolute, religious imperative
- E. that formed a part of previous generations' experiences'
- F. whose construction and perception of their own age
- G. who work as part of the feminist discourse

SPEAKING

GIVING DEFINITIONS

Exercise 4. Use the prompt words to define the word given in bold.

research	structure	to modify
study	way	to change
discover	system	to improve
(new) understanding	arranged	more acceptable
to scrutinize	experiment	discovery
to examine	test	process
carefully	discover	finding
to discover	true	the first time
to observe	dogma	understanding
to watch	belief	subject
to happen	to accept	get
to learn	doubts	experiment/study

Exercise 5. Study the diagram which shows the stages of science development. Report on the stages and their characteristics.

Early Cultures

History of science in early cultures refers to the study of protoscience in ancient history, prior to the development of science in the Middle Ages.

Classical Antiquity

History of science in classical antiquity encompasses both those inquiries into the workings of the universe aimed at such practical goals as establishing a reliable calendar or determining how to cure a variety of illnesses and those abstract investigations known as natural philosophy.

The Middle Ages

Science in the Middle Ages comprised the study of nature, including practical disciplines, the mathematics and natural philosophy in medieval Europe.

The Renaissance

During the Renaissance, great advances occurred in geography, astronomy, chemistry, physics, mathematics, manufacturing, and engineering. Science and inventions of Leonardo da Vinci – Italian polymath, regarded as the epitome of the 'Renaissance Man', displaying skills in numerous diverse areas of study.

Scientific Revolution

Scientific revolution is an era associated primarily with the 16th and 17th centuries during which new ideas and knowledge in physics, astronomy, biology, medicine and chemistry transformed medieval and ancient views of nature and laid the foundations for modern science.

Governmental Impact on Science During WWII

Governmental impact on science during World War II represents the effect of public administration on technological development that provided many advantages to the armed forces, economies and societies in their strategies during the war.

WRITING

PRE-WRITING STRATEGIES

Pre-writing strategies use writing to generate and clarify ideas. While many writers have traditionally created outlines before beginning writing, there are other possible prewriting activities. One of the most effective strategies is *free-writing*.

Free-writing is a process of generating a lot of information by writing non-stop. It allows you to focus on a specific topic, but forces you to write so quickly that you are unable to edit any of your ideas.

How to use the strategy:

1. Free-write on the assignment or general topic for several 5-10 minutes non-stop. Force yourself to continue writing even if nothing specific comes to mind. This free-writing will include many ideas; at this point, generating ideas is what is important, not the grammar or the spelling.

2. After you've finished free-writing, look back over what you have written and highlight the most prominent and interesting ideas; then you can begin all over again, with a tighter focus. You will narrow your topic and, in the process, you will generate several relevant points about the topic.

Exercise 6. Use a free-writing strategy to write as much as you can about the topic *Science and religion: a permanent conflict*.

Exercise 7. Read the text below. Then: (1) make notes, (2) use information from Exercise 6 and (3) write an exploratory essay.

EXPLANATORY ESSAY

The concept of an exploratory essay is that you start without an end in mind. You don't necessarily know how you feel about a subject or what you want to

say about the subject, you allow the research and your own direction to determine the outcome. This is writing to learn rather than writing to prove what you know.

Purpose: The exploratory essay builds on the inquiry essay by having you look at and contribute to a range of arguments rather than just one at a time. Whereas the inquiry essay introduced you to a debate by looking at one argument at a time, the exploratory essay asks you to widen your vision to the whole conversation.

Science and Religion: Reconcilable Differences (Background reading)

With the loud protests of a small number of religious groups over teaching scientific concepts like evolution and the Big Bang in public schools, and the equally loud proclamations of a few scientists with personal, anti-religious philosophies, it can sometimes seem as though science and religion are at war. News outlets offer plenty of reports of school board meetings, congressional sessions, and Sunday sermons in which scientists and religious leaders launch attacks at one another. But just how representative are such conflicts? Not very. The attention given to such clashes glosses over the far more numerous cases in which science and religion harmoniously, and even synergistically, co-exist.

In fact, people of many different faiths and levels of scientific expertise see no contradiction at all between science and religion. Many simply acknowledge that the two institutions deal with different realms of human experience. Science investigates the natural world, while religion deals with the spiritual and supernatural — hence, the two can be complementary. Many religious organizations have issued statements declaring that there need not be any conflict between religious faith and the scientific perspective on evolution.

Furthermore, contrary to stereotype, one certainly doesn't have to be an atheist in order to become a scientist. A 2005 survey of scientists at top research universities found that more than 48% had a religious affiliation and more than 75% believe that religions convey important truths. Some scientists — like Francis Collins, former director of the National Human Genome Research Institute, and George Coyne, astronomer and priest — have been outspoken about the satisfaction they find in viewing the world through both a scientific lens and one of personal faith.

This is not to suggest that science and religion never come into conflict. Though the two generally deal with different realms (natural vs. spiritual), disagreements do arise about where the boundaries between these realms lie when dealing with questions at their interface. And sometimes, one side crosses a boundary in its claims. For example, when religious tenets make strong claims about the natural world (e.g., claiming that the world was created in six days, as some literal interpretations of the Bible might require), faith and science can find themselves in conflict.

Though such clashes may garner print, airwave, and bandwidth headlines, it's important to remember that, behind the scenes and out of the spotlight, many cases exist in which religious and scientific perspectives present no con-

flict at all. Thousands of scientists busily carry out their research while maintaining personal spiritual beliefs, and an even larger number of everyday folks fruitfully view the natural world through an evidence-based, scientific lens and the supernatural world through a spiritual lens. Accepting a scientific worldview needn't require giving up religious faith.

[1]

VOCABULARY

ACADEMIC VOCABULARY LIST

Academic vocabulary list is a list of words which appear with great frequency in a broad range of academic texts. Some of these words are given below.

hypothesis • activity • process • individual • specific • principle • estimate • variables • method • data • research • assessment • identified • system • factors • procedure • definition • assume • theory • evidence • established • issues • occur • economic • involved • percent • interpretation • consistent • income • structure • concept • formula • required • components • analysis • distribution • function • approach • indicate • experiment • period • context significant • similar • sector • basis

Exercise 8. Use a dictionary to translate these words from English into Russian.

Exercise 9. Translate the underlined words from Russian into English.

Наука — область человеческой деятельности, направленная на выработку и систематизацию объективных знаний о действительности. Основой этой деятельности являются: сбор фактов, их постоянное установление, обновление и систематизация, критический анализ. На этой основе осуществляется синтез новых знаний или обобщений, которые не только описывают наблюдаемые природные или общественные явления, но и позволяют строить причинно-следственные связи. Теории и гипотезы, которые подтверждаются фактами или опытами, формулируются в виде законов природы или общества.

Наука в широком смысле включает в себя все условия и компоненты соответствующей деятельности:

- методы научно-исследовательской работы;
- понятийный и категориальный аппарат;
- систему научной информации;
- всю сумму накопленных ранее научных знаний.

Научный метод

В структуру современного научного метода входят:

- Наблюдение фактов и измерение, количественное или качественное описание наблюдений.
- Анализ результатов наблюдения — их систематизация, вычленение значимого и второстепенного.
- Обобщение (синтез) и формулирование гипотез, теорий.

• **Прогноз:** формулирование следствий из предложенной гипотезы или принятой теории с помощью дедукции, индукции или других логических методов.

• **Проверка** прогнозируемых следствий с помощью эксперимента.

На каждом этапе принципиальное значение имеет критичное отношение, как к данным, так и к полученным результатам любого уровня. Необходимость всё доказывать, обосновывать проверяемыми данными, подтверждать теоретические выводы результатами экспериментов отличает науку от других форм познания, в том числе от религии, которая основывается на вере в те или иные основные догматы.

GRAMMAR

THE vs. A/AN: SPECIFIC vs. GENERIC

Remember:

1. Use *a/an* first time something is mentioned.
2. Use *the* on subsequent occasions (i.e. when the reader / listener already knows what the talk is about).
3. Use *a/an* to refer to something generic, *the* to something specific or something which the reader will already be familiar with.

Exercise 10. Fill in the gap with the correct article.

1. The only thing you can take into the examination is _____ **dictionary**.
2. The only thing you can take into the examination is a dictionary. _____ **dictionary** you choose can either be mono- or bilingual.
3. This project presents _____ **new system** for modeling maps.
4. This project presents a new system for modeling maps. _____ **system** is based on...
5. I don't have _____ **overhead projector** at home.
6. I have a computer at home and at work. _____ **overhead projector** that I have in my office is a Mac and the one at one is an HP.
7. In this paper, we make _____ **attempt** to test the efficiency of...
8. In this paper, _____ **attempt** to assess the relative efficiency of the tested methods was carried out on three levels.
9. _____ **comparison** of our data with those in the literature indicates that...
10. _____ **comparison** given in Ch. 3 highlights that...
11. We are now in _____ **position** to apply Theorem 2.
12. The graph indicates _____ **position** of each piece of equipment.
13. Contrary to what is currently thought, there is _____ **growing demand** for experts in this field.
14. We need to satisfy _____ **growing demand** for experts in this field, which looks set to increase even further.

STUDY SKILLS

CRITICAL READING

It is important to read critically. Critical reading requires you to evaluate the arguments in the text. You need to distinguish fact from opinion, and look

at arguments given for and against the various claims. This also means being aware of your opinions and assumptions (positive and negative) of the text you are reading so you can evaluate it honestly. It is also important to be aware of the writer's background, assumptions and purposes. All writers have a reason for writing and will emphasize details which support their reason for writing and ignore details that do not.

Read the text and answer the following questions.

1. What do you know about the author? What authority does the author have?
2. Who is the intended audience?
3. What is the author's purpose? Why was the text written?
4. What is the writer's attitude towards the topic?
5. What conclusions are drawn?

Russian Top Executives Go Back to School

More than one in three Russian CEOs hold more than one academic degree, making them stand out dramatically compared to the general public. By going back to school and pursuing lifelong learning, senior executives expect to increase their knowledge, human capital and income, according to **Sergey Solntsev**, Senior Research Fellow at the HSE Laboratory for Labour Market Studies.

Studying for a second degree requires a substantial investment of time and money, and just 1% of Russians hold more than one university degree.

However, people in certain occupations are more likely than others to seek a second degree; these include senior corporate executives, of whom 34.5% hold at least two degrees, according to Solntsev who presented his findings in the paper Demand for Second Higher Education: Empirical Evidence for Russian Senior Executives, published in Educational Studies, issue 3, 2015.

Solntsev has analysed the educational paths of Russian CEOs and deputy CEOs, chairs of the Board, heads of major company branches, and other senior executives and found that their first degree was often in engineering, followed by a degree in economics or business. In addition to this, those whose first degree was in engineering or humanities were more likely to seek a second degree compared to those holding degrees in economics or law.

Solntsev reviewed 5,000 cases of Russian top executives (based on corporate appointments data published in Vedomosti between 1999 and 2009) of banks, insurance, manufacturing, service, IT and other large companies located mainly in big cities. In each case, he examined the characteristics such as gender, age, education and career trajectory. Across the sample, he found a prevalence of men (83%). In more than half of all cases (54% men and 57% women), the subjects were aged between 31 and 40, and in a quarter of all cases (21% of women and 25% men) they were aged between 41 and 50 at the time of appointment.

A Second Degree Worth the Effort

Generally, people can upgrade their skills using corporate training programs, university-based courses, coaching on the job and self-study, among others.

Solntsev focuses on perhaps the most sophisticated way of learning, i.e. studying for a second degree such as an MBA or a master's in one's current or new profession. In contrast to the first degree – often obtained in one's twenties from a university and in a discipline recommended by others – a decision to study for a second and subsequent degrees tends to be more independent and mature and based on one's work experience.

According to Solntsev, corporate executives usually expect a second degree to pay off by facilitating career advancement and bringing about a substantial salary raise. Solntsev also refers to other potential motives, based on the human capital theory (executives seek to develop their human capital by filling the knowledge gaps left by prior education and experience), and the theory of signals (a second degree sends a positive signal to potential employers and thus creates a competitive advantage).

Most Executives Share an Engineering Background

Nearly all senior executives in Russia hold university degrees; about two-thirds hold one degree, and 34.5% hold more than one degree.

According to Solntsev, executives whose first degree is in engineering are more likely to seek a second degree. In Soviet times, the popularity of engineering training reflected the country's emphasis on industrial production, including the military-industrial complex; in contrast, the post-Soviet market economy was characterised by a growing service sector and declining rates of industrial production. Thus, engineering was no longer the most relevant occupation and those with an engineering background required additional skills to find employment in the service sector – which prompted some of them to seek a second degree.

Solntsev's research confirms these observations. The most common first academic degree held by Russian senior executives is one in engineering – a median 46% based on data from both Soviet and post-Soviet periods, 60% of all degrees obtained in Soviet times and just 35% of those earned in post-Soviet times. In contrast, the proportion of degrees in economics increased from 21% in Soviet times to 41% in the post-Soviet period.

Economists Less Likely to Seek More Training

In addition, Solntsev examined the chances of senior executives seeking a second academic degree for senior executives depending on their first degree and the time of obtaining it. He found that economists were almost half as likely to opt for a second degree as holders of degrees in engineering and humanities – 23% vs. 40%, followed by lawyers (28%).

In addition, those with first degrees in engineering and humanities usually studied for a second degree in Russia, while economists and lawyers often travelled abroad to obtain a second degree. Solntsev assumes that the former two groups only required a basic grasp of economics and management and wished to stay in Russia so they could work while studying, whereas the latter two groups sought a more sophisticated understanding of the subjects and were prepared to pay significant amounts to study full time in top international universities.

The Quality of Initial Education Can Affect the Need for a Second Degree

It might seem that those who obtained their first degree back in Soviet times should feel a greater need for a second degree as knowledge tends to become outdated. However, research does not confirm this.

Of those with a background in engineering from Soviet times, 36.2% have sought a second degree, compared to 44.9% of those who earned their first degree after the collapse of the USSR, according to Solntsev. He found a similar ratio among senior executives with the first degree in economics (20.6% vs. 23.4%).

According to Solntsev, the reason why more 'techies' and economists with degrees obtained after 1991 opt for a second degree may be a perceived decline in the quality of university education after the collapse of the Soviet Union.

Senior Executives Favour Economics and Business

According to Solntsev, executives' preferences in terms of second degrees may vary; those with a first degree in engineering are more likely than others (54.4%) to choose economics for their second degree, while those with initial training in economics tend to choose a second degree in business (47.2%), and lawyers remain true to their profession and prefer to obtain a second degree in law (35.2%).

62% of all respondents obtained their first degree in Moscow, followed by St. Petersburg (16.7%), and then Novosibirsk, Nizhny Novgorod and Yekaterinburg (more than 1% each). Besides the fact that Moscow has more universities believed to provide a better education, most major corporate employers are also based in Moscow.

The top five Russian universities where senior executives earned their first degrees include the Lomonosov Moscow State University, the Moscow State Institute of International Relations, the Finance Academy, the St. Petersburg State University, and the Moscow Aviation Institute. When it comes to a second degree, the top 5 universities include HSE and Moscow State University.

HSE is the only university established after the collapse of the Soviet Union which has made it to the top, the third most popular school between 1992 and 2000 and the second between 2001 and 2009.

Solntsev concludes that most frequently, senior executives choose to go back to school to update their knowledge of economics and finance. In addition to this, studying for a second degree is an integral part of lifelong learning, allowing people to advance their careers and stay up to date with developments in their business.

[12]

Check Understanding (1)

1. What is science?
2. What is the scientific method?
3. Is the scientific method a philosophy?

4. What is the difference between a hypothesis and a theory?
5. Why do scientists often seem tentative about their explanations?
6. What does science have to say about ghosts, ESP, and astrology?
7. What are the main goals of science?
8. What is a typical scientific process? What are the stages of a typical scientific process?
9. What is scientific testing?
10. Who are the members of the scientific community?
11. What are the characteristics of pure scientific knowledge?
12. How does science receive evidence?
13. What is the difference between pure scientific knowledge and alternative knowledge (life experience, horoscopes, extra sensitive knowledge, etc.)?
14. Describe the way science works.
15. What is dogma? Give some examples.
16. Who were the first scientists?
17. How was science connected with and philosophy?
18. What was Parmenides famous for?
19. What contribution did Socrates make to science?
20. What role did Aristotle play in the history of science?

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Unit 2 SCIENCE AND ACADEMIA

Objectives:

- to understand the relationship between science and academia
- to develop language skills: reading (for detail), speaking (presentation skills) and writing (hedging, plagiarism, clarity)
- to develop crucial study skills (research design)
- to learn the vocabulary related to science in higher school
- to practice grammar: relative clauses, if-clauses, link devices, reporting

Section 1. Science and Higher Education

LEAD-IN

Exercise 1. Discuss with the partner the following questions.

1. What is the difference between *basic research* and *applied research*?
2. What is the aim of monitoring the studies carried out by research universities?
3. What functions do the government working groups perform?
4. What is the relationship between higher educational establishments and the international academic labour market?

Exercise 2. Do you recognize the following abbreviations?

OECD, G20, BRICS, UNESCO

Exercise 3. What international scientific projects do these organisations conduct?

Exercise 4. Scan the text *The HSE in the Global Academic Space* and find out more information about the questions above.

READING

The HSE in the Global Academic Space

Researches and Publications

The National Research University – Higher School of Economics operates more than 100 research institutes and centres, and more than 20 international

laboratories led by foreign scholars, including the Nobel laureate Eric Maskin and the Fields medal laureate Andrey Okunkov.

The number of research staff has grown from around 100 to almost 800 over the last ten years.

Basic research aims to develop social sciences and make use of the university's research potential to solve key social and economic problems. All research projects, both in the stage of development and following their completion, pass through a system of independent, external review. From 2006 to 2013, the total number of projects grew by a factor of more than 10. Most of these projects concern health care, education, social welfare, microeconomics, and economic and technological development.

Applied research has allowed the university to build a strong model for collaboration between academia, business and society. By commercializing research innovations and forecasts, and by completing projects commissioned by state institutions, state-owned companies and private business, the HSE has become one of the largest research and innovation centres in the country in the social and economic sciences.

Monitoring studies, carried out by the HSE serve as a source of relevant information for state agencies, the mass media and other researchers. Among the most commonly cited are Monitoring the Business Climate for the Real and Service Sector Enterprises, the Russia Longitudinal Monitoring Survey (RLMS), and Monitoring Enrollment in Russian Universities.

Expert Support

The HSE has become a leading centre of expert analysis for the Russian government and Russia's president. The university contributes to the drafting of legislation, government programmes and policies at both the federal and regional level.

The HSE provides analytic support to 10 government commissions and more than 30 government working groups. In 2013, a long-term forecast was developed for Russia's scientific and technological development to 2030.

Experts from the HSE have participated in a number of comprehensive projects, including:

- Strategy for socio-economic development of Russia toward 2020
- Social and economic development strategy for Moscow up to 2025
- Russian long-term science and technology foresight — 2030
- Government programmes to develop education, science and technology
- Innovative development programmes for state-run corporations

The Higher School of Economics takes part in several international scientific and technical cooperation projects and is a partner of organizations such as the OECD, G20, BRICS, UNESCO, UNIDO and others.

In the Global Academic Space

The Higher School of Economics was the first state university in Russia to recruit specialists on the international academic labour market. HSE's Centre for Advanced Studies (CAS) regulates all the main hiring procedures for

international recruitment and coordinates the activities of internal and external experts under search and selection committees in each discipline.

The HSE regularly hosts academic discussions in which international experts take part. The most notable event is the annual April International Academic Conference on Economic and Social Development. Researchers from Russia and abroad attend alongside heads of the Russian government, Russian Presidential Administration, World Bank, International Monetary Fund, Organisation for Economic Co-operation and Development, as well as the major Russian and foreign companies.

Since October 2012 HSE participates in the implementation of the EUNEG TEMPUS Joint Project 'European Neighbourhood Policy Law and Good Governance (EUNEG)'. The project supports the development of higher education reform in partner countries (Russia, Ukraine and Moldova), through cooperation with EU and in convergence with Bologna process and with EU developments deriving from the Strategic Framework for European Cooperation in education and training (ET 2020) and Strategy for smart, sustainable and inclusive growth (Europe 2020).

[1]

ACTIVITIES

Exercise 1. Read the text *The HSE in the Global Academic Space* and answer the questions below.

1. What system do the research projects have to pass through? Why?
2. What government programmes and policies can higher schools contribute?
3. What opportunities can higher educational establishments provide to international academic discussions?
4. What does *Bologna process* mean?

Exercise 2. Use the on-line dictionary to define the following words.

Dictionary: <http://www.oxfordlearnersdictionaries.com>

Word	Definition + Example	Nearby Words
analysis (noun)	The detailed study or examination of something in order to understand more about it; the result of the study, e.g.: – statistical analysis – <i>At the meeting they presented a detailed analysis of twelve schools in a London borough.</i>	analyse (<i>verb</i>) analyst (<i>noun</i>) analytic (<i>adjective</i>)
completion		
forecast		
source		
relevant		

Word	Definition + Example	Nearby Words
specialist		
derive		
convergence		

Exercise 3. Scan through the text and find *the adjectives* which can help you do the crossword.

Across

- 2. including a wide range of people, things, ideas, etc.
- 4. using a logical method of thinking about something in order to understand it, especially by looking at all the parts separately
- 6. including all, or almost all, the items, details, facts, information, etc., that may be concerned
- 9. connected with society and the way it is organized

Down

- 1. happening or done once every year
- 3. that can continue or be continued for a long time
- 5. closely connected with the subject you are discussing or the situation you are thinking about
- 7. connected with the inside of something
- 8. connected with or located on the outside of something

SPEAKING

DEVELOPING EFFECTIVE ORAL PRESENTATION SKILLS

One of the ways of involving the students more actively in the learning process is by conducting seminars. What usually happens in a seminar is that one student is asked to introduce the topic. (Let's call this person 'the presenter'.) After the presenter has introduced the topic it can then be discussed by all the participants.

There are two main stages involved in presenting a paper:

- the preparation stage
- the presentation stage.

The Preparation Stage

The preparation stage involves five steps:

- 1. making sure you understand the topic
- 2. making sure you understand the frame (given in the rubric)
- 3. generating your own preliminary ideas on the topic
- 4. researching the topic
- 5. writing up the topic.

The Presentation Stage

Exercise 4. What follows is a list of tips that have been given on making a short oral presentation on a topic for discussion. Rate each recommendation on a scale going from 5 down to 1 where 5 means 'extremely important' and 1 means 'not at all important'. Can you think of any other useful tips for presenters?

Tips for short oral presentations

Rating

- **Time limit.** Your tutor may give you a time limit, or you may be allowed to decide for yourself. If it is the latter, let your audience know what it is and make sure that it leaves plenty of time for discussion. *Do not exceed your limit.*
- **Full version of presentation.** Write out everything you have to say, including examples and so on, then rehearse it until you feel comfortable with it.
- **Outline notes.** Reduce your talk to outline notes. Rehearse your talk again, this time from the outline notes. Speak from the outline notes. (But bring along the full version, just in case!)

Tips for short oral presentations (*continuation*)

- **Shared outline with audience.** It will probably help your audience if you share your outline notes, or perhaps just the main headings, with them. Some ways of doing this are:
 - **OHP (overhead projector).** Make sure that what you have written can be easily read, even from the back of the room.
 - **Flipchart.** Preferably written up beforehand – but see OHP comment.
 - **Handout.** Leave plenty of room between the headings for participants to make their own notes.
 - **PowerPoint presentation.** (But see OHP comment.)
- **Eye contact.** As far as possible, look at your audience while you are speaking. While you are looking at your audience, try to sense if they understand you. You will never make contact with your audience if your eyes are constantly fixed on the paper in front of you.
- **Helpful overview.** Start by very briefly reminding your audience of the topic and summarising in a sentence or two what you are going to say and/or how you are going to deal with the topic.
- **Signposting.** Your talk should be clearly structured, and the language you use should signpost the structure (that is, make clear to the audience what the structure is: main points / examples / digressions / summary and so on).
- **Strong ending.** Leave time for a strong ending. One way of doing this is simply to emphasise the most important point that you have made in your talk, but you may think of another good way of ending, depending on the topic. Welcome comments from the other participants.

Possible Seminar Topics (*with topic area in brackets*)

Exercise 5. Below are a series of statements that you may either agree or disagree with. Prepare an introductory talk in which you explain the issues involved and in which you make your own views clear.

Also, remember that it is possible to agree with part of the position as stated, and disagree with another part of it.

- **(The developing world)** International aid programmes are totally ineffective in relieving world poverty and should be abolished. All that happens is that money is taken from poor people in rich countries and given to rich people in poor countries.

Rating

- **(The physical world)** In order to save the environment it is necessary that activities that can damage it should be heavily taxed. Thus all air travel should be heavily taxed so that non essential journeys (by tourists, for example) will be discouraged.
- **(Diet)** Eating meat and fish necessarily involves cruelty to other living creatures. Vegetarianism should be made compulsory.
- **(Language policy)** Promoting the use of English (or any other national language) as an international language can easily turn into a new form of colonialism (neo-colonialism). The United Nations should choose an artificial language (such as Esperanto) and promote it as the universal second language.
- **(Culture)** Cultural differences cause disharmony. Children should be taught to think internationally, rather than being drilled in their own history and culture.
- **(Equal rights)** Although they constitute about half the population, women are badly under-represented in most governments. Political parties everywhere should be compelled to ensure that at least 50 per cent of their candidates are women.
- **(Energy policy)** In view of the dangers created by global warming, the use of nuclear power has to be continued and, indeed, further developed.
- **(Sport)** Sport today is far too commercialised. In high-profile athletics competitions such as the Olympic Games we should return to the ideal of sport performed only by amateurs.

Practise *Vocabulary Guide* and *Peer Assessment Form* below.

VOCABULARY GUIDE

The topic of my talk today is...
I'd like to begin by...
My talk will be organised like this. First, ...
And so we come to my first/second/third point.
The first/second/third point I want to make is this.
For instance... / For example...
Let me give you (another) example.
I'd like to sum up by repeating a point I made earlier (which is this.)
Let me (very briefly) summarise the main points I want to make.
If you have any questions I'd be pleased/happy to answer them (if I can).

Questioning / Clarification

I'd like to ask you about (what you said concerning... on the subject of...)
I wasn't very clear about...
May I ask a question?
Could you please explain to us again the point you made about...

Interrupting / Turn-taking

Can I just come in there? Please do. / Yes, of course.
I'd like to pick up on something the last speaker said.

Disagreeing

I think that's a very good point, but I also feel/think that...
I'm afraid I can't (really/quite) agree with that point / the point just made.

Round-up / Summary

Looking back on our discussion, it seems to me that the main points that have come up are these as follows.

OK, let's try to summarise the main points that have come up (in our discussion).

PEER ASSESSMENT FORM

Mention any particular strengths in the presentation.

Was an outline of the talk shared with the audience?	YES/NO	
Was it clear?	YES/NO	WHY/WHY NOT?
Was it helpful?	YES/NO	WHY/WHY NOT?
Did the speaker maintain good eye contact with the audience?	YES/NO	
Did the speaker give an overview of what the talk was going to be about?	YES/NO	
Was it helpful?	YES/NO	WHY/WHY NOT?
Was the structure / organisation of the talk clear?	YES/NO	
Was there any time when you did not understand the speaker or lost the thread of his or her argument?	YES/NO	
If YES, what do you think caused the breakdown in comprehension?		
What about the pace / speed of delivery?	too fast / too slow / just right	
Was there a strong ending? (If NO, how could it have been improved?)	YES/NO	
Have you any advice for the speaker for future talks?		

GRAMMAR

RELATIVE CLAUSES

A **relative clause** identifies or gives more information about a noun. It begins with a **relative pronoun** (*who, whose, what, which, where, when, whom, that*).

Types of Relative Clause

Relative Clause	Example
A defining relative clause identifies which or which type of person or thing we mean. The relative pronoun can refer either to the subject (1) of the relative clause or the object (2).	1. I looked at a variety of changes that had occurred in different fields . 2. The system which Hill introduced is still widely used.
A non-defining relative clause simply adds information about the noun. We usually put a comma before and after a non-defining relative clause (3), unless it is at the end of a sentence (4).	3. Monnet, who is relatively unknown in the United States , was a lifelong proponent of internationalism. 4. The system was introduced by Rowland Hill, whose ideas initially met with hostile opposition and ridicule .

We can't leave out the relative pronoun or use **that** in a non-defining relative clause.

- We can omit the relative pronoun in a defining relative clause if the relative pronoun is the object. However, in academic writing the relative pronoun is usually included.

- In academic writing, **who** is more usually used than **that** to add information about people.

- Don't confuse **whose** and **who's** (= **who is**).

Exercise 6. Use the information in the table to help you match the following examples (1-6) to the descriptions of relative pronouns.

Relative pronouns are used to add information about:

- things** (*that, which* and no relative pronoun), e.g., _____ 3 _____
- people** (*that, who, whom* (formal) and no relative pronoun), e.g., _____
- time** (*when*), e.g., _____
- location, situation or point in a process** (*where*), e.g., _____
- 'belonging to' and 'associated with' relationships** (*whose*), e.g., _____
- how something happens** (*whereby*), e.g., _____

1) He was a man who spent virtually his entire adult life building one institution after another.

2) Hill's postal system was an innovation whose influence is still seen today.

3) His call for a 'Penny Post' won the endorsement of leading newspapers, which stood to benefit from reduced postal fees.

4) His walks took him across New Jersey, Maryland Rhode Island, and Pennsylvania, where large numbers of Quakers lived.

5) Hill improved the process whereby mail was delivered around the country.

6) He lived in a time when Europe was one of the most dangerous places on earth.

Exercise 7. Add the information in brackets as a relative clause (defining or non-defining) to the sentences in an appropriate place. There may be more than one possible answer.

1. Doctors thought the disease had been wiped out in the 1950s. (it was widespread at the start of the last century) – *Doctors thought the disease, which was widespread at the start of the last century, had been wiped out in the 1950s.*

2. Ben Johnson was an English poet and playwright. (he lived from 1572 to 1637)

3. An organic compound is any member of a large class of chemical compounds. (their molecules contain carbon)

4. The patient was 25 years old. (his case is described here)

5. Anaerobic digestion is a simple process. (in anaerobic digestion, organic matter is broken down by microorganisms)

6. The company is in the second stage of business development. (in this stage activities and customer base are expanded)

Exercise 8. Redraft the following extracts by adding informal from the notes.

1. Another influential social entrepreneur is the Bangladeshi banker Muhammad Yunus. He was previously a professor of economics at Chittagong University.

- Born 1940
- Developed idea of 'microcredit' while at Chittagong Uni.

2. Victoria Hale founded the Institute for One World Health (IOWH). The IOWH has set up a scheme with major pharmaceutical companies.

- aim of IOWH: make medicines available to poor communities
- IOWH scheme: certain drugs developed by pharma companies can be sold cheaply

3. Maria Montessori is best known for introducing a method of education. She developed her ideas during the early part of her career.

- method uses self-directed learning activities
- at start of career worked with children with learning disabilities – ideas developed then

IT-CLAUSES: EXPRESSING PERSONAL OPINIONS IMPERSONALLY

Exercise 9. In academic writing it is often good style to express ideas in a more impersonal way than in informal contexts. Which example in each of the following pairs is more appropriate for academic writing?

- a) It is necessary to recognise that the pressure for change exists.
b) We have to recognise that the pressure for change exists.
- a) I think that the students' high level of motivation is interesting.
b) It is interesting that the students were all highly motivated.
- a) It is worth noting here that there are multiple causes.
b) I want to note here that there are multiple causes.
- a) We should remember that in 1973 crude oil cost only \$2 a barrel.
b) It should be remembered that in 1973 crude oil cost only \$2 a barrel.

There are three main grammatical forms of **it-clauses** to express opinions:

it is + adjective + (to-infinitive) + that

it + modal + passive verb + that

it is + other structures

Examples:

it is interesting to note that...

it is important to stress that...

it is necessary to clarify that...

it should be emphasized / recognized / stressed that...

it can be seen / argued / inferred that...

it is worth pointing out / noticing that...

Exercise 10. Underline the places in the following extracts where the writer introduces an opinion. Then rephrase the extract using impersonal *it*-clauses. The first one is done.

1. In my opinion, computers may soon take over from the teacher as the main information provider in the classroom. If this happens, I think that the profession of teaching will become seriously devalued.

It is possible that computers... it is likely that the profession...

2. I don't think it is surprising that so few people turned out to vote in the general election. We need to remember that this was the third general election in as many years.

3. I wish to point out here that oil production is in decline. Consequently, in my view a further rise in petrol prices is inevitable

4. We should recognise that there are few benefits in keeping animals for food. Animals cause damage to the environment, and meat is less healthy than vegetables. Consequently, it seems to me that governments need to discourage people from eating meat, and in turn I believe this will probably reduce the number of animals kept for food.

WRITING

DEFINITION AND ACADEMIC CLARITY

The Clarity Principle is taken very seriously in English academic writing. It states that a writer should make everything clear to the reader he or she has in mind. In terms of academic writing, 'the reader' is the particular academic community the writer is addressing.

Definitions are the basic tool for ensuring clarity in referring to concepts. Definitions are important because whenever we write – and especially when we write academic texts – we must be clear.

Be sure that your proposal is understandable to a general reader who does not know much about your field of investigation. Define subject-specific and technical terms. If you are using words that are different in meaning in the context of your experiment from traditionally accepted meanings, define the terms. Be sure to refer to authoritative sources in your definitions.

Explain any operational definitions, the definitions that you have created just for your study. An example of an operational definition is: 'For the purpose of this research, improvement is operationally defined as posttest score minus pretest score'.

The clearest way to arrange your definitions page is to arrange terms in alphabetical order, with definitions stated in complete sentences.

The following is an example of a definition section from a proposal entitled 'Self-directed learning readiness and life satisfaction among older adults'.

Definition of Key Terms

Life Satisfaction – a self reported assessment of one's overall psychosocial well-being. It is a combination of (a) personality factors such as mood and self-concept, (b) more socially-related factors such as the nature of one's social interactions, (c) perceived health, and (d) financial security.

Older Adult – for the proposed study, older adult is defined as any person who is at least 65 years of age.

Self-Directed Learning – a process in which individuals take the initiative, with or without the help of others, in diagnosing their learning needs, formulating learning goals, identifying human and material resources for learning, choosing and implementing appropriate learning strategies, and evaluating learning outcomes.

Self-Directed Learning Readiness – the degree to which one perceives oneself to possess the attitudes and skills needed to be an effective self-directed learner. It is measured in the proposed study through the Self-Directed Learning Readiness Scale (SDLRS), developed by Guglielmino (1977).

Exercise 11. Look at the definitions below: the columns show you the structure of the definitions. Each entry in the left-hand column shows what is being defined. Can you find the definition which is factually *incorrect*?

Concept	Verb <i>to be</i>	Article <i>a/an/the</i>	Class / Category	'Wh-word' + defining information
A doctor	is	a	person	who is qualified to treat medical problems.
A hospital	is	a	place	where ill people go to receive medical treatment.
A disease	is	an	illness	that has a set of characteristic symptoms doctors can recognise.
AIDS	is	a	disease	that affects a very small number of people each year.
Patients	are	–	people	who are receiving medical treatment.

Defining concrete terms is usually relatively easy. Such terms as 'thermometer', 'stethoscope' and 'prosthetic' may be unfamiliar to you, but if you look them up in a dictionary you will find an explanation that you can easily turn into a *formal definition* if you follow this simple structure:

concept + **is a** (form of) or (species of) + class + **which** + special features.

Use the simple structure above to write definitions of these terms / concepts (some everyday and some less common) from the field of health education.

- Fitness
- Cholesterol
- Nutrition
- Antibiotics

EXTRACTING A DEFINITION FROM THE TEXT

Exercise 12. Read the text below and use the information in it to write a definition of *hypothesis*.

The primary trait of a hypothesis is that something can be tested and that those tests can be replicated. It is often examined by multiple scientists to ensure the integrity and veracity of the experiment. This process can take years, and in many cases hypotheses do not go any further in the scientific method as it is difficult to gather sufficient supporting evidence.

"As a field biologist my favorite part of the scientific method is being in the field collecting the data, but what really makes that fun is knowing that you are trying to answer an interesting question so the first step in identifying questions and generating possible answers (hypotheses) is also very important and is a creative process. Then once you collect the data you analyze it to see if your hypothesis is supported or not," Jaime Tanner, a professor of biology at Marlboro College says.

[2]

USING CLAUSES TO STRUCTURE DEFINITIONS

Study a typical structure for giving formal definitions. Use it to do the tasks that follow.

Typical Structure for Giving Formal Definitions

Item to Be Defined	Verb Forms: Present Simple (Active and Passive)	Defining Information
Good health	is... means... describes... may be defined as... can be defined as... is defined as...	a state of complete physical, mental and social well-being

Exercise 13. Complete the following definitions.

- A chronic disease _____
- Memory _____
- Health care _____
- Social welfare _____
- Microeconomics _____

VOCABULARY

Exercise 14. Read the two parallel texts in Russian and English. Translate the missing words (phrases).

В академических исследованиях ВШЭ особое внимание уделяется, в первую очередь, (1) *теоретической базе*, на основании которой ведется эффективная модернизация российской экономики и общества при помощи (2) *современной* институциональной экономики и экономической социологии. Это позволяет ВШЭ (3) *сохранять свои сильные позиции* в стране и получать дополнительное финансирование из государственных и частных источников. Ученые ВШЭ внесли (4) *важный вклад* в создание стратегий развития в различных областях. Сюда входят модернизация образования, усовершенствование системы государственного управления и реформа государственных служб, модернизация здравоохранения, (5) *повышение конкурентоспособности* реального сектора экономики России и (6) *продвижение инструментов* для осуществления динамичной политики в промышленности, анализ

Academic research at HSE focuses primarily on the (1) _____ underpinning effective modernization of the Russian economy and society, building on (2) _____ institutional economics and economic sociology. This focus helps HSE (3) _____ in Russia and receive additional funding from the government and private sector. University researchers provided (4) _____ into policy development in different areas: modernizing education and health care, advancing public administration and civil service reform, (5) _____ of Russia's economy and (6) _____ for a dynamic industry policy, reviewing prospects for effective

перспектив эффективной политики с точки зрения инновационной программы, (7) *улучшение государственной статистики* (с 2002 года) и др. [3]

policy making in innovations, (7) _____ (since 2002), and other issues. [4]

Exercise 15. Look up the two commonly misused words *assess* and *access* in the online Oxford Advanced Learner's Dictionary.

Dictionary: <http://oxfordlearnersdictionaries.com>

A. Search for the meanings of these words and fill in the chart given below.

ASSESS	ACCESS
1. _____ It's difficult <u>to assess</u> the effects of these changes.	1. _____ Students must have <u>access</u> to good resources.
2. _____ They <u>have assessed</u> the amount of compensation to be paid.	2. _____ Disabled visitors are welcome; there is good wheelchair <u>access</u> to most facilities.

B. Fill in the gaps with the correct word.

1. Journalists were denied _____ to the President.
2. Projects with clearly defined objectives are easier to _____.
3. Decentralization of some ministry functions improved local capacity to _____ the community's needs.
4. Having _____ to insured credit, banks' shareholders find it irresistible to borrow excessively.
5. You need a password to get _____ to the computer system.
6. Benchmark your risk management processes against industry practice, _____ their maturity and formulate solutions.
7. The country has to adopt legal regulations which must begin to work before it could fully _____ the results of the changes.
8. They should be properly equipped and adequately staffed, and should have _____ to all available information.

Exercise 16. Choose the word from the box to fill in the gaps.

up to date; comparative; surveys; participating; expertise; cutting-edge; field; critically; empirical; profile

Priorities of the Research University

The selection of the priorities is critical for any university positioning itself in the global educational market. A new university can follow well-established universities by importing researchers and _____ 1 _____ in existing projects and networks. This type of strategy definitely creates results, and HSE followed it

by joining a number of international ____2____ study projects and inviting Western scholars to introduce young Russian researchers into ____3____ research areas. However, such an approach rarely leads to creating a unique research ____4____ and to competing with international research universities.

So in addition to this approach, HSE is identifying specific niches where its capacity and ____5____ could be unique and internationally competitive. One of these multidisciplinary areas is the study of social and economic transition. By focusing on the transition, many HSE researchers have become widely known experts in the ____6____. HSE has hosted a number of conferences of the international networks of researchers in this area. Such an orientation helped the young university to become a center of knowledge creation and exchange. At the same time, such a focus creates a risk of missing ____7____ important cutting-edge areas.

Another approach to enter global research networks is based on appreciating the importance of ____8____ data. HSE invested its own resources and convinced the government to support large-scale empirical studies – including household ____9____, monitoring of enterprises and innovative activities, empirical studies of civil society development, and so forth. This rich body of knowledge was expected to attract foreign scholars to work in cooperation with Russian researchers. However, huge investments in these studies did not fully pay off because the methodology of these studies was not always ____10____. This situation confirmed that setting priorities could be a very difficult and risky task.

[4]

STUDY SKILLS

CLEAR STATEMENT OF THE PROBLEM AND PURPOSE OF THE STUDY

The most important aspect of a research proposal is the clarity of the research problem. For a short statement, it certainly has a lot of power. The statement of the problem is the focal point of your research. It should state what you will be studying, whether you will do it through experimental or non-experimental investigation, and what the purpose of your findings will be. As a part of the Introduction, effective problem statements answer the question “Why does this research need to be conducted?”.

It is just one sentence (with several paragraphs of elaboration). In it, you are looking for something wrong, something that needs close attention, or something where existing methods no longer seem to be working.

- Example of a problem statement: “The frequency of job layoffs is creating fear, anxiety, and a loss of productivity in middle management workers.”

In your wording, be succinct and on target. Give a short summary of the research problem that you have identified. A research proposal may not be considered acceptable or credible if you fail to clearly identify the problem. Your biggest difficulty might be narrowing the topic since the topic is still relatively unfamiliar to you. Your Literature Review should be a helpful source.

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While the problem statement itself is just one sentence, it is always accompanied in the larger Introduction by several paragraphs that help to elaborate and that may include other elements of the research proposal. You might present persuasive arguments as to why the problem is important enough to study or include the opinions of others (politicians, futurists, other professionals). Explain how the problem relates to business, social or political trends by presenting a bit of evidence from your Literature Review that demonstrates the scope and depth of the problem. Try to give dramatic and concrete illustrations of the problem. After writing the Introduction, however, make sure you can still easily identify the single sentence that is the problem statement.

Exercise 17. Can you clearly identify the statement of problem in a study? Briefly describe two studies that you read about when completing your review of the literature. Identify the statement of problem in each. Evaluate the statement for each based on the characteristics explained above in a paragraph or two.

PURPOSE OF THE STUDY

This describes the goals and objectives that are the targets and desired outcomes of work done by you to find answers to the problem or issue under investigation.

The purpose often starts with a single goal statement that explains what the study intends to accomplish. A few typical statements are:

The goal of this study is to...

...overcome the difficulty with...

...discover what...

...understand the causes or effects of...

...refine our current understanding of...

...provide a new interpretation of...

...understand what makes ____ successful or unsuccessful

It is then followed by a paragraph which describes the objectives that support the goal of the research investigation.

The words *goal* and *objective* are often confused with each other. They both describe things that a person may want to achieve or attain; however, each is different in its scope. *Goals* are more global in nature, affecting larger populations over longer time frames. They are the big vision and are more general in wording. *Objectives* are more specific and defined in nature. They are time-related to achieve a certain task, and are the measurable outcomes of activities undertaken to achieve goals; they are described as achieved or not achieved. Objectives should align with a study's goals.

The following chart can help you in determine whether a statement that you have written is a *goal* or an *objective*.

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Question	Goal	Objective
What is the meaning of the statement?	The purpose toward which an investigation is directed.	Something that one's efforts or actions are intended to attain or accomplish; purpose; target
What is the time frame of the statement?	Long term	Short term
How would you measure the action described in the statement?	Cannot be measured	Can be measured
What is the type of outcome of the action described in the statement?	Intangible	Tangible
What kind of action is described in the statement?	Generic action	Specific action
What overall plan is the statement describing?	Broad plan	Narrow plan
Statement example	<i>The after-school program will help children read better.</i>	<i>The after-school remedial education program will assist 50 children in improving their reading scores by one grade level as demonstrated on standardized reading tests administered after participating in the program for six months.</i>

Exercise 18. Study the brief information about the research and fill in the gaps 1–3 with the sentences a–c.

- The research objectives:
- Title
- The aim of the research:

_____ 1 _____ Teacher Training to Develop Students' Abilities
2011

Head: Shadrikov, Vladimir D.

Department: Institute of Educational Studies

The reflective practice of resolving theoretical and practical issues in teacher training to develop student abilities is presented in research. The study is based on the psychological abilities theory that is developed in the laboratory of the psychology of abilities (National Research University "Higher School of Economics", Department of Psychology) under the scientific supervision of Dr. Shadrikov.

The study puts into practice a research strategy that has been developed in a series of carried out projects: "Development of Intellectual Operations as the Basis of Formation for Human Cognitive Abilities" (2008); "Development of Student Cognitive Abilities in the Comprehensive School (2009); "The Development of Ability Theory and Its Applications for Training and Professional Activities" (2010), that are complementing and expanding the psychology of human abilities. The methodology of the study was defined as a theoretical understanding of the abilities of a three-tiered formation: individual abilities (natural abilities), subject's abilities and personality abilities. The given abilities are compared with basic psychological categories: processes, properties and states. The research focused on the development of the subject of the activity abilities. On the subject level the key mechanism for developing abilities is the development of intellectual operations.

Research Object: To develop student abilities.

_____ 2 _____ To develop a method and technique for training teachers in working with students mental abilities.

_____ 3 _____

1. To work out the theoretical principles for developing student mental ability based on the theory of mental development.

2. To identify the determinants for the successful development of student mental abilities based on the acquisition of intellectual operations in the educational process.

3. To develop a technique for training teachers to work with the students mental abilities based on educational content (tasks, exercises, etc.).

4. To specify the method in teacher training techniques designed to work with the mental abilities of students on different educational levels (primary school, secondary school).

Exercise 19. Study the brief information about the research. Underline the problem(s) and the purpose(s) of the research.

Economics of Higher Education Development
2011

Head: Carnoy, Martin

Department: International Laboratory for Education Policy Analysis

The study was conducted in two research areas:

1. The contribution of education reforms to the development of students' skills in solving problems of different types.

2. Assessment of relations between students, teachers' characteristics, educational practices used by them and the results of the Unified State Exam (USE). The study results of each area are presented in separate parts of report.

Area 1. The contribution of education reforms in the development of students' skills to solve problems of different types.

The focus of the study:

Educational policy and its impact on changing results of TIMSS and PISA.

Aim:

- To estimate an impact of educational reforms and socio-economic factors on students' achievements in large-scale assessment programs and their ability to solve different type of tasks in general in 9 post-communist countries.
- To identify the most important school teachers' characteristics affecting Russian pupils' achievement in TIMSS.

Data:

For the first aim TIMSS data (IEA Study Data Repository, <http://rms.iea-dpc.org>), cycles: 1995, 1999, 2003, 2007, and PISA (<http://www.pisa.oecd.org>), cycles: 2000, 2003, 2006 was used for Russia, Latvia, Lithuania, Bulgaria, Czech Republic, Hungary, Romania, Slovak Republic, Slovenia.

To realize the second aim, we used TIMSS 2007 Russian data.

Main results:

In the last 15 years in all 9 post-communist countries the results of TIMSS (math and science) have been decreasing; also the variation between these countries decreased. The achievement level in PISA (reading, math and science) is more consistent during the period of observations.

School level information from PISA and TIMSS is quite often subject to social desirability and low inter-rater agreement. So, factual information rather than self-appraisal should be used.

Descriptive information from countries' encyclopedias (IEA) is usually about intentions. So it cannot be used when the research question concerns implementation or attainment. Or it is necessary to carry out additional research that can provide standardized and comparable data. There is a lack of information on social and economic context (socio-economic data from The World Bank, UNESCO, etc. and country encyclopedias (IEA), especially concerning non-European countries. So this makes it difficult to carry out comparative research using only this information.

There is a lack of specific information about teachers' characteristics in TIMSS questionnaire. For example it would be very useful if researchers had an opportunity to distinguish teachers who graduated from educational schools as opposed to those who studied at universities.

Suggestions for extending the research have been defined: it is worth including teachers' class practices. However it is necessary to keep in mind the results of first part of the study about social desirability and other plausible problems.

Application area:

Educational policy

Research in education.

Area 2. Assessment of relations between students, teachers' characteristics, educational practices used by them and the results of the USE.

The main research question is how students' background, teachers' characteristics and educational practices affect students' academic achievements? Which practices bring the most gain to different groups of students?

The methodology of analysis included "quasi value added" regression models and the model known as "first difference". All these models were used, correcting the error terms for clustering.

Thus the effect of different non-observed students' characteristics was fixed and the bias problem was solved.

The analysis was based on the data of the sociological survey conducted in May 2010 in 4 provinces. There were 4 groups of respondents: 11th grade students, their math teachers, the Russian language teachers and the school principals. The students' Unified State Exam (USE) scores in math and in Russian language were collected as well. The sample represented the 11 grade students in each province.

As a result, the authors proved that students and teachers are not randomly assigned to classrooms.

The connection between students' background characteristics, teachers' professional experience and educational practices with students' academic achievements was described. It was revealed that teachers have significant effect on students' academic achievements.

Finally according to the analysis results for lessening the difference between Russian language and math exam scores it is very significant to raise the professional experience of the maths teachers. In this way, an increase in the average USE math score can be seen.

Application area:

Educational policy

Research in education.

[5]

Section 2. Science Development and Research University

LEAD-IN

Exercise 1. Discuss the following questions.

1. What are the main functions of UNESCO?
2. What are the trends in R&D in the world today?
3. What are the main problems Russian R&D faces?

Exercise 2. Read the text and compare your ideas.

READING

Without Modern Science, a Country's Prospects for Development Are Uncertain

1. On November 10, 2015, the UNESCO Science Report: towards 2030 was presented in Paris. The report analyzes trends in R&D in different regions and countries. The chapter of the report devoted to Russia was prepared by HSE researchers Leonid Gokhberg and Tatiana Kuznetsova.

Public funding of R&D in Russia has increased significantly over the past ten years and, at purchasing power parity, has been comparable to corresponding expenditures in Germany and Japan (USD 32-35 billion in 2013), according to the report's authors.

2. 'We have a lot of problems, some of which go back to Soviet times and some of which have appeared more recently. Some of them can be solved quickly, and some will take more time, but Russia undoubtedly has considerable potential in the area of science, and the state is advised to develop and support it,' says Tatiana Kuznetsova, Director of HSE Institute for Statistical Studies and Economics of Knowledge (ISSEK). 'It is clear that increasing funding is difficult in the current economic and geopolitical situation, but we need to find some rational solutions. We cannot go backwards. The fact is that the failures of state funding that we saw in the 1990s have yet to be overcome — the state still spends less on science than it did in 1990-1991.'

3. Whereas the state has sought to overcome these failures in recent years by significantly increasing financial support, business has not shown greater interest in developing R&D. The low intensity of investment in science on the part of industry has been especially painful for the development of science as a whole. The economy is developing slowly, and businesses do not have enough resources or incentives to support science. Moreover, even funds that are available are not spent the same way they are in developed countries. Only a fifth of total innovation expenditures by Russian companies goes to financing actual research; purchases of new equipment and technology (often from countries that are direct economic competitors) accounts for most spending. In the EU, the situation is the exact opposite; for example, in Austria and France, 80% of companies' 'innovative' expenditures go towards research and development.

4. Rapid economic growth, stimulated by high oil prices in 2000-2008 (and relatively high prices later on), had a paradoxically negative impact on the innovative activity of Russian business. The government sought to correct this situation, albeit at the level of state-owned companies, which were obligated to carry out special innovation development programmes. This requirement brought results: from 2010-2014, the share of innovative products as a part of total sales by state-owned companies increased from 15.4% to 27.1%.

In general, gross domestic expenditures on R&D in Russia in 2013 amounted to 1.12% of GDP. This is almost two times less than the EU average (1.92% of GDP). In China, the figure is more than 2%, while in Germany and the US it is closer to 3%.

5. The level at which articles by Russian academics are cited also leaves much to be desired; it's twice lower than the average for G20 countries. Patenting new developments is also a problem. While absolute numbers of patents are growing, 70% of them are 'on paper' and are not connected to major technological innovations. A market for intellectual property rights in Russia has still not been formed. Gaps also remain in laws, which are supposed to protect and stimulate development of this market.

6. More than 727,000 people were employed in R&D in Russia in 2013, which is 1% of the country's total workforce. In absolute terms, Russia is a world leader, trailing only the US, Japan and China. But per 10,000 workers (employed persons) Russia ranks only 21st (29th if we consider only researchers, i.e., without taking into account supporting science staff).

7. Almost one in four Russian adults has a higher education, and in the younger generation, this share is increasing. In 2013/2014, 5.6 million students were enrolled in Russian universities, with more than half of them in the fields of economics, management and the humanities; more than 20% in engineering; and less than 3% in the natural sciences and mathematics. One of the primary missions of research universities in Russia is training scientists; it is in universities that a significant number of those seeking Candidate's degrees and PhDs are working on their dissertations. The share of those who do so in other academic institutions has fallen by a factor of three in the last 20 years.

8. 'In today's world there is no longer any debate about whether science is important for a country. If there is no modern science, a country's prospects for the future are uncertain at best, and quite likely to strongly unfavourable,' said Tatiana Kuznetsova. 'Today, this is understood even in countries that have never really had promising science and that for various reasons were even separated from global processes. They are looking for research areas that will help them get ahead, fill new niches, and push out competitors.' A typical example in this respect is Iran. The authors of report chapter devoted to this country show how Iranian science achieved breakthroughs on a number of parameters (such as publication activity), despite a quarter century of political and economic isolation.

[6]

ACTIVITIES

Exercise 1. Read the following words from the text. Check pronunciation of these words with the dictionary.

Soviet, region, expenditure, author, economics, fund, geopolitical, support, intensity, industry, resource, incentive, purchase, paradoxically, competitor, obligated, humanities, engineering, dissertation, niche, breakthrough, parameter, isolation

Exercise 2. Are the following statements TRUE, FALSE or NOT GIVEN according to the text *Without Modern Science, a Country's Prospects for Development Are Uncertain?*

1) There was a considerable government subsidization of R&D in the Russian Federation over the last decade.

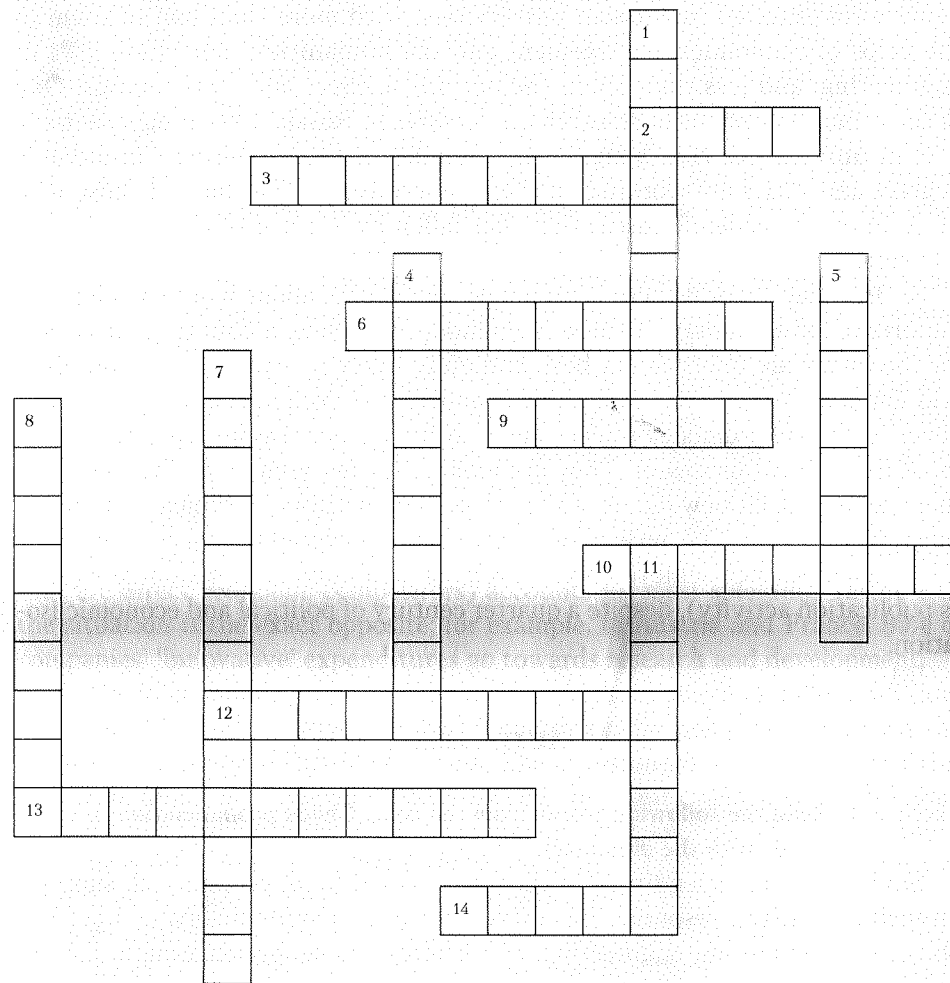
2) The R&D problems appeared in the USSR are the most complex to tackle.

3) 70% of Australian businesses' 'innovative' spendings go towards research and development.

4) Abrupt economic growth, encouraged by high oil prices in 2000-2008, suspended the development activity of Russian business.

5) There is a need to design and implement intellectual property rights market in the Russian Federation.

Exercise 3. Scan through the text (paragraphs 1–8) and find words which can help you do the crossword.



Across

- 2. to speak or write the exact words from a book, an author, etc. /v/ (para 5)
- 3. that you can get, buy or find /adj/ (para 3)
- 6. the possibility of something happening or being developed or used /n/ (para 2)
- 9. an official right to be the only person to make, use or sell a product or an invention; a document that proves this /n/ (para 5)
- 10. a way of solving a problem or dealing with a difficult situation /n/ (para 2)
- 12. a person or an organization that competes against others, especially in business /n/ (para 3)
- 13. the act of spending or using money; an amount of money spent /n/ (para 1)
- 14. an opportunity to sell a particular product to a particular group of people /n/ (para 8)

Down

- 1. something that encourages you to do something /n/ (para 3)
- 4. similar to somebody/something else and able to be compared /adj/ (para 1)
- 5. of or inside a particular country; not foreign or international /adj/ (para 4)
- 7. in a way that is large or important enough to have an effect on something or to be noticed /adv/ (para 1)
- 8. all the people who work for a particular company, organization, etc. /n/ (para 6)
- 11. to succeed in dealing with or controlling a problem that has been preventing you from achieving something /v/ (para 2)

Exercise 4. Use words from Exercise 3 to fill in the gaps. Remember to change the form of the word.

- 1. The situation in the US is not directly _____ to that in the UK.
- 2. The two sets of figures are not _____ different.
- 3. The European marketplace offers excellent _____ for increasing sales.
- 4. Further information is _____ on request.
- 5. Savings have been disposed of in order to meet the growing gap between income and _____.
- 6. She _____ a passage from the President's speech.
- 7. The device was protected by _____.
- 8. They spotted a _____ in the market, with no serious competition.
- 9. There is no _____ for people to save fuel.
- 10. There's no simple _____ to this problem.
- 11. Two thirds of the _____ are women.
- 12. The two parties managed to _____ their differences
- 13. We produce cheaper goods than our _____.
- 14. Output consists of both exports and sales on the _____ market.

Exercise 5. Match the word with its definition.

- | | |
|----------------------------|---|
| 1. public funding | a. the qualification obtained by students who successfully complete a university or college course |
| 2. purchasing power parity | b. economics concept that exchange rates between currencies should be based on their relative purchasing power in their domestic markets for a fixed basket of goods and services. |
| 3. GDP | c. knowledge, creative ideas, or expressions of human mind that have commercial value and are protectable under copyright, patent, servicemark, trademark, or trade secret laws from imitation, infringement, and dilution. |
| 4. intellectual property | d. money that is generated by the government to provide goods and services to the general public. |

5. PhD e. a long piece of writing on a particular subject, especially one written for a university degree
6. dissertation f. the value of a country's overall output of goods and services (typically during one fiscal year) at market prices, excluding net income from abroad.
7. degree g. a university degree of a very high level that is given to somebody who has done research in a particular subject

Exercise 6. Complete the text with the sentences below.

Without Advanced Education, Young People Likely to Stay Unemployed

The level of education has a direct impact on young Russians' chances of getting a job. Young men and women with some post-secondary education – in particular those with higher education – experience a shorter transition to their first employment and a fairly low risk of staying unemployed, while those with just nine years of compulsory secondary school – in fact, 20% of Russians under 29 – are likely to remain unemployed for prolonged periods, according to Elena Varshavskaya, professor of the HSE Department of Human Resources Management.

Young Russians' employment prospects – and specifically the risks of not finding a job once out of school – are the main theme of Varshavskaya's paper 'Successful Transition from Studies to Employment: Who Finds It Easier?' presented at the Fourth International Conference of the Russian Association for the Study of Higher Education 'Rethinking Students: Ideas and New Approaches to Research'.

There is an inverse correlation between one's level of education and their risk of becoming unemployed or economically inactive, according to Varshavskaya. In other words, *post-secondary education increases the chances of employment*, while those who have worked their way through college or university are at a clear advantage in getting a decent job. _____ 1 _____

The latter group of young people are described internationally by the acronym NEET – Not in Employment, Education or Training (see E. Varshavskaya 'Russian Youth NEET: Certain Characteristics and the Need for More Research' in *Statistics and Today's Challenges: a Collection of Conference Papers*. M., 2015, pp. 71–75). The increase in this group observed in Europe and North America since the early 1980s reflected a worsening situation in the labour market for young people. In Russia, a decline in young people's economic activity was first observed in the 1990s and persisted throughout the more prosperous 2000s and 2010s, when other age groups were restoring their positions in the labour market. _____ 2 _____

On the other hand, the difficult economic situation in the country, combined with financial challenges faced by households and a few other factors, such as employers' preference for hiring people with relevant work experience, forced

many students to work part-time or even full-time while studying, thus shifting their career start to an earlier age.

Varshavskaya's research is based on findings from the ILO's School-to-work Transition Survey (SWTS) conducted in 28 countries, including Russia, where it was included as part of Rosstat's employment survey and involved 11 regions – Bryansk, Volgograd, Voronezh, Nizhny Novgorod, Irkutsk, Novgorod, Rostov, Sverdlovsk and Chelyabinsk Regions, and the Republics of Bashkortostan and Dagestan. _____ 3 _____

Vocational Education and Training Increases the Chances of Employment

Two indicators are particularly significant for studying work-to-school transition: employment status, i.e. whether or not a young person is employed within three, six or twelve months of completing their studies, and how long the school-to-work transition has taken them. _____ 4 _____

Varshavskaya found a stark contrast in the rates of employment between young people with just nine years of secondary school and their peers with post-secondary education: after six months of completing their studies, just over half (55.6%) of the former group were employed, in contrast to more than 80% of the latter group (regardless of the level of post-secondary education).

Working While Studying Increases the Chances of Employment

According to Varshavskaya, combining work and studies increases the likelihood of finding employment soon after graduation and minimizes the risks of unemployment for young people. University graduates have the greatest advantage, and working while studying further increases their chances of finding employment by almost 12 p.p. (93.5% vs. 81.8%), while the chances of this group staying unemployed or economically inactive stand at 2.8% and 3.7%, respectively.

Varshavskaya found a gender gap in the rates of employment, with women facing lower chances of employment and higher chances of economic inactivity – the latter by almost 1.7 times (13.8% vs. 8.2%).

However, the higher the education level, the less difference between men's and women's status in the labour market. _____ 5 _____ As education levels go up, the gender disparity goes down, with 86% of men and nearly 83% of women with vocational training being employed.

Just over a third (36%) of young women with no education beyond secondary school are employed. According to Varshavskaya, 'Almost half of them (47.2%) are economically inactive and one in six (16.7%) are unemployed.' This may be due not only to their levels of knowledge and skills, but also to their reproductive behaviour, as women in this social group tend to have children earlier and thus do not enter the labour market.

_____ 6 _____ According to some estimates, this disadvantaged group is quite numerous in Russia, more than one-fifth of all Russians aged 29 and younger.

[7]

A. In the group with compulsory schooling only, the gender gap in employment rates stands at 28 p.p. — 64% for men and 36% for women.

B. Out of the total sample of almost 3,900 people aged 15 to 29, a subsample of 2,254 was selected which included respondents who had completed their education or training before 2012 (the survey was conducted in July 2012).

C. Thus, the risk of unemployment is the highest for young people with no education beyond secondary school, and this group can remain excluded from the labour market for prolonged periods.

D. In contrast, young people with just nine years of compulsory secondary school without any additional training face the highest risks of remaining unemployed for a long time.

E. The survey respondents differed in terms of employment status (employed, unemployed, economically inactive) and the level of education, ranging from the compulsory nine years of secondary school to higher education.

F. These processes caused many young Russians to begin work later in life.

SPEAKING

Exercise 7. Read the text about five tips to give an academic presentation.

Five Tips to Make Academic Presentation

Tip #1: Use PowerPoint Judiciously.

- Power Point slides do not need full sentences, and should never have a paragraph full of information.
- Use images effectively. You should have as little text as possible on the slide. One way to accomplish this is to have images on each slide, accompanied by a small amount of text.
- Never put your presentation on the slides and read from the slides.
- Do not have too many slides. Definitely do not have more than one slide per minute of presentation.

Tip #2: There is a formula to academic presentations. Use it.

Once you have become an expert at giving academic presentations, you can deviate from the formula. However, if you are a newbie, you need to follow the formula.

- Introduction/Overview/Hook
- Theoretical Framework/Research Question
- Methodology/Case Selection
- Background/Literature Review
- Discussion of Data/Results
- Analysis
- Conclusion

Tip #3: The audience wants to hear about your research. Tell them.

One of the most common mistakes in people giving presentations is that they present only information the audience already know. This usually happens when they spend nearly all of the presentation going over the existing literature

and giving background information on their particular case. You need only to discuss the literature with which you are directly engaging and contributing. Your background information should only include what is absolutely necessary. If you are giving a 15-minute presentation, by the 6th minute, you need to be discussing your data or case study.

Tip #4: Practice. Practice. Practice.

You need to practice your presentation in full before you deliver it. You might feel silly delivering your presentation to your cat or your toddler, but you need to do it and do it again. You need to practice to ensure that your presentation fits within the time parameters. Practicing also makes it flow better. You can't practice too many times.

Tip #5: Keep To Your Time Limit.

If you have ten minutes to present, prepare ten minutes of material. No more. Even if you only have seven minutes, you need to finish within the allotted time. If you will be reading, a general rule of thumb is two minutes per typed, double-spaced page. For a fifteen minute talk, you should have no more than 7 double-spaced pages of material.

Questions and Answers.

For many scholars, this is the most terrifying part of the presentation. What if you do not know the answer to a question?

- Chances are, you know the answer. You have prepared this talk, you have done your research, and you have been chosen to present.
- Sometimes someone may ask you a very complicated (and perhaps even obscure) question. At times, it is helpful to "reiterate" what they are asking ("Am I understanding correctly — you are asking such and such?") That can "buy" you some time to think, and it may entice the audience member to be more to the point.
- Remember that you cannot know EVERYTHING. And that is completely fine. You are to share what you know and also learn from others.
- Here too, confidence comes with practice. Try to find colleagues or friends who are willing to listen to your presentation. Let them ask you questions before you deliver your presentation at. This exercise will indicate what may be unclear to audience members and what questions you should anticipate being asked.

Exercise 8. Prepare a 5-minute presentation of the main points of your project proposal or, for example, of science at university. Try to follow the tips above and pay attention to cohesion of your speech. Use the linking words:

Listing	Giving Examples	Generalising
first, second, third	for example	in general
first, furthermore, finally	for instance	generally
to begin, to conclude	as follows:	on the whole
next	that is	as a rule

Reinforcement	Giving Examples (termination)	Generalising (termination)
also	in this case	for the most part
furthermore	namely	in most cases
moreover	in other words	usually
what is more	Result / Consequence	Highlighting
in addition	so	in particular
besides	therefore	particularly
above all	as a result/consequence	especially
as well (as)	accordingly	mainly
in the same way	consequently	Reformulation
not only... but also	because of this/that	in other words
Similarity	thus	rather
equally	hence	to put it more simply
likewise	for this/that reason	Expressing an Alternative
similarly	so that	alternatively
correspondingly	in that case	rather
in the same way	under these circumstances	on the other hand
Transition to New Point	Deduction	the alternative is
now,	then	another possibility would be
as far as <i>x</i> is concerned	in other words	Contrast
with regard/reference to	in that case	instead
as for...	otherwise	conversely
it follows that	this implies that...	on the contrary
turning to	if so/not	in contrast
Summary	Stating the Obvious	in comparison
in conclusion	obviously	Concession (smth Unexpected)
to conclude	clearly	however
in brief	naturally	even though
to summarise	of course	however much
to sum up	as can be expected	nevertheless
overall	surely	still
therefore	after all	yet

Exercise 9. Before you give the presentation, examine the presentation assessment form concerning only profiles A and B. Fill in the left-hand column (1-5) with the following aspects assessed:

Language; Content; Delivery; Organisation; Evidence of preparation

Presentation Assessment Form

Aspects	Profile A	Profile B
1 _____	Pronunciation hardly interferes with comprehension. Volume and speed are appropriate. Rhythm and intonation are varied and appropriate. Good eye contact.	Pronunciation of individual words occasionally interferes with comprehension. Volume and speed are adequate. Rhythm and intonation generally appropriate. Eye contact may be limited.
2 _____	Clear evidence of ability to express complex ideas, using a wide range of appropriate vocabulary. Cohesive devices, where used, contribute to fluency. High degree of grammatical accuracy.	Some ability to express complex ideas, although not consistently. Reasonable use of range of vocabulary and structures. Cohesive devices, where used, contribute to fluency, but are sometimes misapplied.
3 _____	Strong introduction, with clear outline. Logical ordering of main points. Effective conclusion.	Generally, there is a logical ordering of main ideas. Introduction / conclusion are linked with main points.
4 _____	Content is appropriate and relevant. Topic is explored in sufficient depth.	Content is mostly appropriate and relevant.
5 _____	Evidence of thorough familiarity with topic. Fluent delivery, with skilful use of notes. Deals well with questions. Use of PowerPoint / OHTs enhances the presentation.	Familiar with topic. Use of notes sometimes interferes with delivery of presentation. Use of PowerPoint at times distracts from presentation content, due to unclear script / inappropriate pictures / poor timing.

GRAMMAR

MAKING CONNECTIONS. LINKING WORDS

Exercise 10. Choose the most appropriate linking words.

1. As medicine came to be based on qualifications, rather than experience, patriarchal institutions were able to ensure women were excluded from medicine. They were unable to gain entry into the Universities offering qualifications in medicine, **for example / as follows**: the University of Edinburgh, and prevented from taking exams that would gain them a place on the Medical Register (Witz, 1992). **Although / In addition** several women, including Sophie Jex Blake, managed to gain university places, they were subject to prejudice and abuse by fellow students, and following their entry onto the Medical Register,

universities changed their policies, ensuring that although women could study medicine, they would not necessarily qualify to practice it (Witz, 1992).

2. There has been a huge increase in the number of official statistics since the Central Statistics Office was set up in 1941, and now large quantities of statistics are produced on a variety of different topics, *rather / for example* income, housing and population. *As for / Although* they are widely used there are many limitations of the use official statistics in sociology.

3. When we talk about the 1930s in terms of social history, we often refer to the strong emergence of ideology into the public domain. *Usually / Moreover*, for Latin American countries, the first half of the twentieth century marked the coming of 'modernity'. Other factors, *however / instead*, such as immigration and a rumbling social hierarchy in the aftermath of slavery, tended to influence society in more informal ways.

4. The first films with sound managed to reach a mass audience and demonstrated what it was like to be a true Argentine, or Brazilian, in a light package. *Moreover / If so*, the aftermath of key political events (Argentina, the 'infamous decade' after the fall of Yrigoyen; Brazil, the 1930 coup of Vargas; Mexico, the heritage of the revolution) and the subsequent split among the people brought a new literature of thinkers focussing with urgency upon 'national character and the metaphysics of the Mexican, Argentinian or Brazilian "being"'. The assessment of each country's culture climate *in conclusion / thus* provides interesting insights into the attempts made at a culturally constructed nationhood.

5. There were interconnections between disease, migration, death, birth rate, price and wage, amongst others; in practice of course the nature of and the strengths of these links varied, *nevertheless / yet* they did exist. The incidence of famine whether long or short term affected disease rates, fertility rates and migration rates *as well as / as well* affecting prices and wages as the population lessens. *On the other hand / Likewise*, high fertility could force prices up, wages down, encourage migration and make disease more probable.

6. Machinery, tools and everyday implements like scissors or can openers are fashioned for dextral users, forcing left-handers to use their less adept hand or to find ways around their disadvantage. This can cause awkwardness and a higher probability of accidents. *Surely / Conversely*, Merckelbach et al (1994) did not find left-handers to be less physically fit nor to be more accident prone. *Instead / Besides that*, left-handers seem to have an advantage in sports. Grouios et al (2000) discovered left-handers to be more common in competitive sporting activities.

[8]

Exercise 11. Match the beginning of each sentence with the most appropriate ending and add the missing prepositions.

- | | |
|---|--|
| 1. HR policy aims | a) ___ for 2 months, every 8–10 days. |
| 2. In classical mechanics, the energy of a body is defined in terms | b) ___ meter-readings made by the utility companies. |
| 3. Monitoring tests were carried | c) ___ ever happening again. |

- | | |
|--|--|
| 4. How actively should the CEO and the executive team participate | d) ___ two experimental approaches. |
| 5. Gas and electricity consumption data are usually derived | e) ___ achieve full use of human resources potential and to promote each employee's personal growth. |
| 6. For more detailed information, refer | f) ___ experiment. |
| 7. The research was based | g) ___ its ability to do work on other bodies. |
| 8. Research efforts on turbines and rotors will need to focus | h) ___ the implementation of the strategic plan? |
| 9. If the mice could not find the platform itself in two consecutive attempts, it was excluded | i) ___ improve financial results due to favorable conditions on the domestic sugar market. |
| 10. The United Nations has a moral responsibility to ensure that genocides, such as the one perpetrated in Rwanda, are prevented | j) ___ their cost-efficiency, reliability and ease of maintenance. |
| 11. The company managed | k) ___ one of the references listed earlier. |

VOCABULARY

Exercise 12. Fill in the gaps with the correct preposition if necessary.

- Budget incomes are shown according ___ the Russian Federation budget classification into sections and basic types of income.
- They are on the horizon and may have estimated high potential comparable ___ other renewable energy technologies.
- This book is devoted ___ the exploration of that cosmic perspective.
- After taking ___ account the number of deaths expected, by considering patients' prognostic factors, one hospital had fewer than expected deaths, another the expected number, and a third more than expected.
- The fall in retail sales is directly connected ___ the decline in employment.
- Overall, foreign competitors are gradually being pushed ___ even from exclusive positions.
- That is why the increase in the GDP growth is only marginal despite ___ the impressive rise in the oil prices forecast.
- Furthermore, in 69 countries women accounted ___ only 10 per cent or less of parliamentarians, and a number of countries still denied women the right to vote and to stand for election.
- In the second part we provide the survey of legislative changes which directly have an impact ___ doing business in Belarus.

Exercise 13. Find synonyms among the words given below.

prominent; elucidator; proponent; interpreter; illuminative; persuasive; outstanding; intuitive; convincing; explanatory; adherent; descriptive

1.	—	
2.	—	
3.	—	
4.	—	
5.	—	
6.	—	

Exercise 14. Look at the definition of the two commonly misused words *vary* and *very* and do the task.

VARY /verb/	VERY /adj./, /adv/
1. [intransitive] to be different from each other in size, shape, etc.: <i>The students' work <u>varies</u> considerably in quality.</i>	1. used for emphasizing that a quality exists or is true to a great degree: <i>I took my music lessons <u>very</u> seriously.</i>
2. [intransitive] to change or be different according to the situation: <i>The menu <u>varies</u> with the season.</i>	2. used for emphasizing that someone or something is the best or most suitable: <i>You <u>might</u> be the <u>very</u> person we are looking for this job.</i>
3. [transitive] to make changes to something to make it slightly different: <i>The job enables me to <u>vary</u> the hours I work.</i>	

Fill in the gaps with the correct word:

- They were badly fed, badly clothed, and lived in the _____ worst conditions.
- The details may _____, but all of these savings plans have the same basic goal.
- How did you know this was the _____ thing I wanted?
- We want to make sure that we choose the _____ best design.
- The quality of the students' work _____ considerably.
- We may _____ these rates in line with interest rates.
- The software allows you to _____ the size of the print.
- We worked till the _____ end of the day.
- Prices _____ according to the type of room you need.
- At the _____ least, Higgins should have to pay a fine for what he's done.

WRITING

HEDGING

There are a number of types of hedge:

1. Modal verbs indicating possibility	e.g., <i>might, could</i>
2. Verbs distancing the writer from the claim or showing that the writer is speculating	e.g., <i>seem, indicate</i>

3. Adjectives, adverbs and nouns showing the degree of certainty	e.g., <i>possible, possibly, possibility, be likely to</i>
4. Other expressions qualifying or limiting a claim	e.g., <i>generally, tend to, in most cases</i>

Exercise 15. The following extracts are from the conclusions of journal articles in the field of Applied Linguistics. Underline the hedges and add them to the table.

- Responses to questions are likely to impose greater demands on subjects' second language skills.
- Inadequate language proficiency and writing skills may be the main reason for students' problems with plagiarism.
- The function of 'please' is to some extent to convey the speaker's attitude.
- The lectures used in this study were mainly descriptive in nature.
- This study suggests the value of gathering more data on social cultural factors.
- The lack of motivation among students appeared to be related to their attitudes toward the role of English in science.
- Information from intercultural communication can be a valuable tool for teacher educators.
- Perhaps the use of taped oral feedback can provide focused assessment for students.

Exercise 16. Look at the following claims from academic texts and decide which of them should be hedged. Add a hedge from the table above where appropriate and make any other necessary changes. There may be more than one possible answer.

- Cities in the Northern Hemisphere ~~will~~ become hotter over the next century. are likely to
- Air pollution is not a new phenomenon. _____
- Half of the Earth's species will disappear within the next 75 years. _____
- Evidence proves that there is a clear human influence on global climate. _____
- By far the worst concentrations of pollutants are found in urban areas. _____
- Climate change is the most important danger currently facing humanity. _____
- Eventually it will no longer be profitable to use oil as the primary fuel for the world. _____
- Air pollution has got worse in developing countries because of economic growth. _____

STUDY SKILLS

QUESTIONS OR HYPOTHESIS

Questions and hypotheses are testable explanations that are proposed before the methodology of a project is conducted, but after the researcher has had an opportunity to develop background knowledge (e.g., the literature review). Although research questions and hypotheses are different in their sentence structure and purpose, both seek to predict relationships. Deciding whether to use questions or hypothesis depends on facts such as the purpose of the study, the approach and design of the methodology, and the expected audience for the research proposal.

A **research question** proposes a relationship between two or more variables. Just as the title states, it is structured in form of a question. There are three types of research questions:

- A **descriptive** research question seeks to identify and describe some phenomenon.

For example: *What is the ethnic breakdown of patients seen in the emergency room for non-emergency conditions.*

- A **differences** research question asks if there are differences between groups on some phenomenon.

For example: *Do patients who receive massage experience more relief from sore muscle pain than patients who take a hot bath?*

- A **relationship** question asks if two or more phenomena are related in some systematic manner.

For example: *If one increases his level of physical exercise, does muscle mass also increase?*

A **hypothesis** represents a declarative statement, a sentence instead of a question, of the cause-effect relationship between two or more variables. Make a clear and careful distinction between the dependent and independent variables and be certain they are clear to the reader. *Be very consistent in your use of terms.* If appropriate, use the same pattern of wording and word order in all hypotheses.

While hypotheses come from the scientific method, to see how political scientists use hypotheses, imagine how you might use a hypothesis to develop a thesis for this paper: Suppose that we asked "How are presidential elections affected by economic conditions?" We could formulate this question into the following hypothesis: "When the national unemployment rate is greater than 7 percent at the time of the election, presidential incumbents are not reelected."

Hypotheses can be created as four kinds of statements.

1. **Literary null** — a "no difference" form in terms of theoretical constructs.

For example, "*There is no relationship between support services and academic persistence of nontraditional-aged college women.*" or "*There is no difference in school achievement for high and low self-regulated students.*"

2. **Operational null** — a "no difference" form in terms of the operation required to test the hypothesis.

For example, "*There is no relationship between the number of hours nontraditional-aged college women use the student union and their persistence at the college after their freshman year.*" or "*There is no difference between the mean grade point averages achieved by students in the upper and lower quartiles of the distribution of the Self-regulated Inventory.*"

The operational null is the most used form for hypothesis-writing.

3. **Literary alternative** — a form that states the hypothesis you will accept if the null hypothesis is rejected, stated in terms of theoretical constructs. In other words, this is usually what you hope the results will show.

For example, "*The more that nontraditional-aged women use support services, the more they will persist academically.*" or "*High self-regulated students will achieve more in their classes than low self-regulated students.*"

4. **Operational alternative** — Similar to the literary alternative except that the operations are specified.

For example, "*The more that nontraditional-aged college women use the student union, the more they will persist at the college after their freshman year.*" or "*Students in the upper quartile of the Self-regulated Inventory distribution achieve significantly higher grade point averages than do students in the lower quartile.*"

Regardless of which is selected, questions or hypotheses, this element of the research proposal needs to be as specific as possible in whatever field of study you are investigating. It should be realistic and feasible, and be formulated with time and resource constraints in mind.

Exercise 17. Identify some of the questions or hypothesis within studies you have read in your literature review. How do you think that the researchers were able to determine these were sound propositions to make? Are there things that you disagreed with in the questions or hypothesis, or that you would do differently? What did you learn from reviewing your literature review that might be helpful when you write your own paper?

Section 3. Academic Career

LEAD-IN

Exercise 1. Discuss the following questions:

1. What are the main routes when following an academic career?
2. Is there any correlation between academic career route and the job market?

3. Is there a difference between the research conducted at research-intensive universities and at teaching-focused institutions?

4. What activities may be expected to contribute to during an academic career?

READING

Task. Read the text and compare your answers.

What Is an Academic Career?

(Information about different routes into an academic career)

There are three main routes you could consider when following an academic career. These are:

- Research-only role, where the bulk of your time is spent conducting research with limited or no teaching commitment
- Teaching-only role, where majority of your time is for teaching with little or no time specifically allocated for research
- Research and teaching position, i.e. a lectureship, where you will be expected to both teach and conduct research.

In reality, most people will progress through a number of these roles when pursuing an academic career. The route you take will depend on your interests, the funding and opportunities in your subject area, and the job market at certain points in your career. It tends to be more common to have a long-term research-only career in the sciences as at present there is more funding available for research-only positions.

You should try to be clear about where your interests lie and what opportunities are available in your subject area. Many academic jobs will be a balance of research, teaching and administration but the percentage of time spent on each will vary greatly. Factors that will affect how you spend your time include:

- Your role, e.g., if you are employed as a research or teaching fellow
- Your level of experience, as junior lecturers will often have a greater teaching load than more senior lecturers
- The type of institution as lecturers at research-intensive universities may be expected to spend more time on research than those employed in teaching-focused institutions.

Some of the activities you may be expected to contribute to during an academic career are as follows:

Research

As a PhD student you will be familiar with the range of activities that come under the research heading. As an academic member of staff research activities can include:

- coming up with ideas for original research

- identifying suitable funding bodies and preparing proposals to apply for funding
- conducting research (reading, collection and interpretation of data, gathering of information from relevant sources, etc.)
- disseminating research findings through publishing
- speaking at conferences
- supervising postgraduate research students
- managing resources (research budget and possibly research staff).

Teaching

You may already have had some experience of teaching or tutoring. As an academic member of staff teaching responsibilities can include:

- design of courses and development of curricula
- preparing notes and material for lectures
- delivering lectures to undergraduates and postgraduates
- preparing for and facilitating discussion at small group tutorials
- marking / assessing students work
- supervising Honours students' dissertation research.

Administration

Some examples of the types of administrative roles academic staff may undertake include director of studies, admissions tutors, course organiser, or open-day co-ordinator / school liaisons officer.

Academics are also often members of several committees both within their department or school (e.g., staff-student liaison, health & safety), their college (e.g., library, equality and diversity, undergraduate studies) and/or across the university (e.g., quality, scholarships and student funding, recruitment and admissions strategy).

Administrative tasks associated with these roles include:

- writing the course handbook
- designing exam questions and answers (and getting these validated through the relevant committees)
- preparing a schedule of talks for visiting prospective students
- writing references for students seeking employment or further study
- screening applications for admission to postgraduate courses
- reading papers relevant to your committee membership and submitting your comments for discussion at meetings.

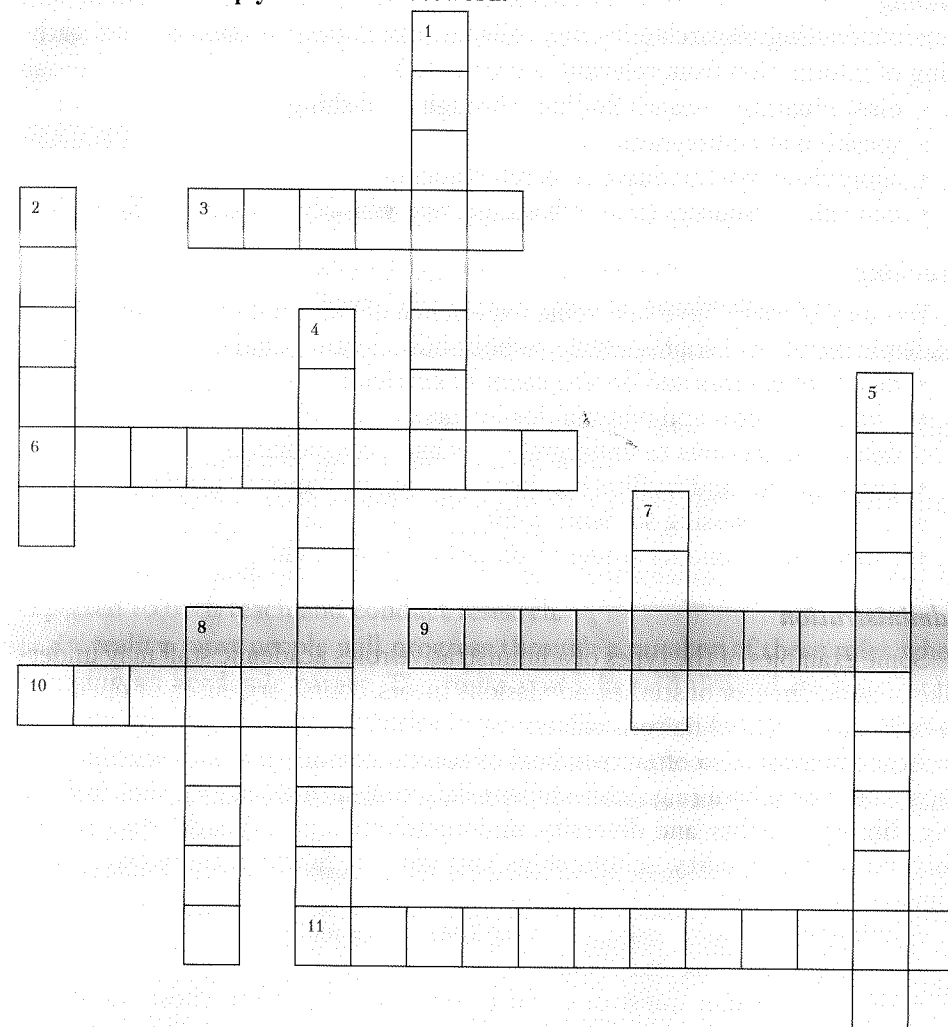
[9]

ACTIVITIES

Exercise 1. Read the following words from the text. Check pronunciation of these words with the dictionary.

route, bulk, commitment, allocate, pursue, career, vary, affect, contribute, staff, curricula, tutor, tutorial, liaison, strategy, committee, comment

Exercise 2. Scan through the text *What is an academic career?* and find words which can help you do the crossword.



Across

- 3. a senior member of some colleges or universities /n/
- 6. the subjects that are included in a course of study or taught in a school, college, etc. /n/
- 9. to be in charge of somebody/something and make sure that everything is done correctly /v/
- 10. to do something or try to achieve something over a period of time /v/
- 11. a person who already holds a first degree and who is doing advanced study or research n/

Down

- 1. a period of teaching in a university that involves discussion between an individual student or a small group of students and a tutor /n/

- 2. to produce a change in somebody/something /v/
- 4. the position of lecturer at a British university or college /n/
- 5. to spread information, knowledge, etc. so that it reaches many people /v/
- 7. to change or be different according to the situation /v/
- 8. to make a judgement about the nature or quality of somebody/something /v/

Exercise 3. Use words from Exercise 2 to fill in the gaps.

- 1. Mr. Fakhretdinov taught biology and chemistry, worked as junior research _____, senior research _____ at Chemistry Institute of Bashkortostan branch of the USSR Academy of Sciences.
- 2. John Wain resigned a _____ at Reading to live in Oxford, where he spent five years as a professor of poetry.
- 3. The Ministry has also given special consideration to promoting human rights principles in the educational _____ at the primary and secondary school level.
- 4. Everyone shall have the right to seek, get, transfer, produce and _____ information by any lawful means.
- 5. Make sure that health workers properly _____ drug intake by patients during the entire treatment.
- 6. Well, what kind of policy should the Republic _____?
- 7. The criteria actually processed by the server will _____ based on the current date.
- 8. The participants were faculty from undergraduate and _____ medical institutes from Central Asia.
- 9. A typical PBL _____ consists of a group of 8-10 students and a facilitator, who may occasionally 'steer' the session.
- 10. Work closely with resource manager to _____ and respond to resource needs.
- 11. These drugs do not _____ action potential duration.

Exercise 4. Read the interview *To Enjoy Academic Freedom at the HSE* and fill in the gaps with the words in the box.

obtained; take; approach; invent; review; maintain; attended; co-authors; accepted; share; techniques; projects; standards

To Enjoy Academic Freedom at the HSE

Dr. Dina Balalaeva, who will begin a tenure-track position at the Faculty of Social Sciences at the HSE in September, recently completed a postdoctoral fellowship at the HSE. She received her PhD in Political Science at the State University of New York at Binghamton in 2013. She agreed to speak with the HSE news service about her decision to make her career at the HSE and her plans for future research and teaching.

— **Your academic career is closely connected with the HSE. Why have you chosen to accept a permanent position at the university?**

– I made up my mind that I wanted to work at the HSE a year ago when I _____ 1 _____ the offer for a postdoctoral fellowship in Political Science. I really enjoyed this academic year. I am passionate about what I do, I relish my research, I like teaching and that is what's driving my work. I met wonderful people, successfully _____ 2 _____ important conferences, completed several papers, and started new exciting projects. I've got one preprint published on the HSE website and two pieces are under _____ 3 _____. I also had a very pleasant experience teaching. I take teaching seriously: every time you teach, you learn. This year I will teach three courses that I am excited about – two research seminars and Comparative Politics.

This year confirmed or even exceeded my expectations that the HSE is a prominent university with the highest international standards of research and teaching. The HSE provides a lot of opportunities for conducting high-quality research, _____ 4 _____ connections with the international scientific community and develop an individual _____ 5 _____ towards teaching. And I think that, more generally, professors here enjoy much academic freedom, which is an important prerequisite for any successful research. Also, a lot of Political Science and Economics professors _____ 6 _____ my research interests, which is encouraging and promising in terms of joint work. So accepting a tenure-track position was an easy decision for me.

– **Did you enjoy working with students?**

– I really enjoyed it. I was impressed by the level of knowledge of my students, especially in math related disciplines, for example, econometrics and game theory. In general, students are really motivated here. What I noticed, though – and this is unfortunately an international academic trend – is that students are losing factual knowledge. They know theoretical concepts and how to test them, but they forget about facts. It is important to remember that in order to _____ 7 _____ your own theory you have to know what is actually going on in politics. I hope to fill this gap with my own teaching.

– **What are your goals now?**

– As for most of us, my primary goal for the next three years is to publish in top international journals. Next year, I am planning to work on several interdisciplinary _____ 8 _____ with my Russian and international colleagues from the Political Science and other departments. I am also working on several individual papers that will hopefully be sent out to journals soon.

– **You have had the opportunity to compare several universities from the inside. What is attractive at the HSE, and what would you change to make teachers and students feel more comfortable?**

The HSE has a very special, welcoming atmosphere. Not only are my colleagues intelligent and smart, but they are also open-minded, easy-going and nice people who are always willing to help. I think it would be nice, though, if the HSE were to hold more interdisciplinary events where professors and maybe even postgraduate students could hang out and discuss their research interests and teaching _____ 9 _____, for example.

– **HSE is part of the international research community. How do you use it?**

– The HSE has agreements with highly prestigious universities all around the world, sends its professors and students abroad and hires many international professors. This makes it a truly international place to work and study. Largely, this is possible due to the high quality of research at the HSE that lives up to international _____ 10 _____. HSE faculty members as well as students enjoy plenty of opportunities to attend international conferences, take part in foreign research projects, and _____ 11 _____ courses at different universities abroad. In addition, most internationally hired faculty retain their connections with colleagues from their previous jobs. For instance, I am working now on several papers with my _____ 12 _____ from Binghamton University where I _____ 13 _____ my Ph.D., a practice that I plan to continue in the future.

[10]

VOCABULARY

Exercise 5. Read the text below and choose the correct word to fill each gap from A, B or C. There is an example at the beginning.

Example:

(0) A. identified B. denoted C. noted

The Research Hypothesis

The research hypothesis, (0) _____ H_1 , (1) _____ to be accepted only if there is (2) _____ statistical evidence that would rule out the null hypothesis as a reasonable possibility. The research hypothesis is also called the (3) _____ hypothesis. Accepting the research hypothesis represents a much stronger position than accepting the null hypothesis because it requires convincing evidence.

People are often interested in (4) _____ the research hypothesis as their hidden agenda, and they (5) _____ an appropriate null hypothesis solely for the purpose of refuting it. The end result would be to show that 'it's not just random, and so here's my explanation...' This is an accepted way of doing research. (6) _____ people have fairly creative imaginations, the research community has found that by requiring that the null hypothesis of pure randomness be rejected before publication of a research finding, they can effectively screen many wild ideas that have no basis in (7) _____. This does not *guarantee* that all research results are true, but it does (8) _____ many incorrect ideas.

In deciding which hypothesis should be the research hypothesis, ask yourself, Which one has the *burden of proof*? That is, (9) _____ which hypothesis requires the more convincing evidence before you decide to (10) _____ in it. This one will be the research hypothesis. Don't neglect your own self-interest! Feel free to shift the burden of proof onto those trying to sell you things. Make them prove their claims!

1. A. are B. is C. have
2. A. convincing B. proving C. proof
3. A. alternate B. altered C. alternative
4. A. founding B. establishing C. organizing
5. A. set up B. set against C. set down
6. A. As B. Since C. Also
7. A. fact B. factually C. actually
8. A. off-screen B. screen off C. screen out
9. A. determine B. determinate C. indeterminate
10. A. take B. apply C. believe

Exercise 6. A. Complete the table using proper word forms.

Verb	Noun	Adjective
classify		
	permit	
	solution	
		counting
	multiplication	
	analysis	

B. Use the correct form of the word from the table above to complete the sentences.

1.
 - a) Because of the same reason, the patented method cannot be used for the spectral _____ of variability of the given parameters.
 - b) The objective of this project is _____ how outcome goals can be defined and applied practically and how outcomes can be measured.
 - c) There can be seen a positive effect on valuation due to increase in demand and wider _____ activity.
2.
 - a) Transfer of the voting right by one member of the Committee to other members are not _____.
 - b) Invited persons with _____ may participate in a general meeting of shareholders and are even allowed to deliver a speech.
 - c) Some peculiarities of the system do not _____ for distinguishing between the data varying frequently and the data varying rarely.
3.
 - a) If the experiment is cancelled the result from the first part of it will be _____ and considered as the final result.

b) The _____ of the absolute number of cells in a blood sample was fulfilled on the day of testing.

c) One should possess a number of _____ techniques to solve the tasks.

4.

a) In order to obtain 1,248 you should _____ 208 by 6.

b) There exist two _____ rules which allow solving problems in statistics.

5.

a) 10,000 volumes and 5,200 books have been found and experts have to _____ and fully catalogue them.

b) Before doing the work students should master the _____ of the different categories.

c) _____ products usually pass all stages of quality control and can be ready for sale.

6.

a) In order to _____ the problem, the company intends to develop the risk management system according to standards and adopt the experience of its main shareholder.

b) As a result, development institutions have proved to be an effective instrument which is able to find _____ to large-scale social and economic problems and have become wide spread.

Exercise 7. Use the preposition(s) to complete the sentence.

1. There was a double digit growth _____ sales and an increase _____ market share.
2. The number of customers increased _____ a double-digit rate.
3. Very often the solution _____ each problem depends _____ the solutions which can be made while solving smaller instances of the same problem.
4. Estimates for each category were multiplied _____ the proportion of the population of the country in relation to the total population of the region.
5. The company can guarantee the customers to purchase goods and services _____ a fixed price.
6. The current ratio is a calculation of current assets divided _____ current liabilities.
7. Suppliers are known as companies that provide other companies _____ materials, components, etc.
8. The study shows that the living standard of the country has remained _____ the same level for a number of years.
9. The company's profits declined _____ \$1.5m _____ \$1.2m since sales continued to deteriorate.
10. The sales improved last year _____ 10% to \$2m.

Exercise 8. Find synonyms among the words given below.

wealth; research; transition; describe; affluence; test; experiment; reflect; adjust; transformation; study; adapt

1.	—	
2.	—	
3.	—	
4.	—	
5.	—	
6.	—	

Exercise 9. Look at the definition of the two commonly misused verbs *apply* and *imply* and do the task.

APPLY	IMPLY
1. to make an official request for permission to do or have something: <i>We advertised three jobs, and over 50 people <u>applied</u>.</i>	1. if one thing implies another thing, the other thing is likely to exist or be true: <i>The increase in the inflation level <u>implies</u> that wages are rising too fast.</i>
2. to affect or be relevant to a particular person or thing: <i>The discount no longer <u>applies</u> to him, because he's over eighteen.</i>	2. to suggest that you think something without saying it directly: <i>The doctor has stressed that her comments <u>do not imply</u> criticism of the study.</i>
3. to use a particular method, process, law, etc.: <i>The trial judge <u>had applied</u> an incorrect principle of law.</i>	

Fill in the gaps with the correct verb:

- The warning carried an _____ threat.
- A similar technique can be _____ to the treatment of cancer.
- In this section we _____ some of the theory we have developed so far.
- I didn't mean to _____ that you were interfering.
- The revised standard continues to _____ the acquisition method to business combinations.
- The problems with this approach multiply when you try to _____ it consistently.
- The worsening terms of trade do not necessarily _____ that this sector is now worse off.
- Controls over technology need not _____ limitations on the freedom to conduct research.
- A base level approach to funding will be implemented by those who wish to _____ it.
- Along the way, we will discover some useful tricks that you can _____ to your own projects as well.

Exercise 10. Read the sentences below and decide which meaning (A, B or C) of the underlined word suits the context.

- Consequently, the sampling size was influenced and raised random error of the hypothesis test.
A. besides B. hence C. enhance

2. Since the confident level was set as 95%, which means there was a type 1 error (alpha) that was 5% of the probability of declaring a difference to be statistically significant when no real difference exists in the population.

- A. intends B. matters C. amounts

3. Type 2 error (beta) is the probability of declaring a difference to be non-significant when a real difference exists in the population.

- A. diversity B. distinction C. shade

4. Since the development of mathematical models and computational applications in modern ecological studies, stochastic simulation models are increasingly used to approximate the probability of certain outcomes by running multiple trial runs.

- A. installations B. petitions C. facilities

5. Many pupils thought that because the question was given in pounds that they could not round the answer on their calculator to the nearest penny — many converted the initial number into pennies first.

- A. adjust B. sphere C. circularize

6. The approach used in lectures eliminates only random arcs meaning that the solution found may only be approximate rather than optimal and that much branching must go on before the actual optimal solution is found.

- A. demolishes B. sweeps away C. wipes out

7. Explicit method approximates the state of a system at a later time step from the state of the system at the current time, while an implicit method approximates by solving an equation involving both the current state of the system and the later one.

- A. including B. inferring C. engaging

8. Implicit method is harder to compute and implement as it involves state of the system of an unknown time-step.

- A. effect B. satisfy C. employ

9. Getting consumers to simply try a product, thereby enabling them to appreciate the reinforcement derived from consumption more full, often enhances the odds of purchase.

- A. clash B. variance C. chance

10. The uncertainty and vagueness apparent in custom can arguably be "cured" by judicial action or rather judges using custom as a judicial tool to promote efficiency.

- A. certain B. obvious C. visible

Exercise 11. Read the text below. For each question 1-10, write one word. There is an example at the beginning.

Example: (0) see

Looking at Data

What do you (0) _____ when you look hard at tables of data (for example, the back pages of *the Wall Street Journal*)? What (1) _____ a professional

statistician see? The surprising (2) _____ to both of these questions is, often, Not much. You've got to go to work on the numbers – draw pictures of them, compute summaries from them, and so on – before their messages will come through. This is (3) _____ professional statisticians do; they find this much easier and (4) _____ rewarding than staring at large lists of numbers for long (5) _____ of time. So don't be discouraged if a list of numbers looks to you like, well, a list of numbers.

Statistics in Management

What should a manager (6) _____ about statistics? Your knowledge should include a broad overview of the basic concepts of statistics, with some (but not necessarily all) details. You should (7) _____ aware that the world is random and uncertain in many aspects. (8) _____, you should be able to effectively perform two important activities:

1. Understand and use the results of statistical analysis as background information in your work.

2. Play the appropriate leadership (9) _____ during the course of a statistical study if you are responsible (10) _____ the actual data collection and/or analysis.

[11]

Exercise 12. Parallel texts. Look at the table below, here you can see the text originally written in English (Text A) and its translation (Text B). Compare the two texts and suggest English equivalents of the missing words in Text A.

Text A

Note that we never speak of 1 _____ the research hypothesis. This is because of 2 _____ of the null hypothesis as default. 3 _____ the null hypothesis 4 _____ that you don't have enough evidence 5 _____ it.

It may help you to think of the hypotheses 6 _____ of a criminal legal case. The null hypothesis is 'innocent' and the research hypothesis is 'guilty'. 7 _____ our legal system is based on the principle of 'innocent until proven guilty', this assignment of hypotheses 8 _____. 9 _____ the null hypothesis of innocence says that 10 _____

Text B

Заметим, что никогда не говорят об (1) *отклонении* альтернативной гипотезы. Это обусловлено тем, что нулевая гипотеза имеет (2) *предпочтительный статус* быть принятой без доказательств. (3) *Принятие* нулевой гипотезы (4) *просто означает*, что нет достаточных доказательств для ее (5) *опровержения*.

Можно рассматривать нулевую гипотезу (6) *в терминах* уголовного права. Нулевая гипотеза утверждает «невиновен», в то время как альтернативная гипотеза утверждает «виновен». (7) *Поскольку* наша правовая система основана на принципе «невиновен, пока не доказана виновность», (8) *есть смысл* обозначить гипотезы именно так. (9) *Принятие* нулевой гипотезы о невиновности

to convict; it does not prove that the person is truly innocent. 11 _____, 12 _____ the null hypothesis and 13 _____ the research hypothesis of guilt says that there is enough evidence to 14 _____ innocence as a possibility and to 15 _____ establish guilt. We do not have to rule out guilt in order to find someone innocent, but we do have to rule out innocence in order to find someone guilty.

[11]

означает, что (10) *нет достаточных доказательств* для осуждения, но это не является действительным доказательством невиновности. (11) *В то же время* (12) *отклонение* нулевой гипотезы и (13) *принятие* альтернативной гипотезы о виновности говорит о том, что существует достаточно много доказательств, которые (14) *исключают* возможность в виновности и (15) *убеждают* в виновности. Мы не должны показывать отсутствие вины для доказательства невиновности, но мы должны показать отсутствие невиновности для доказательства виновности.

[12]

WRITING

AVOIDING ACCIDENTAL PLAGIARISM

Plagiarism in your academic work can have serious consequences. The University's definition of deliberate plagiarism is "the fraudulent representation of another's work as your own". But accusations of plagiarism may result from carelessness, poor practice, or lack of understanding. Avoiding unintentional plagiarism means knowing how and when to reference, understanding how to get the balance right between your own arguments and your research, and being meticulous about noting details when you are doing your research.

When You Need to Include a Reference

There is a common misconception that you only need to include a reference when you use a direct quote. In fact you should always acknowledge your source when you include an idea or argument that you have found in the course of your research.

Include a reference for:

- direct quotes
- paraphrases or summaries
- a map, graph, or diagram taken from another source
- someone else's idea explained in your own words.

Do not include a reference for:

• statements that are common knowledge, either generally or within your topic. (For example, "The sun rises in the east and sets in the west" or "Descartes' *cogito* illustrates the notion of philosophical doubt".)

- your own ideas and arguments
- your analysis or criticisms of other people's ideas.

Getting the balance between your research and your own arguments

Students often worry that referencing everything they have read will make their work look like it is just a collection of other people's ideas. To avoid this,

remember to include your own analysis, interpretation and criticisms of the works you have read. In UK higher education, your written assignments are expected to demonstrate two things:

1. that you have read widely and appropriately;
2. that you understand what you have read, which you show by interpreting it in relation to the brief for your assignment and the argument you are making.

For every statement or argument you make, check that you have:

- a. some *evidence* – a reference to your reading or practical research;
- b. some *analysis, interpretation or criticism* – consider what you think of the statement or argument. Do you agree or disagree? What makes you agree or disagree – something you've read? Something from your own experience? A counter-argument?

Writing an assignment involves using academic evidence to support and strengthen your own arguments – not to replace them. So before you include a quote or paraphrase, consider whether it is really necessary: is it doing a useful job as evidence for a statement or argument that you are making, or is it just there to show that you've read the work? Note that it is bad practice to include a lot of direct quotes – consider whether it is necessary to have the exact words or whether it might be better to paraphrase. Avoid quoting whole passages unless absolutely necessary.

Exercise 13. Which of the following extracts do you think are *common knowledge*, and which do you think need *references* to information sources?

1. Learning a second language as an adult is different from learning a first language as a child. _____
2. There are around 375 million speakers of English as a first language in the world. _____
3. Communicative language teaching has not been a success in teaching adults. _____
4. English is currently the most important language for international communication. _____
5. A collocation is a sequence of two or more words that regularly occur together. _____
6. Not every language teaching method works well in every teaching context. _____
7. Languages change over time. _____
8. It has been shown that men interrupt in conversations more frequently than women. _____

Exercise 14. Read the original paragraph below and decide which *paraphrase* (1 to 3) is acceptable, that is, does not in any way plagiarise the source.

Being Old in the Global Village

In later life the saying 'no man is an island' becomes truer than ever. Older men and women rely on collective support and this can be divided into three overlapping systems. The first is economic, broadly interpreted to include paid and unpaid work. Wherever pensions are low, restricted to civil servants and

the military, or non-existent, work is the main means of support in later life. Some elders, usually men, are able to continue in paid jobs, especially if they can shift to easier work, but most are likely to be doing unpaid work such as farming, childcare or housework – often filling in for family members who work in the formal economy.

[13]

Paraphrase 1

When we get older the saying 'no man is an island' becomes truer than ever. Middle-aged men and women rely on collective support and this support can be divided into three overlapping systems. The first is financial, broadly interpreted to include paid and unpaid work. Wherever pensions are low, restricted to civil servants and the military, or not available, work is the major means of support in later life. Some older people, usually men, are able to continue in paid jobs, especially if they can change to easier work, but most are likely to be doing unpaid work such as farming, childcare or housework – often substituting for family members who work in the formal economy.

Paraphrase 2

There are three support systems available for older people. Employment, paid or unpaid, is the major means of support particularly in situations where pensions are inadequate, available only to certain groups or not available at all. Some older people, most commonly men, engage in paid employment, usually in easier jobs while most older people undertake unpaid work in agriculture, childcare or housework. This latter group often takes the place of family who are employed elsewhere.

Paraphrase 3

According to Wilson, older people rely on 'three overlapping systems' of 'collective support'. The main support is through work whether paid or unpaid. Not surprisingly when pensions are inadequate, only available to certain economic groups, or not available at all, work is the main provider for older people. Some senior citizens, invariably men, undertake remunerative employments, usually changing to less demanding jobs, while most engage in unpaid work in agriculture, minding children, or doing domestic chores. This latter group is 'often filling in for family members who work in the formal economy'.

GRAMMAR

REPORTING VERBS

A reporting verb is often used when we refer to the work of other writers in academic text.

For example:

Diamond (2002) **points out** that only a small number of plant and animal species have been exploited for food.

A number of studies **have shown** that a dietary intake of 10% canola oil significantly shortened the life span of laboratory rats.

Reporting verbs have one of three general functions. They indicate what other writers:

1. **did** in their research (e.g., *study, measure, use*).
2. **found** in their research (e.g., *find, observe, show*).
3. **thought** or **said** in their writing (e.g., *think, believe; write, state*).

Exercise 15. Find the reporting verbs in this extract from a research article looking at variation in writing in different academic subjects. Write the verbs in the appropriate group (1–3) above.

In a preliminary investigation, Dubley-Evans (1994) focused on dissertation titles. Recently, Ditz (1999) conducted an extensive analysis on titles of scientific texts. Finally, Bekenkoter and Hockin (2000) and Buskch-Lauer (2000) analysed the conventions of title writing in scientific research articles. They revealed in their studies that newer titles are semantically richer and are characterised by an increasing syntactic fullness. In connection with this, Bekenkoter and Hockin commented that stating the results of an investigation in the title of the article is becoming very common.

Exercise 16. Add the reporting verbs in the box to the group (1–3) above.

argue; carry out; claim; consider; demonstrate; discover; establish; examine; explore; investigate; note; point out; prove; show; suggest

SPEAKING

SUMMARY

Exercise 17. Read the text and underline / highlight the main ideas then summarise in your own words the key main ideas of the text.

I Teach People How to Become the Best Versions of Themselves They Can Be

HSE alumna Alisa Simonenko, the founder of the Reforma project, first created a pest extermination company before realising how she could help people find the source of their personal happiness. HSE Day, which is one of the university's biggest events that took place on September 9 this year, featured the Reforma Higher School of Fitness.

– **You had some interesting experiences after graduating from HSE – cultural events, IT projects, social networks, and even a disinfection service. How did this all lead to what you're doing now?**

– A big thanks goes out to my school first and foremost. This is where I learned how to make friends, love, create, and always strive to be the best me I can be every day. I wanted to always have this feeling throughout life, but in reality, the older I get, the more I lose this sense of ease and celebration. This is how I got the idea of setting out on a 'life mission' of instilling a certain universal happiness in myself and the people around me. This sounds bold and sugary

sweet, but I really dreamed of this, and after finishing HSE, I got the necessary project management tools and realised that my dream was more than possible. The first thing that came into my head was event organisation. But after several years of organising festivals, the Olympic Torch Relay, and dozens of smaller events, I realised that the 'fireworks' at the end of an event are over too quickly, so to speak. I wanted to find a way to extend this happiness.

This is how Parasite Pro came about. It was my first serious business that has been operating for over four years already. It's definitely useful and makes people happy. We specialise in bacteria, bugs, and rodents. And exterminating the cockroaches that surround people has brought me closer to my goal of destroying similar 'cockroaches' in their heads.

– **Is there a market for these kinds of services? Do you have competitors?**

– On the 'happiness, health, and harmony' market there are various projects that have been active for quite a while, instilling in people healthy habits, healthy thinking, and a healthy environment. One example is Dmitry Shamenkov and his 'Health Management System' or Sekta. There are also several hundreds of projects and people that offer clients such services. And this is certainly one of the most prospective and growing markets.

Overall, I am the kind of person who doesn't believe in competition. I believe in uniqueness and endless self-development, which is why the project is bringing in some of the best specialists we can find in order to create top quality content and a comprehensive service that allows people to attain happiness, health, and beauty. This sounds very sectarian, but there's more to it than that.

– **Who are your coaches?**

– They are the heart of the project – psychologists who love fitness and healthy eating. They generally come to us themselves. PhDs and researchers from HSE, the Psychological Institute of the Russian Academy of Education, and the Sechenov First Moscow State Medical University develop Reforma's programmes. These training programmes teach adults and children how to find harmony and well-being in all aspects of life – physically, socially, and spiritually.

– **Did you have a business plan for the project?**

– I'm ashamed to admit it, but I was on the wrong path for the entire first year of the business plan. I spent a long time unable to understand how to sell such a complicated, deep, and somewhat frightening product. I think the reason was that I lacked experience working with such large projects.

Now, thanks to the help I've gotten from serious experts in the field of online marketing, I have reached a final formula – share a portion of the vast content available, begin distributing it to everyone for free, thereby creating the maximum use possible for people and developing a community of 'Reformers' around the project. This allows us to get to know one another and provide help without selling directly.

– **Is this a promo type of format?**

– It is more than a promo; it's part of the business model. A type of investment in clients' trust, which you can't put a price tag on. At this stage, we pro-

vide positivity and use, and we talk about our programmes and introduce people to our coaches. And only after all of this does a person naturally develop trust and a desire to work with us intensively by going through one of our training or coaching programmes.

– **How do you work with the client?**

– We base everything on a person's unique characteristics. Only you and your body know the best way to live your life, and if everything is okay at that level, then you won't have any problems in life. But the problem people face today stems from a lack of contact. We don't trust or listen to ourselves.

There are over a hundred working practices that are used. Of course, we select the practices specifically for each case, and only after observation and detailed diagnostics do we create a strategy for reaching a person's goal – something like clear and well-formulated tasks that are completed step-by-step. The tasks' execution is looked at during meetings with the coach. A few of such meetings will likely suffice.

– **Then this is a question of marketing. How do you ultimately sell the product?**

– All of the project's current marketing activities have culminated in the creation of useful content on the YouTube channel Reforma TV, which we are launching full force starting October 1. The thing is, we have practices that help people quickly solve problems of a physical and psychological nature – faster than years of meditation, after which it isn't certain that you'll reach your goal without falling into the abyss of despair. It is these practices, recommendations, and cases that we now want to offer on our channel for free.

The simplest way of joining us is to get on Reforma Game, a mobile app that is a wellness quest with tasks and a section to talk to a coach personally. The coach will tell you why your knees hurt when you run, or they will explain when it's bad to eat dates.

– **Have you tried finding investors for Reforma?**

– The large fitness website Onfit.ru became our investor a year ago. They liked the idea of 'playing a healthy lifestyle'. But we became divided in opinion somewhat due to my desire to add more psychology to the project. I now believe that it's not worth putting a product on the market without testing it first. And because of the current possibilities the internet provides us with, you can do this for zero money. You don't need investors at this stage.

But also, investments are not so simple. This is a huge responsibility and it's not always certain that you, as the entrepreneur, can carry this responsibility. It's more important and worthwhile to learn how to maintain contact with your clients.

– **You don't want to simply make money by franchising the methodology? It's unique after all...**

– The methodology is in fact unique, but it belongs to the Smart Body Institute. Anyone can study there and become a coach and trainer.

Our main trump card is that we are guided by science. The institute's founders – leading wellness coaches Maria Danina and Natalia Kiselnikova – are

scientists who studied at the best universities in the world. They constantly work with key figures in contemporary psychology, and they've developed their own science-based approach towards harmonizing your body and mind. This is why I have no doubts in the quality and uniqueness of the channel.

Reforma is special not just because of the approach, but also because of the atmosphere and environment that we all create together. I am creating a strong community around Reforma where I bring together people who lead or are starting to lead a healthy and active way of life and can join in on our events, develop, become the best versions of themselves possible, and learn to enjoy life as much as possible.

– **How are you planning to work with the university in the framework of your scientific project with HSE?**

– On HSE Day, we wanted to use fun and simple activities to tell people about what we really do. And after this, we hoped to propose various ways of working with HSE, including by creating a wellness laboratory where we could work with students on how to improve their studies and personal life.

[14]

STUDY SKILLS

STRUCTURE OF THE RESEARCH REPORT OR PAPER

The most common structure of a research report, a thesis or a research article is referred to as IMRD, which stands for Introduction, Method, Results and Discussion. In the social sciences especially, the literature review is considered so important that (rather than being part of the Introduction) it is given a section to itself. Look at the summary below.

Key features of each aspect of a research paper structure

- Introduction

Mapping of the field (in some disciplines, there will also be a literature review).

Identifying a research 'gap'.

Making a claim about needed research.

Giving some idea of the MRD approach that will be used.

- Method

Answering: How will this research be done? What materials or subjects will be used? How many? etc.

Working according to the principles of *Clarity and Reality* (a writer should make everything clear to the reader and assume that the reader has knowledge of the world and does not have to be told everything).

Using the *Relevance principle* (keep to the topic and the purpose of the research) to dictate the amount of detail to use.

- Results

Answering: What happened? Why? How sure can I be of the meaning of these results?

Working according to the principles of *Honesty and Reality* (only say or write that for which you have evidence and assume that your reader has knowledge of the world and does not have to be told everything).

- Discussion

This is probably the single most important part of the report, since it is here that you demonstrate that you understand and can interpret what you have done.

Exercise 18. Read the research article below. See whether you can find paragraphs of the text that generally deal with each of the key IMRD areas. Match either I, M, R, D for each of the paragraphs.

**“Global Classroom” Experiment at Higher School of Economics:
Who Takes MOOCs Offered by Russian Universities?**

(by Ksenia Kuzminykh, Research Assistant at the Centre for Institutional Research, Higher School of Economics)

1. Many experts believe that the MOOC phenomenon (massive open online courses), which emerged in 2012, can be considered a disruptive innovation in the sphere of education and a challenge to modern universities. One of the main advantages of MOOCs their accessibility: anyone who has a laptop and Internet-access can sign up for a course they find interesting for free and complete it within several weeks.

Until recently MOOC providers were mostly major Western universities. Since 2014 Coursera also offers Russian-language courses developed at Higher School of Economics, Saint Petersburg State University, and Moscow Institute of Physics and Technology. This paper reflects the results of a survey distributed among the students who took courses offered by Higher School of Economics at Coursera. The survey was conducted by HSE Center for Internal Monitoring, HSE Institute of Education and HSE Office for Curricula Support. Our main question was: who are the audience of HSE online-courses? does online education help push the borders of traditional university student audience? We will try to answer these questions in our paper.

2. HSE offered 9 MOOCs in February – September 2014: 6 were taught in Russian (Financial Markets and Institutions; History of Economic Thought; Microeconomics Principles; Industrial Organization; Introduction to LaTeX; Macroeconomics), 3 in English (Core Concepts in Data Analysis; Public Economics; Understanding Russians).

3. All the students were asked to complete two online surveys: one before the beginning of the course, and a follow-up survey (after grading and certification). Each registered student received a letter in the name of the lecturer containing a link to the online-survey.

4. In total, 192,093 students registered for HSE courses; 11% of them (21,867 students) completed the first survey, and only 2% (3,465 students) completed the follow-up survey.

In the first survey we asked the participants about:

- their sociodemographic background;
- their educational background;
- why they had decided to sign up for the course (they were given 12 statements about the potential participation aims and could indicate to what degree this or that statement was applicable to them).

In the final survey we wanted to know:

- how the participants evaluated the usefulness of certain aspects of the course and their satisfaction with them;
- how they perceived the results of their participation in the course in terms of the specific knowledge they gained, their readiness to recommend the course to others, their willingness to join other HSE programs, etc.

5. *MOOCs as a Choice of Young Professionals Striving for Knowledge*

We have learnt that our audience's average age is 31 years, which is lower than the Coursera average of 37 years.

6. In general, HSE MOOC audience is predominantly male (58%) but gender distribution varies across different courses. For example, 71% of the students who had signed up for “Core Concepts in Data Analysis” were male. The average share of males among the participants of economics courses was 63%. The only course dominated by females (60% of the audience) was “Understanding Russians”, which can be referred to as a humanities course.

7. Half of the participants work full-time, one-third are part-time workers, freelancer or entrepreneurs, and only 20% are university students. Nearly 49% of the respondents had no prior educational experience and 69% had no relevant work experiences in the disciplines they had chosen to study.

8. The main motivation for participation turned out to be intellectual curiosity and interest in a new subject, which was applicable (fully or to a large degree) for over 90% of the respondents. Over half of them agreed with the statement that the chosen course would help them in their professional life (55%) and/or in their education (43%). A large share (46%) wanted to learn more about the subject.

In other words, HSE MOOC audience differs from the traditional student audience both in terms of sociodemographic features and motivation.

9. *Russian- and English-language Courses: Different Audiences*

Our analysis has also revealed a number of differences between the audiences of Russian- and English-language courses.

10. The participants of English-language courses are generally older (their average age was 35 against 30 among the Russian-language audience), which is statistically significant.

11. Russian-language MOOC students mostly live in Russia (69%), the Ukraine (10%) and Belarus (3%). English-language MOOC students live in the U.S. (25%), India (9%), and Russia (7%), as well as other countries including the E.U., Canada, Brasil. So, the courses taught in Russian are mostly popular in Russia and other C.I.S. countries, while those taught in English are truly “exportable”.

12. On average, English-language audience turned out to be more educated: 57% of the participants said they had master's degree or higher. Only 36% of the Russian-language students reported having such a degree; most of them had bachelor's diploma or specialist degree (a traditional 5-year higher education degree in Russia).

13. English-language audience turned out to be better pre-pared. Only 12% of them said they had zero prior knowledge in the chosen subject (against 29% among the Russian-language participants). Moreover, 39% said they had already attended some classes on the subject (against 16% among the Russian-language participants). Finally, they had more experience with online education (80% said they had participated in MOOCs before).

14. Interestingly enough, English-language students (who, apparently, could judge from their prior experience) were more realistic regarding their participation: 29% of them (versus 18% of the Russian-language audience) said they would not participate in the course on a regular basis.

15. *Course Evaluation: More Workload – Less Satisfaction*

On the whole, the respondents evaluated course complexity, weekly workload and new material delivery rate as appropriate. When asked to evaluate their satisfaction with different aspects of the course, it turned out that the participants were mostly satisfied with HSE lecturers' professional competence (80% of the respondents chose 5 out of 5 when evaluating their level of satisfaction of the professors). At the same time, many of them were not happy with the depth of the contents offered, test tasks distributed, and the way discussion boards were organized.

16. The course "Financial Markets and Institutions" scored highest across all questions (reaching the average score of 4.64 out of 5), yet it also scored lowest in terms of complexity (i.e. it turned out to be the easiest one). We have noticed significant negative correlation between perceived "complexity" and "course satisfaction". It is now difficult to interpret these results; moreover, they require further verification. Still, we assume that maybe MOOCs are perceived not only as a means of education but also as entertainment. If so, people are not ready to deal with the material that is just too difficult.

17. *Is MOOC Participation an Individual Process?*

This is an assumption we've come to as a results of our analysis.

18. Video lectures turned out to be the most useful element of the course (94% of the respondents chose 4 or 5 out of 5 when evaluating their usefulness). Discussion boards and specialized groups in social networks appeared to be the least used and least useful MOOC elements. Maybe this is due to the fact that most students still regard MOOCs as a set of video lectures that are always available at any convenient time rather than a real educational course. Such an attitude doesn't imply any peer-to-peer communication.

19. Another reason to support the idea that MOOC participation is an individual process can be found when analyzing the students' responses as to why they have decided to sign up. "Following someone's example" and "social behavior" (doing some things just for the sake of doing it together with friends)

were the least common answers (only 7% of the respondents said this was fully applicable or applicable to some extent).

MOOCs as a Way to Promote Russian Universities to a Wider Audience

20. We are absolutely positive that HSE has succeeded in creating its "global classroom" at Coursera. The experiment has shown that our audience was coming from many different countries and that Russia-based students weren't always the most numerous.

21. Traditional students represent only a quarter of our audience. Most of participants were young professionals aged 30-35, holding a degree and a full-time job, who wanted to enrich their knowledge and improve their professional skills with the help of online education.

22. In other words, Russian universities can succeed in reaching a wider target audience through MOOCs, thus attracting more attention both to their traditional programs and distance learning programs. There's also data to support this: for example, 83% of the respondents said they would like to study at HSE. 23% said they would like to participate in an advanced training program, 16% were thinking of completing an MBA, 13% mentioned graduate education and professional re-training programs, 9% said they wanted to do a PhD, and 6% were talking about bachelor education.

23. The next step to take for Russian universities if they want to go on with developing free distance education is to build comprehensive certifiable MOOC programs (specializations). However, the specific nature of Russian- and English-speaking audiences should be taken into consideration when developing such programs.

[15]

Check Understanding (2)

1. What is the difference between basic research and applied research?
2. What is the aim of monitoring the studies carried out by research universities?
3. What functions do the government working groups perform?
4. What is the relationship between higher educational establishments and the international academic labour market?
5. What system do the research projects have to pass through? Why?
6. What government programmes and policies can higher schools contribute?
7. What opportunities can higher educational establishments provide to international academic discussions?
8. What does Bologna process mean?
9. List the main points of an academic presentation assessment form.
10. How can we express personal opinions impersonally?
11. What are the priorities of the research university?
12. What are the trends in R&D in the world today?
13. What are the main problems Russian R&D faces?

14. What is the plan of academic presentation?
15. What types of hedge do you know?
16. What are the main routes when following an academic career?
17. Is there any correlation between academic career route and the job market?
18. What activities may be expected to contribute to during an academic career?
19. When do you need to include a reference to avoid plagiarism?
20. What are the main points of the structure of the research report or paper?

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Unit 3 INTERNATIONAL ACADEMIA

Objectives:

- to compare the education systems in Russia, the USA, and the UK.
- to develop language skills: reading (for gist and for detail), speaking (arguing and discussing, classifying and categorising, exemplifying, describing the learning style, cause and effect) and writing (a summary, an explanatory essay, making notes)
- to develop crucial study skills (understanding text structure and organization, identifying reference in the text, proof-reading written English)
 - to learn the vocabulary related to education
 - to practice grammar: the passive voice, relative clauses: defining and non-defining

Section 1. Education in Russia

LEAD-IN

Exercise 1. In groups, talk about the following questions on education.

1. What is the main role of education to you?
2. Do you think the statement "You get what you pay for" is true for education in your country?
3. What is/was missing from your own education?
4. How can education be improved in the place you study/have studied at?

Exercise 2. Statistics quiz: How much do you know about education in Russia?

Choose the most appropriate, in your opinion, variant from brackets.

1. In 2004, state spending for education amounted to (1.5%, 3.6%, 8.7%) of GDP.
2. In 2011, the spending on education amounted to \$(20, 120, 220) billion.
3. Private institutions account for (2%, 17%, 33%) of university-level students.
4. In tertiary education (women, men) lead with 57%.
5. The literacy rate in Russia, according to the 2002 census, is (87.5%, 99.4%, 100%).
6. According to 2008 World Bank statistics, 54% of the Russian labor force has attained a tertiary (college) education, giving Russia the (1st, 5th, 10th) place in attainment of college-level education in the world.

7. In 2014, the Pearson/Economist Intelligence Unit rated Russian education as 8th best in Europe and (5th, 13th, 19th) best in the world.

8. According to a 2005 UNESCO report, more than half of the Russian adult population has attained a tertiary education, which is (twice, three times, four times) as high as the OECD average.

9. As of the 2007–2008 academic year, Russia had (8.1, 18.1, 81.1) million students enrolled in all forms of tertiary education (including military and police institutions and postgraduate studies).

10. Foreign students accounted for (1.5%, 5.2%, 11%) of enrollment.

READING

Education in Russia



Education in Russia is provided predominantly by the state and is regulated by the Ministry of Education and Science. Regional authorities regulate education within their jurisdictions within the prevailing framework of federal laws. It includes:

- pre-school education (for children at the age of 6–7);
- secondary education, which is split into elementary (grades 1–4), middle (grades 5–9) and senior (grades 10–11) levels;
- tertiary (higher) education;
- post-graduate education.

Before 1990 the course of school training in the Soviet Union was 10 years, but at the end of 1990 the 11-year course had been officially entered. Education in state-owned secondary schools is free; first tertiary (university level) education is free with reservations: a substantial number of students are enrolled for full pay. Male and female students have equal shares in all stages of education, except tertiary education where women lead with 57%.

Move towards Bologna Process

Russia is in the process of migrating from its traditional tertiary education model, incompatible with existing Western academic degrees, to a modernized degree structure in line with the Bologna Process model. (Russia co-signed the Bologna Declaration in 2003.) In October 2007 Russia enacted a law that replaces the traditional five-year model of education with a two-tiered approach: a four-year bachelor degree followed by a two-year master's degree.

The move has been criticised for its merely formal approach: instead of reshaping their curriculum, universities would simply insert a BSc/BA accreditation in the middle of their standard five or six-year programmes. The job market is generally unaware of the change and critics predict that stand-alone BSc/BA diplomas will not be recognised as 'real' university education in the foreseeable future, rendering the degree unnecessary and undesirable without further specialisation. Student mobility among universities has been traditionally discouraged and thus kept at very low level; there are no signs that formal

acceptance of the Bologna Process will help students seeking better education. Finally, while the five-year specialist training was previously free to all students, the new MSc/MA stage is not. The shift forces students to pay for what was free to the previous class; the cost is unavoidable because the BSc/BA degree alone is considered useless. Defenders of the Bologna Process argue that the final years of the specialist programme were formal and useless: academic schedules were relaxed and undemanding, allowing students to work elsewhere. Cutting the five-year specialist programme to a four-year BSc/BA will not decrease the actual academic content of most of these programmes.

Postgraduate Levels

Postgraduate diploma structure so far retains its unique Soviet pattern established in 1934. The system makes a distinction between scientific degrees, evidencing personal postgraduate achievement in scientific research, and related but separate academic titles, evidencing personal achievement in university-level education.

There are two successive postgraduate degrees: Candidate of science and Doctor of science. Both are a certificate of scientific, rather than academic, achievement, and must be backed up by original/novel scientific work, evidenced by publications in peer-reviewed journals and a dissertation defended in front of senior academic board. The titles are issued by Higher Attestation Commission of the Ministry of Education. A degree is always awarded in one of 23 predetermined fields of science, even if the underlying achievement belongs to different fields. Thus it is possible to defend two degrees of Candidate of science independently, but not simultaneously; a Doctor of science in one field may also be a Candidate in a different field.

Typical path of Candidate of science takes 2–4 years. The dissertation paper should contain a solution of an existing scientific problem, or a practical proposal with significant economic or military potential. The title is often perceived as equivalent to Western Ph.D., although this may vary depending on the field of study, and may not be seen as such outside of Russia.

Doctor of science, the next stage, implies achieving significant scientific output. This title is often equated to the German or Scandinavian habilitation. The dissertation paper should summarize the author's research resulting in theoretical statements that are qualified as a new discovery, or solution of an existing problem, or a practical proposal with significant potential. The road from Candidate of science to Doctor of science typically takes 10 years of dedicated research activity; one in four candidates reaches this stage. The system implies that the applicants must work in their research field full-time; however, the degrees in social sciences are routinely awarded to active politicians.

Academic titles of associate professor and professor are issued to active university staff who already achieved degrees of Candidate of science or Doctor of science; the rules prescribe minimum residency term, authoring established study textbooks in their chosen field, and mentoring successful postgraduate trainees; special, less formal rules apply to professors of arts.

ACTIVITIES

Exercise 1. Read the text *Education in Russia* and answer the questions below.

1. How is education in Russia regulated?
2. What stages does education in Russia comprise?
3. How has the Bologna process influenced the structure of tertiary education?
4. What has this change been criticised for?
5. How do the two postgraduate degrees differ?
6. What has changed in the BSc/BA programmes since they were introduced?

Exercise 2. Use the on-line dictionary to define the following words.

Dictionary: <http://dictionary.cambridge.org/dictionary/learner-english>

Word	Definition + Example	Collocation(s)
jurisdiction	The authority of a court or official organization to make decisions and judgments: <i>School admissions are not under/within our jurisdiction.</i>	– <i>subject to / under / within smb's jurisdiction</i> – <i>jurisdiction in smth</i> – <i>jurisdiction over smth</i>
enroll		
accreditation		
acceptance		
successive		
habilitation		

Exercise 3. Scan through the text and find words according to their definitions.

1. mostly or mainly /adv/ _____
2. too different to exist or live together /adj/ _____
3. be similar to and suitable for something /phrase/ _____
4. make something into a law /v/ _____
5. all the subjects taught in a school, college, etc or on an educational course /n/ _____
6. put something into something else /v/ _____
7. continue to keep something /v/ _____
8. a very long piece of writing done as part of a course of study /n/ _____
9. a plan or suggestion, especially a formal one that a group has to consider /n/ _____
10. the highest college degree or a person having this _____

11. believing that something is very important and giving a lot of time and energy to it /adj/ _____
12. a teacher of high rank in a college or university who has a lower rank than a professor /n/ _____
13. say officially what people must do /v/ _____
14. help and encourage someone who has less experience, especially in their job /v/ _____

Exercise 4. Use the words from Exercise 3 to fill in the gaps.

1. The Ministry has also given special consideration to promoting human rights principles in the educational _____ at the primary and secondary school level.
2. A project _____ has been prepared to address the following deliverables.
3. While wheat is produced _____ on large farms, potatoes are typically grown in private gardens.
4. As the example indicates, possible statements may be _____ with one another.
5. The beliefs, values and capabilities of a philosopher are _____ to exploring what 'should be' or 'could be'.
6. Several measures have been taken, some of which can be considered _____ the objectives of the Ministry.
7. In the case of dying, the secret option is that human beings could _____ their life force and relinquish only their awareness, the product of their lives.
8. Maxim, at that time MSU's student, was seeking a subject for his _____.
9. Before you can query, modify, and _____ data, you must have a place to store data.
10. The government intends to _____ legislation which notably will control the process of education.

SPEAKING

ARGUING AND DISCUSSING

In academic life, arguing and discussing is often part of a larger element of speaking. In arguing and discussing, you are expected to present two or more points of view and discuss the positive and negative aspects of each case. On the basis of your discussion, you can then choose one point of view and persuade your readers that you are correct. This means giving your opinions (positive and negative) on the work of others and your own opinions based on what you have learned. You need to evaluate arguments, weigh evidence and develop a set of standards on which to base your conclusion.

As always, all your opinions must be supported – you should produce your evidence and explain why this evidence supports your point of view. It is impor-

tant to distinguish between **your claim** (proposition, thesis) – your point of view, what you believe; **your evidence** (support or grounds) – the facts, data and examples that support your point of view – and **your reasons** (warrant or argument) – why you believe what you do, how the evidence you have provided leads to the claim you are making.

At its simplest your plan for speaking will be as follows:

– Introduce the argument to the opponent, e.g., why it is a particularly relevant topic nowadays or refer directly to some comments that have been voiced on it recently.

– Give reasons in favour of the argument. State the position, the evidence and the reasons.

– Give reasons against the argument. State the position, the evidence and the reasons.

– After summarising the two sides, state your own point of view, and explain why you think as you do.

[1]

Exercise 5. Work in pairs. Discuss the statement: “It is the government who should pay for higher education”. The brief description of the problem is given below. Use the discussion phrase bank to help you.

Where does the lion's share of value rest when it comes to higher education? Is it with the individuals who reap the rewards of interesting work and higher salaries? Or is it the state which will benefit from an educated society and competitive workers? In a globalised world, where talent shortages are growing and highly educated individuals move freely between jobs and countries, has the balance of the benefit of higher education shifted from the state to the individual? If so, who bears the responsibility for paying for higher education?

Discussion Phrase Bank

- The basic idea seems to be ...
- I agree with the point about ...
- I find the idea that ... extremely interesting.
- But I'm not sure I go along with the idea that ...
- I also have my doubts about ...
- For me the most interesting point is ...
- In my own experience, what I've found is ...
- Overall, I think a parallel between ... and ... is ...
- No one can be completely objective in their point of view.
- It is impossible to be truly impartial.

Exercise 6. Discuss the following questions with the partner.

1. How important do you think education is?
2. Do you think you have had a good education?
3. Do you think the quality of education is slipping?
4. Does your government really care about education?
5. What would you like to change about the education system of your country/university?
6. How has education changed in your country in the last 10 years?
7. What changes do you foresee in the next 50 years?

Exercise 7. Practice answering questions. You must speak for at least two minutes.

Describe an educational institution that you are studying or have studied in	
You should say:	where it is what it looks like what facilities it has and say if you think it is a good educational institution or not, and why
Describe a project you had to do in your studies or job	
You should say:	who asked you to do that project what the main aim of the project was who helped you with it and say if you think that project was a success or not, and why
Describe a subject you would like to study in the future	
You should say:	what you need to study as part of that subject where you can study it what you think the most difficult things about that subject would be and say if you think studying that subject will be useful in your future life or not, and why
Describe a long term goal or ambition you have	
You should say:	why you have that goal or ambition when you would like to achieve that by when you think you will achieve that by and say what you will do if you can't achieve that goal or ambition

WRITING

PROCESS OF WRITING

The following procedure is useful when writing an extended essay or assignment.

No.	Task	Skills Needed	Product
1	Read the question and understand what you are required to do. Think about the subject, the purpose and the audience	Thinking academically	Subject
2	Think about what you know about the subject. Write it down in some way	Brainstorming	Diagrams or notes

Table termination

No.	Task	Skills Needed	Product
3	Find relevant books or articles	Library / research skills; reading skills: skimming and scanning	Reading list
4	Make notes on these books and articles. Record full details of the materials you use.	Reading in detail; selecting and note-taking; paraphrasing / summarising	Notes
5	Organise your piece of work	Planning; organisation	Plan
6	Type or write your first draft	Writing from notes; synthesis; writing paragraphs; typing / word-processing	First draft
7	Discuss your first draft informally with friends, other members of your class and your lecturer if possible	Speaking skills; listening skills; discussion skills	List of revisions / changes
8	Revise your first draft, bearing in mind any comments that were made in your discussions. Produce your second draft	Use of dictionaries and reference books; writing introduction and conclusion; quoting / writing a list of references	Second draft
9	Proofread your draft	Checking for spelling mistakes; checking punctuation and grammar; checking vocabulary use; checking style; checking organisation, references etc.; checking for plagiarism	Writing with changes marked
10	Produce a final typed version	Typing / word-processing; writing title / contents page	Final piece of work
11	Check everything	Final check	Hand in

[2]

Exercise 8. Write an essay “The influence of people’s education on their standard of living”. Read the following article and also find some other information on the topic. Use the strategies suggested above.

Higher Education Halves the Risk of Poverty

Higher education cuts the risk of poverty by more than half, according to Alina Pishnyak and Daria Popova, leading researchers at the HSE Centre for

Studies of Income and Living Standards. Their findings reveal that the household incomes of families where all adults are university-educated stand at 20% above the average, and conversely, in families where none of the adults hold a degree, living standards tend to be below average by a quarter.

Income is most commonly used as a measure of living standards and well-being, yet the concepts of ‘living standards’, ‘well-being’ and ‘income’ should not be confused. A growing number of researchers share the view that estimated household income or per capita GDP alone cannot serve as reliable indicators of well-being.

In addition to this, in Russia, a fairly large informal sector of the economy makes official income statistics inaccurate, further emphasizing the value of an approach based on multiple criteria, since official monetary income can only serve as an indirect and not necessarily accurate measure of household well-being.

In their paper ‘Households’ Standard of Living and Quality of Life in Moscow: Objective and Subjective Indicators’, Pishnyak and Popova present the findings of a study using a combination of indicators, including social well-being as well as income and consumption, namely:

- income levels and inequality in the distribution of cash income;
- poverty by income;
- poverty by consumer deprivation;
- subjective assessment of poverty;
- subjective assessment of personal status;
- concern about the socio-economic situation and assessment of the social environment.

Pishnyak and Popova studied the living standards of Moscow residents using the data from the ‘Moscow and Muscovites’ longitudinal study, which annually surveys at least 3,000 people aged 18 and above currently living in the Russian capital. The survey includes questions about the respondents and other members of their households and covers various characteristics of living in the city, including financial and social well-being.

The Rich Getting Richer

According to ‘Moscow and Muscovites’, nominal incomes in Moscow increased by 4.4% in 2014, i.e. to 104.4% of the 2013 levels; however, due to rising prices, real incomes dropped in 2014 to 97.9% of the 2013 levels and to 98.2% of the 2012 levels, affecting mainly the middle class, whereas the 20% of the lowest-income population experienced virtually no change, and the third income quintile saw their revenues increase by 9.2%.

Factors affecting per capita household income include family demographics and the number of family members with higher education and jobs; for example, the average income of families with children in Russia is 1.6 times below that of childless households, and the likelihood of falling into poverty for families with children is twice that of childless households in Moscow and 2.6 more in the entire country.

Conversely, having at least one family member with higher education reduces the risk of poverty by 2.3 times, and the income of families where all adults are

university-educated stands at 20% above the Moscow average, while in families where none of the adults hold a degree, living standards are below average by a quarter.

However, even higher education does not guarantee protection from poverty – according to ‘Moscow and Muscovites’, 8% of the ‘educated’ households end up below the poverty line when their members are employed in the public sector.

No Holiday, No Meat

It is common for European studies to measure poverty by relative deprivation, i.e. by what a household can and cannot afford.

In 2014, Muscovites most often could not afford expensive health care (63% of households) and major purchases (58.8%), while about a quarter of households could not afford new furniture and appliances, and about the same number could not afford a week’s holiday away from home.

While common, these were not the most severe cases of deprivation; nearly 16% of the surveyed households could not afford even inexpensive vocational training, and 12.2% could not afford to have friends and family over for a celebration.

A significant 9.7% of families struggle with basic necessities, such as having enough fruit and vegetables, paying for medicines and health care, buying new clothes and footwear, and eating meat, chicken or fish at least every other day.

A subjective perception of poverty can be used in addition to absolute and relative poverty assessment. According to ‘Moscow and Muscovites’, consumption standards vary depending on the income level, demographics, education and employment of household members. Families with higher incomes tend to have bigger needs. Thus, in 2014, households with incomes below the subsistence minimum estimated a subjectively perceived poverty line at 17,850 rubles per person per month, while households with incomes of four subsistence minimums and more indicated that they needed at least 24,630 rubles per person per month to survive.

Families with at least one university-educated adult estimate a subsistence minimum at 1.2 of the same estimate given by families where no member has higher education.

[3]

VOCABULARY

issue ≠ problem

Exercise 9. Look at the following pair of words, spot the difference and do the task.

issue – a subject which people are thinking and talking about

problem – a difficult situation, person or thing that needs attention and needs to be dealt with or solved

Insert the proper word: *issue* or *problem*.

1. Don’t worry about who will do it – that’s just a side _____.

2. When is the government going to tackle the _____ of poverty in the inner cities?

3. No one has solved the _____ of what to do with radioactive waste.

4. We need to discuss some physiological _____ which have recently appeared in our group.

5. I’m having _____ with my computer.

6. As employers we need to be seen to be addressing these _____ sympathetically.

7. The very high rate of inflation is a serious _____ for the government.

Exercise 10. Look at the two lists of idioms with ***problem*** and ***issue***. Match the idiom with its meaning.

problem

1. work the problem
2. teething problems/troubles
3. for all someone’s problems
4. root of the problem
- a) in spite of a person’s problems
- b) an understanding of the causes or basis of a problem
- c) to actively try different solutions
- d) problems that you experience in the early stages of an activity

issue

1. take issue with smb
2. make an issue (out) of smth
3. have issues (with smb or smth)
4. at issue
- a) to argue about smth, especially in a way that annoys other people because they do not think it is important
- b) to have problems dealing with smth because of smth that happened in the past
- c) the problem or subject is the most important part of what you are discussing or considering
- d) to disagree with someone or smth

Exercise 11. Use the idioms from Exercise 10 to make the sentences complete.

problem

1. Let’s stop avoiding the issue and get at _____.
2. _____, she still seems to be a happy person.
3. There were the usual _____ at the start of the project, but that’s to be expected.
4. The mayor has named a committee _____ of downtown parking.

issue

1. I _____ with people who say it is unpatriotic to criticise our government.
2. _____ here is the extent to which exam results reflect a student's ability.
3. Nor will he _____ of the incident in which the Home Office combed its files to discover whether the President, when an Oxford student, applied for British citizenship to avoid a military draft.
4. There's a self-help group for people who _____ with money.

GRAMMAR

PASSIVE VOICE

Look how active sentences are changed into passive:

Active	Passive
They create new programmes every year.	New programmes are created every year.
Our students are taking the exam next week.	The exam is being taken next week.
The government raised the tuition fee last year.	The tuition fee was raised last year.
He was asking me some difficult questions.	I was being asked some difficult questions.
They have chosen the new design.	The new design has been chosen.
They will give a press conference tomorrow.	A press conference will be given tomorrow.

Exercise 12. Change the sentences from the active into the passive.

1. They sacrifice interests of the community for profits.
2. The business invested large funds into this training project.
3. The institute will invest \$5 million into this project.
4. They were raising tuition fees within the given period.
5. The National Bureau has analysed the results of the recent census.
6. The agency had completed the survey of the labour market for prospective graduates.

Exercise 13. Put the verb in brackets into the correct passive form.

1. Only when this _____ (*to do*), modern scientific technology can be used to its best advantage.
2. This teaching method _____ (*to invent*) only comparatively late in human history.
3. Who knows what scientific methods _____ (*apply*) in future.
4. Applications to the university _____ (*admit*) from June to August this year.

5. Now a pilot study _____ (*to carry*) out with Manchester University.
6. The system _____ (*to invent*) by a Frenchman, a teacher called Louis Braille, who died in 1852.
7. The principal reported that despite year-long complaints nothing _____ (*to do*) about the problem.
8. Recently the relation between this and other techniques _____ (*to analyse*) by Letelier.

STUDY SKILLS

UNDERSTANDING TEXT STRUCTURE (ORGANIZATION)

Every text has a structure. It is not just a random collection of sentences. The parts that make up the text are related in a meaningful way to each other. Recognising the way in which a text has been organised will help you to understand it better. The writer may, for example, be explaining two opposing points of view, or describing why something happens. Understanding the text organisation will help you understand what the writer is trying to do.

Exercise 14. A. Read the following text and do the task.

The Personal Qualities of a Teacher

Here I want to try to give you an answer to the question: What personal qualities are desirable in a teacher? Probably no two people would draw up exactly similar lists, but I think the following would be generally accepted.

1. First, the teacher's personality should be pleasantly live and attractive. This does not rule out people who are physically plain, or even ugly, because many such have great personal charm. But it does rule out such types as the over-excitable, melancholy, frigid, sarcastic, cynical, frustrated, and over-bearing: I would say too, that it excludes all of dull or purely negative personality. I still stick to what I said in my earlier book: that school children probably 'suffer more from bores than from brutes'.

2. Secondly, it is not merely desirable but essential for a teacher to have a genuine capacity for sympathy — in the literal meaning of that word; a capacity to tune in to the minds and feelings of other people, especially, since most teachers are school teachers, to the minds and feelings of children. Closely related with this is the capacity to be tolerant — not, indeed, of what is wrong, but of the frailty and immaturity of human nature which induce people, and again especially children, to make mistakes.

3. Thirdly, I hold it essential for a teacher to be both intellectually and morally honest. This does not mean being a plaster saint. It means that he will be aware of his intellectual strengths, and limitations, and will have thought about and decided upon the moral principles by which his life shall be guided. There is no contradiction in my going on to say that a teacher should be a bit of an actor. That is part of the technique of teaching, which demands that every now and then a teacher should be able to put on an act — to enliven a lesson, correct a fault, or award praise. Children, especially young children, live in a world that is rather larger than life.

4. A teacher must remain mentally alert. He will not get into the profession if of low intelligence, but it is all too easy, even for people of above-average intelligence, to stagnate intellectually – and that means to deteriorate intellectually. A teacher must be quick to adapt himself to any situation, however improbable and able to improvise, if necessary at less than a moment's notice. (Here I should stress that I use 'he' and 'his' throughout the book simply as a matter of convention and convenience.)

5. On the other hand, a teacher must be capable of infinite patience. This, I may say, is largely a matter of self-discipline and self-training; we are none of us born like that. He must be pretty resilient; teaching makes great demands on nervous energy. And he should be able to take in his stride the innumerable petty irritations any adult dealing with children has to endure.

6. Finally, I think a teacher should have the kind of mind which always wants to go on learning. Teaching is a job at which one will never be perfect; there is always something more to learn about it. There are three principal objects of study: the subject, or subjects, which the teacher is teaching; the methods by which they can best be taught to the particular pupils in the classes he is teaching; and – by far the most important – the children, young people, or adults to whom they are to be taught. The two cardinal principles of British education today are that education is education of the whole person, and that it is best acquired through full and active co-operation between two persons, the teacher and the learner.

[4]

B. Notice how the text is structured. Paragraph 1 asks a question and paragraphs 2–7 answer it. Complete the table with missing information.

Question	What are the desirable personal qualities in a teacher?	Paragraph 1
Answer	Quality 1	Paragraph 2
	Quality 2	Paragraph 3
	Quality 3	Paragraph 4
	Quality 4	Paragraph 5
	Quality 5	Paragraph 6
	Quality 6	Paragraph 7

Section 2. Education in the USA

LEAD-IN

Exercise 1. What do the following quotations tell us about the advantages of education?

a) *Education's purpose is to replace an empty mind with an open one.* (Malcolm Forbes, 1919–1990)

b) *Next in importance to freedom and justice is popular education, without which neither freedom nor justice can be permanently maintained.* (James A. Garfield, 1831–1881)

c) *The great aim of education is not knowledge but action.* (Herbert Spencer, 1820–1903)

d) *There is only one thing that can kill the Movies, and that is education.* (Will Rogers, 1879–1935)

e) *Education is the best provision for old age.* (Aristotle, 384 BC–322 BC)

Exercise 2. What problems of education do the following quotations highlight?

a) *I have never let my schooling interfere with my education.* (Mark Twain, 1835–1910)

b) *America believes in education: the average professor earns more money in a year than a professional athlete earns in a whole week.* (Evan Esar, 1899–1995)

c) *Education has produced a vast population able to read but unable to distinguish what is worth reading.* (G.M. Trevelyan, 1876–1962)

READING

Education in the United States

1. Education in the United States is provided by public schools and private schools. Public education is universally required at the K–12 level, and is available at state colleges and universities for all students. Public (free) education is typically from kindergarten to grade 12 and is thus referred to as K–12 (short for K through twelve). K–12 public school curricula, budgets, and policies are set through locally elected school boards,



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who have jurisdiction over individual school districts. State governments set overall educational standards, often mandate standardized tests for K–12 public school systems, and supervise, usually through a board of regents, state colleges and universities. Funding comes from the state, local, and federal government.

2. Private schools are generally free to determine their own curriculum and staffing policies, with voluntary accreditation available through independent regional accreditation authorities. About 87% of school-age children attend public schools, about 10% attend private schools, and more than 3% are home-schooled. In most schools, education is divided into three levels: elementary school, middle or junior high school, and high school.

3. Higher education in the United States is an optional final stage of formal learning following secondary education. The U.S. ranks 10th among industrial countries for percentage of adults with college degrees. Over the past 40 years the gap in graduation rates for wealthy students and low income students has widened significantly. 77% of the wealthiest quartile of students obtained

undergraduate degrees by age 24 in 2013, up from 40% in 1970. 9% of the least affluent quartile obtained degrees by the same age in 2013, up from 6% in 1970.

4. Like high school, the four undergraduate grades are commonly called freshman, sophomore, junior, and senior years (alternatively called first year, second year, etc.). Students traditionally apply for admission into colleges. Schools differ in their competitiveness and reputation. Admissions criteria involve the rigor and grades earned in high school courses taken, the students' GPA, class ranking, and standardized test scores. Most colleges also consider more subjective factors such as a commitment to extracurricular activities, a personal essay, and an interview.

5. Once admitted, students engage in undergraduate study, which consists of satisfying university and class requirements to achieve a bachelor's degree in a field of concentration known as a major. (Some students enroll in double majors or 'minor' in another field of study.) The most common method consists of four years of study leading to a Bachelor of Arts (B.A.), a Bachelor of Science (B.S.), or sometimes another bachelor's degree.

6. Some students choose to attend a community college for two years prior to further study at another college or university. In most states, community colleges are operated either by a division of the state university or by local special districts subject to guidance from a state agency. Community colleges may award Associate of Arts (AA) or Associate of Science (AS) degree after two years. Those seeking to continue their education may transfer to a four-year college or university (after applying through a similar admissions process as those applying directly to the four-year institution). Some community colleges have automatic enrollment agreements with a local four-year college, where the community college provides the first two years of study and the university provides the remaining years of study, sometimes all on one campus. The community college awards the associate degree, and the university awards the bachelor's and master's degrees.

7. Graduate study, conducted after obtaining an initial degree and sometimes after several years of professional work, leads to a more advanced degree such as a master's degree, which could be a Master of Arts (MA), Master of Science (MS), Master of Business Administration (MBA), or others. Some students pursue a graduate degree that is in between a master's degree and a doctoral degree called a Specialist in Education (Ed.S.).

8. After additional years of study and sometimes in conjunction with the completion of a master's degree and/or Ed.S. degree, students may earn a Doctor of Philosophy (Ph.D.), a first professional degree, or other doctoral degree, such as Doctor of Arts, Doctor of Education, etc. Entrance into graduate programs usually depends upon a student's undergraduate academic performance or professional experience as well as their score on a standardized entrance exam. Many graduate and law schools do not require experience after earning a bachelor's degree to enter their programs; however, business school candidates are usually required to gain a few years of professional work experience before

applying. 8.9 percent of students receive postgraduate degrees. Most, after obtaining their bachelor's degree, proceed directly into the workforce.

ACTIVITIES

Exercise 1. Read the following words from the text. Check pronunciation of these words with the dictionary.

universally, K-12, jurisdiction, standardized, curriculum, quartile, sophomore, junior, rigor, associate, initial, pursue, conjunction, extracurricular, entrance, experience, candidates, proceed

Exercise 2. Answer the following questions.

1. Is education in the United States free?
2. What is the K-12 level?
3. How are public and private schools supervised?
4. What levels is education the United States divided into?
5. What are admission requirements for the undergraduate study?
6. What is an Ed.S. in the American education hierarchy of degrees?
7. How is a Ph.D. earned?

Exercise 3. Scan through the text and find words according to their definitions.

paragraph 1

1. the first year of school, for children aged five /n/ _____
2. an official order to do something /n/ _____
3. a group of people who officially control an organization /n/ _____
4. a member of the governing body of a university or other academic institution /n pl./ _____

paragraph 2

5. all the subjects taught in a school, college, etc. or on an educational course /n/ _____
6. official approval of an organization /n/ _____

paragraph 3

7. having a lot of money /adj/ _____
8. one of four equal measurements that a set of things can be divided into /n/ _____

paragraph 4

9. a student in the first year of a course at a US college, university, or high school /n/ _____
10. a student studying in the second year of a course at a US university or high school /n/ _____
11. when you look at or consider every part of something to make sure it is correct or safe /n/ _____
12. not part of the usual school or college course /n/ _____

paragraph 5

13. become or make someone become an official member of a course, college, or group /v/ _____
14. the most important subject that a college or university student studies, or the student who is studying /n/ _____

Exercise 4. Use words from Exercise 3 to fill in the gaps. Remember to change the form of the word.

- Since the goal is to ensure that all the right steps have been determined, you need greater _____ and focus to get a project under control and to identify a solution.
- The chairman of the Board of _____ suggested that the junior should retake the exam.
- What is the importance of _____ activities in education?
- Only those institutions, which went through state _____, can be called so.
- The costs of medical care are rising beyond the point where even the most _____ societies are able to pay for all the care people want.
- Six disabled young women who had undergone were _____ in skill-training courses.
- Students are free to choose their _____ in the curriculum.

SPEAKING

LEARNING STYLE

Exercise 5. What is your learning style? It is important to be aware of your learning style, as this will indicate not only your strengths but also areas you need to develop. Read about four approaches to learning.

The diver

- You tend a jump in and have a go.
- You like to get things over with.
- You like to see if things work.
- You like to get onto the next thing quickly.

The dreamer

- You think a lot about the subject.
- You like to research things thoroughly.
- You put off practical aspects such as writing.
- You have no idea where time goes.

[5]

The logician

- You like things to make sense.
- You like to know the reasons behind.
- You are organized in your approach to study.
- You enjoy tackling complex problems.

The searchlight

- You find everything interesting.
- You like to see the big picture.
- You have bits of information on lots of things.
- You find it hard to select what is relevant.

Exercise 6. In groups, discuss the questions.

- Which style do you think best describes you personally?
- Are you a mix of the styles? If so, in what way?
- Is one learning style predominant in your group?
- What could each of you do to improve your learning style?

CAUSE AND EFFECT

Exercise 7. Read the following text and observe the cause and effect relationships.

There are several factors that we have to take into account when we study why some plants become weak or die. One reason is lack of water. If the soil is dry, it causes the leaves to wilt, and this may cause the plant to die. On the other hand, too much water may result in the leaves drooping, or becoming yellow. While plants need sunshine, if it is too strong, the soil may be baked and the roots killed. However, if there is no light, the leaves will become pale and the stems thin. Consequently the plant may die.

[1]

- Lack of water → dryness in the soil → leaves to wilt → death of plant.
- Too much water → leaves droop or become yellow → plant dies.
- Too strong sun → baked soil → roots killed.
- Lack of light → pale leaves & thin stems → plant dies.

This relationship can be expressed in many ways:

Emphasising Cause

Plants die	<i>because</i> <i>owing to the fact that</i>	there is lack of water.
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Emphasising Effect

As <i>Because</i> <i>Since</i>	there is lack of water,	plants die.
There is lack of water.	<i>Therefore,</i> <i>So,</i> <i>Thus,</i> <i>Hence,</i> <i>Consequently,</i> <i>Because of this,</i> <i>For this reason,</i> <i>As a consequence,</i> <i>As a result,</i>	plants die.
There is lack of water,	<i>as a result of which</i> <i>as a consequence of which</i> <i>with the result that</i>	plants die.

With some grammatical changes:

Emphasising Cause

The fact that	plants die	<i>is due to may be due to</i>	lack of water.
The/one reason for The/one cause of	plants dying	<i>is that could be that</i>	there is lack of water.
Death of plants	<i>is may be</i>	<i>one effect of one result of one consequence of caused by due to because of</i>	lack of water.
	<i>results from arises from</i>		

Emphasising Effect

<i>Owing to</i>	lack of water,		plants die.
<i>One/The effect of result of consequence of</i>		<i>is that</i>	plants die.
Lack of water	<i>results in leads to produces causes is the cause of gives rise to brings about</i>		death of plants. plants dying.
There is lack of water,	<i>(so) (thus) (thereby)</i>	<i>resulting in leading to producing causing giving rise to bringing about</i>	death of plants.
If	there is lack of water,		plants die.

Exercise 8. Read the following text and identify the cause and effect relationships.

Social Networks Can Support Academic Success

Social networks have been found to influence academic performance: students tend to perform better with high-performers among their friends, as some people are capable of inspiring others to try harder, according to Maria Yud-

kevich, Sofia Dokuka and Dilara Valeyeva of the HSE Centre for Institutional Studies.

Most sociologists recognise four factors affecting student academic performance, namely:

- the family's socioeconomic status;
- the time spent on independent learning and preparation for classes;
- the time spent working on a job or practicing a hobby; and
- the university or school environment.

However, recent empirical studies indicate that the role of the social environment may be underestimated, as classmates can greatly influence one another's behaviour and academic success.

Yet the value of many such studies is limited due to serious design flaws — such as viewing a random group of classmates as one's social network or assuming that a student's position in his or her social network is static. Rather than being random, one's social network is a product of conscious and dynamic choice. Social networks, particularly among college freshmen, can change considerably over time — e.g., a student can break up with an underachieving friend and seek the company of A-graders.

Using 2013-2014 data on the social networks of 117 first-year students of the Faculty of Economics at a Russian university, Yudkevich, Director of the Centre for Institutional Studies, and junior research fellows of the same Centre Dokuka and Valeyeva examined whether students consider academic success in choosing friends among their classmates and whether friends influence each other's academic performance.

They analysed the data using stochastic actor-based modeling to address the dynamics and other nuances of social group members' behavior and presented the findings in the paper Co-Evolution of Social Networks and Student Performance in Educational Studies, issue 3, 2015.

Friends Can Help with Studies

According to the authors, in choosing friends, students do not usually consider academic performance, but over time — often in the middle of the academic year — all members in a peer group tend to perform at about the same level.

Thus, most students who surrounded themselves with high-achievers improved their performance over time. The opposite was also true — those who befriended underachievers eventually experienced a drop in grades.

According to the authors, while underachievers have a stronger influence on their networks, high performers tend to gain popularity and expand their influence over time, particularly by helping other students with their studies.

Men were found to have larger networks than women, and all students were more likely to be friends with those whom they had known before college, classmates of the same gender, and members of their study group.

[6]

WRITING

ACADEMIC CV

Academic CVs should only be used for academic applications and have a unique format. The key extra features compared to general CVs are more focus on:

- publications
- your research activities
- funding awarded.

An academic CV is based on the Chronological CV format. However, the two-page limit need not apply to academic applications due to the addition of supporting information relating to detail of your PhD and other related research. An academic CV can therefore be many pages in length, depending on your experience in the work place – five pages is the rough guideline to average length.

Name

Write your contact details across the page (saving space)

Include your landline, mobile and email address.

Objective

Briefly state exactly what it is you want – what post are you applying for.

Personal profile

This is the key element of your CV. The rest of your CV content will be based on this section. Use words which reflect skills and experiences which match the opportunity you are applying for but keep it short.

Education

Write in reverse chronological order, the institutions where you studied, when you studied and outcomes. If you are applying for your first post after graduating, then this section can highlight aspects of your PhD which are relevant to the post you are applying for. Include an abstract of your PhD.

Employment

Write in reverse chronological order, job title, organisation and dates (only month and year necessary). Include jobs you did as a student only if they are relevant to your application. Do not write a job description unless the employment is directly relevant to the post you are applying for.

Professional memberships

List any memberships you may have relevant to your research or other life activities.

Skills

Use this section to write about your computational skills, administrative skills, team-working skills, time-management, communication skills and project management skills giving some evidence of how you acquired them.

Further information

Perhaps you held a position of responsibility, play/played a sport, have volunteering experience, or were an active member of a university club? Do you

speak any languages, have a driving licence, play an instrument, or hold a non-academic qualification? If so, include them here.

Referees

Three referees would be appropriate. Include your PhD supervisor and at least one other academic who knows you. Give as many contact details for each referee as possible, (address, e-mail and telephone number) with title if appropriate.

Academic CV Additions

Now you add the extra information you need to turn the Classic CV into one for your application to work in academia. There is no set Academic CV format: your layout is up to you. Below are some suggestions of how you can record your skills and experience under different headings, and they are just examples. Remember the three key elements potential employers look for are Research, Teaching and Administration, so these three elements should definitely be prioritised and included in all academic CV's.

Research

Brief summary of current research and names of supervisors.

Emphasise creative and innovative aspects of your research where possible.

Where is your research going? Where would you like it to go?

Incorporate conferences and posters

Teaching

Teaching/demonstrating experience both paid and unpaid – including anything of relevance.

Training, mentoring, facilitating

Supervision of students – undergraduate? Post graduate? Year?

What teaching materials have you designed or prepared?

Seminar experience? How many hours and how many students?

Have you organised any fieldwork or trips?

Any involvement in course organisation or preparation

Evaluation techniques

Administration

Responsibility for planning conferences

Committees and student associations

Marking, assessment and related paperwork – did you run a lecture course?

Examinations – perhaps you have helped with invigilation or marking?

Writing up research or checking other research work

Have you helped out at Open Days?

Planned or organised conferences?

Involvement in writing research proposals

Excellent verbal and written skills

Current research

Future research interests

Qualifications
Positions of responsibility
Publications and presentations
Conferences and courses attended
Funding and academic award
Professional memberships

[7]

VOCABULARY

Nominalisation

Academic language puts a lot of information into noun phrases rather than spreading it out over a whole sentence. Compare:

1. *Most people would agree that the reform of the educational system is important.*
2. *There is a widespread agreement about the importance of the reform of the educational system.*

Exercise 9. Complete the table with nouns.

Verb	Noun
Formulate	
Intend	
Consume	
Combine	
Define	
Evaluate	
Agree	
Rise	
Enroll	
Grow	
Grow	
Expand	

Exercise 10. Change the following sentences so that they contain noun phrases.

1. This information enables us to formulate precise questions.
2. We intended to design a questionnaire and make it as simple as possible to answer.
3. We aimed to define and evaluate a new approach to urban planning.
4. People buy products to consume themselves.
5. When these processes combine, life evolves.

Exercise 11. Read the two parallel texts in Russian and English. Translate the missing words (phrases).

Ключевыми для XXI века реалиями высшего образования по всему миру становятся следующие факторы: массификация обучения; (1) *роль частного сектора* в образовании и приватизация государственных учебных заведений высшего образования; (2) *продолжающиеся дискуссии* относительно тех преимуществ, которыми обладают государственное и частное высшее образование; (3) *бурное развитие* азиатских стран как научных центров; недавний экономический кризис и (4) *его влияние на высшее образование*.

При 30% (5) *поступающих ежегодно в вузы* среди соответствующей возрастной группы увеличение числа абитуриентов стало главной реальностью высшего образования последних 50 лет. С 2000 года количество людей, поступивших в вузы по всему миру, (6) *возросло со 100 млн человек до более чем 150 млн человек* (OECD 2008), и этот рост продолжается в большинстве стран. Только в двух странах — Китае и Индии — в ближайшие два десятилетия рост (7) *составит половину от этого*. Но поскольку в этих странах в вузы принимают (8) *соответственно только 22 и 10%* представителей данной возрастной группы, здесь заложены (9) *большие возможности для роста*.

Глобальная экспансия подогревается спросом (10) *постоянно растущего сегмента населения* на доступ к получению квалификации, что предоставило бы людям более широкие возможности, в том числе более высокие заработки. (11) *Потребности глобальной экономики, основанной на знаниях*, также способствуют глобальной экспансии.

Key 21st-century realities for tertiary education worldwide include the massification of enrollment, 1 _____ and the privatization of public higher education, 2 _____ concerning public versus private good in higher education, 3 _____ of Asian countries as academic centers, and, quite recently, the global economic crisis and 4 _____.

With 5 _____ of at least 30 percent of the eligible age cohort, massification of enrollment has been the central higher education reality of the past half-century. Since 2000, postsecondary enrollments 6 _____ (OECD 2008) worldwide, and expansion continues in much of the world.

In the next two decades in just two countries, China and India, this growth 7 _____. But because these countries enroll 8 _____ of the age group, they have 9 _____.

Global expansion has been fueled by demand from 10 _____ for access to the degrees, which is believed to hold the promise of greater lifetime earnings and opportunities. 11 _____ have also contributed to global expansion. The implications of massification have been immense, however, with major financial implications, infrastructure challenges, 12 _____, and potentially diminished returns in labor markets with more university graduates than the economy can sustain.

[9]

Последствия роста спроса на высшее образование оказались огромными, однако они сопровождались большими финансовыми сложностями, трудностями, связанными с инфраструктурой, (12) *вопросами качества образования*, возможным снижением доходности на рынках труда, переизбытком выпускников вузов, что пагубно сказывается на экономике.

[8]

GRAMMAR

CONDITIONALS (I-II TYPES)

Exercise 12. Compare the sentences. Decide, which sentence, A or B, describes an event:

- which is true or likely to happen in the present or the future;
- which is untrue in the present.

- A.** If resources are not used effectively and are wasted, they will run out sooner.
B. If each resource had only one use, it would be much simpler.

Exercise 13. Choose the correct translation equivalent.

- A.** If resources are not used effectively, they will run out sooner.
 1) Если бы ресурсы использовались неэффективно, то они бы закончились раньше.
 2) Если использовать ресурсы неэффективно, то они закончатся раньше.
B. If each resource had only one use, it would be much simpler.
 1) Если бы каждый ресурс использовался лишь раз, то все было бы значительно проще.
 2) Если каждый ресурс использовать лишь раз, то все будет значительно проще.

Exercise 14. Put the verbs in brackets into the correct form.

1. If I _____ (*to be*) a scientist, I would look at the problem in a different way.
2. Everybody _____ (*to be*) happy if society is more affluent.
3. If time, space or convenience are considered as resources, they _____ (*to be*) limited.
4. I _____ (*to answer*) what makes a state wealthy if I knew the situation better.
5. If you _____ (*to spend*) more time working, you will make more money.

6. If you worked more, you _____ (*to have*) less time to relax.
7. You would know about Darwin more if you _____ (*to study*) biology.
8. If you study at university abroad, you _____ (*have to think*) about accommodation.
9. He _____ (*to consider*) accommodation if he studied abroad.
10. If I _____ (*to be*) a consumer, I would want satisfaction from my resources (time and money).

Exercise 15. Match the halves of the sentences.

1. If the worst conceivable accident were to occur in Britain at a nuclear power station, a) if government statistics were available.
2. If the department approves the application, b) they will have to adapt to Community legislation, which will alter national law.
3. One would not rely on any Internet resources, c) unless anyone disagrees.
4. Even if companies do not export their goods or services to other members states, d) one million men, women and children would die.
5. If companies are getting leaner, e) it will recommend the candidate's admission to the Faculty Postgraduate Studies Committee.
6. We can start a new project next week, f) absenteeism becomes a big problem and cracks soon begin to appear.
7. If education was free of charge, g) applicants would be even more.

STUDY SKILLS

IDENTIFYING REFERENCE IN THE TEXT

Every text has a structure. It is not just a random collection of sentences. The parts that make up the text are related in a meaningful way to each other. Recognising the way in which a text has been organised will help you to understand it better. In order to understand the text, it is necessary to understand how the sentences are related.

There are four main types of links used in academic texts: reference, ellipsis and substitution, conjunction and lexical cohesion.

Reference

Certain items of language in English have the property of reference. That is, they do not have meaning themselves, but they refer to something else for their meaning, e.g., *it, he, she, his/him, their, this, here, there, the*, etc.

Substitution and Ellipsis

Substitution is the replacement of one item by another and ellipsis is the omission of the item. If writers wish to avoid repeating a word, they can use substitution or ellipsis. E.g.:

1. A German philosopher, Hermann Ebbinghaus, came up with the revolutionary idea that memory could be studied experimentally. In doing so he broke away from...

2. Some of the water which falls as rain flows on the surface as streams. Another part is evaporated.

Conjunction

Conjunction shows meaningful relationships between clauses. It shows how what follows is connected to what has gone before. E.g.:

Traditionally, research was done not in universities but in academies of science.

Lexical Cohesion

This is a way of achieving a cohesive effect by the use of particular vocabulary items. You can refer to the same idea by using the same or different words.

For cohesion to occur, it is not necessary for each word to refer to exactly the same item or even be grammatically equivalent. All the words related to such a word contribute to the cohesion.

Other commonly used are 'repetition', 'synonyms' and 'near synonyms', 'collocations', 'super/sub-ordinate relationships' (e.g., fruit/apple, animal/cat), etc.

[10]

Exercise 16. Read an abstract from the text and identify reference.

What Type of Student Do You Have to Teach?

Most lecturers try to help students develop their understanding. But understanding a foreign language is not the same as understanding why someone is upset or understanding electromagnetism or understanding history. It is not to be expected therefore that the same teaching methods will be appropriate to these different kinds of understanding.

Most forms of understanding are expressed by concepts which differ from everyday ones. For example, we all know that suitcases get heavier the longer you carry them, but in science this is described in terms of constant weight plus increasing fatigue. The concept 'weight' is introduced and laid alongside the commonsense concept of 'heaviness'. Similarly we all know that time passes quickly when we are absorbed and slowly when we are bored, but science tells us that this is an illusion; time really ticks away at a steady rate. Note that conceptual change should not be the aim, as is sometimes suggested, since people still also need their common sense. The aim is to add new sets of concepts and to explain when to use which set.

But 'understanding' is not the only kind of learning which students need to master. Instruction, demonstration and error-correction are the key teaching activities — which are quite different from those needed to reach understanding — while practice is the main learning activity.

Students also have to memorise information and be able to recall it when required, as well as acquire several other kinds of learning (such as know-how and attitudes and values) each of which calls for different teaching methods. So learning-centred teaching includes a conscious matching of teaching methods to the intended kind of learning.

While good teaching involves, among other things, helping students to achieve their chosen learning goals, the picture is further complicated by the different learning styles adopted by different groups of students.

[11]

Section 3. Education in the UK

LEAD-IN

Exercise 1. Do you have any background information about university colleges in the UK?

Exercise 2. Choose among the buildings of a university college where students must go if they want to...

1. speak to a lecturer in the history department.
2. find information about student club.
3. visit someone who is living in the student accommodation.
4. enquire about payment of fees.
5. attend a graduation ceremony.
6. listen to a talk about English literature.
7. see a doctor.
8. borrow a book.

- A. Halls of residence
- B. University square, staff car park
- C. Administration building
- D. Arts Faculty building
- E. Great Hall
- F. University Health centre
- G. University bookshop, cafeteria and visitors' car park
- H. University library
- I. Student Union
- J. Sports grounds
- K. School of Engineering
- L. Arts Lecture Theatre

READING

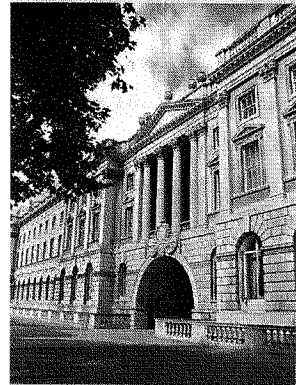
Education in the UK

Education in the United Kingdom is a devolved matter with each of the countries of the United Kingdom having separate systems under separate

governments. In each country there are five stages of education: early years, primary, secondary, further education (FE) and higher education (HE). The law states that full time education is compulsory for all children between the ages of 5 (4 in Northern Ireland) and 16 (18 in England). Further Education is non-compulsory, and covers non-advanced education which can be taken at further (including tertiary) education colleges and Higher Education institutions (HEIs). The fifth stage, Higher Education, is study beyond A levels or BTECs (and their equivalent) which, for most full-time students, takes place in universities and other Higher Education institutions and colleges.

Most UK universities fall into one or more of seven categories:

- ancient universities – the seven universities founded before 1800 – London, Durham and its former constituent college at Newcastle, and the colleges of the former University of Wales;
- Red Brick universities – large civic universities chartered at the beginning of the 20th century before World War II;
- Plate Glass universities – chartered after 1966;
- The Open University – the UK's 'open to all' distance learning university (est. 1968);
- New Universities – post-1992 universities formed from Polytechnics or Colleges of Higher Education;
- Russell Group – self-selected association of 24 public research universities.



King's College London

The central co-ordinating body for universities in the United Kingdom is Universities UK. The vast majority of United Kingdom universities are government financed, with only four private universities. All postgraduate students are liable for tuition fees – though a variety of scholarship and assistantship schemes provide support. The main sources of funding for postgraduate students are research councils such as the AHRC (Arts and Humanities Research Council) and ESRC (Economic and Social Research Council).

British universities tend to have a strong reputation internationally for two reasons: history and research output. The UK's role in the industrial and scientific revolutions, combined with its imperial history and the sheer longevity of its ancient universities, are significant factors as to why these institutions are world-renowned. Four universities in the UK have never been ranked outside the top ten, with Oxford, Cambridge, LSE and Warwick having become constant features at the summit of national ranking tables, while Cambridge, LSE and Oxford University have consistently ranked in the top 3 positions.

A number of universities in the United Kingdom are composed of colleges. These can be divided into three broad categories. In the case of the 18 constituent colleges of the federal University of London, the colleges operate largely as self-governing universities, with teaching and research activities and control

over their own finances and admissions, and some have their own degree awarding powers.

A study by the Office for National Statistics has found that, although university graduates are consistently more likely to be employed than other people, they are increasingly likely to be overqualified for the jobs which they do hold. The study also found that the type of degree is significant. On average, medical undergraduates earn the most at £45,600 per year, while media and information studies undergraduates earn the least at £21,000 per year. Finally, a degree from a Russell Group school is worth considerably more than a degree from a non-Russell school.

A study from the Higher Education Statistics Agency has found that, six months after graduation, the proportion of graduates who are either in full-time employment or studying for an advanced degree ranges from 78.7% for civil engineers to 51.2% for artists. There is also a wide variation in the proportion of graduates who are underemployed. For example, the most common employment fields for civil and mechanical engineers are engineering and construction. On the other hand, the most common workplaces for media studies graduates are shops and restaurants.

Another concern is the decline in academic standards. Faculty are under increasing pressure from administrators to award students good marks and grades without regard for those students' actual abilities, both to keep those students in school paying tuition and to boost the school's graduation rates. Students often use course evaluations to criticize any instructor who they feel has been making the course too difficult, even if an objective evaluation would show that the course has been too easy.

ACTIVITIES

Exercise 1. Read the text and answer the following questions.

1. What is peculiar about education in the United Kingdom?
2. What stages does education in the UK fall into?
3. How can UK universities be categorised?
4. What reputation do UK universities have?
5. What is the value of academic degrees in the UK?

Exercise 2. Compare and contrast the education systems in the three countries – Russia, the United States, the UK.

Exercise 3. Match the words with their definitions.

- | | |
|----------------|--|
| 1. devolved | a. considering something carefully on how good or bad it is |
| 2. compulsory | b. living for a long time |
| 3. constituent | c. be given to other people |
| 4. chartered | d. a level of quality, especially a level that is acceptable |
| 5. summit | e. the top of something |
| 6. ranked | f. must be done because of a rule or law |

- 7. standard g. one of the parts or substances that something is made of
- 8. evaluation h. having the necessary qualifications to work in a particular profession
- 9. longevity i. the opinion that people have about how good or how bad someone or something is
- 10. reputation j. having a position in a list which shows things or people in order of importance

SPEAKING

Exercise 4. Practice answering questions. You must speak for at least two minutes.

Describe one method of learning you have used	
You should say:	how you found out about this method what it consists of how it compares to other methods of learning and explain why this is the best way to study
Describe a test you have taken elsewhere	
You should say:	where you took the test how long it was what skills and knowledge was tested and say if you think that was a good test of your skills or not, and why
Describe a skill you learnt successfully	
You should say:	what skill you learnt when and where you learnt it how you learnt it and explain what helped you to learn successfully

Exercise 5. Discuss the following questions in group:

1. Is continuous assessment an effective way of measuring students' performance?
2. What is more important in studying: formal correctness or freedom of expression?
3. How beneficial is it to group students according to their level of ability?
4. How does studying environment influence learning?
5. What role do you think extracurricular activities play in education?

CLASSIFYING / CATEGORIZING

When we classify, we arrange members of a group. We often need to say what our classification is and how we are making it.

Exercise 6. Read the following text and answer the questions below.

Lavas can be divided into two contrasting types, acid and basic. Acid or siliceous lavas have a high silica content, about 70 to 75 per cent, and are stiff or viscous. They move slowly over the surface and solidify close to the vent. Basic lavas have a silica content of about 50 per cent. They are dark colored and fluid, and they flow more easily at lower temperatures and reach a greater distance from the crater than do acid lavas.

Questions:

1. What is the text classifying?
2. How many types are there?
3. What are the two types?
4. How do we make the distinction?

Language

The tables below show some of the most common language used in sentences which have classification as their purpose.

There are	two	types kinds classes categories	of lava	: acidic and basic. . These are acidic and basic.
The		sorts varieties		are acidic and basic.
Lava	consists of comprises can be divided into	two	categories classes kinds types varieties	. These are acidic and basic. : acidic and basic.
Acidic and basic are		classes kinds types categories varieties	of lava.	
We can classify lava	according to on the basis of depending on		amount of silica present.	

EXEMPLIFYING

In academic speaking it is common to make generalisations. It is often useful to support these generalisations with examples.

Language

We show / exemplify / illustrate this ... by ...
For example,

For instance,
 A key experiment shows / exemplifies / illustrates this ...
 This is shown by the following examples ...
 The following are examples of this ...
 The following is a case in point ...
 ... is a case in point.
 ... institutions such as the family ...
 [1]

Exercise 7. Read the text. Find the examples of abbreviations (acronyms), categorization, and exemplification.

Social Stratification Reproduced in Education

By choosing education for their children, parents tend to perpetuate social inequalities. While educated middle-class parents invest in their children's future by selecting the best possible school and becoming actively involved in the educational process, working-class families often feel they cannot afford to choose and instead, send children to the nearest school, expecting them to make it on their own, according to Larisa Shpakovskaya, Associate Professor at the Department of Sociology, HSE Campus in St. Petersburg.

Russian schools struggle with social mobility, as differences among schools and the choices that parents make for their children reflect the extent of social stratification in the country. By choosing a school for their child, parents determine the future educational path, based mainly on the family's background, including the parents' education, social status, financial situation, and cultural capital.

Educated families of a high socioeconomic status usually make an effort to find the best possible school for their child, even if it requires an investment of money (paying for tuition and sponsoring a school) and time (some parents even quit their job to help their child succeed at school). Parents in Russia have been known to buy a car specifically to drive their child to a prestigious school at the other end of town or move to a different apartment in order to be closer to the child's school, according to Shpakovskaya's paper "The Educational Expectations of Parents: a Mechanism That Reproduces Social Inequality", published in the HSE's Journal of Social Policy Studies, Issue 2, 2015. The above examples may appear somewhat extreme, yet they illustrate the overall tendency among middle-class families to navigate the educational services market as smart and demanding consumers.

In contrast, few working-class families in Russia spend sufficient time researching the educational options available to their children.

Shpakovskaya's study is based on data from her recent interviews with parents in St. Petersburg, including 25 mothers and 10 fathers of children aged 12 and younger from households of different incomes and educational levels. In addition, she reviewed the findings from the HSE's studies of family behaviour (150 interviews conducted between 2010 and 2014), and some five thousand

postings from parents' forums. Her analysis focused in particular on respondents' socioeconomic status and educational level, i.e. the variables that determine their cultural preferences, values, lifestyles, etc.

In her research, she distinguished between working-class respondents, defined as people without higher education employed in menial or service jobs, and middle-class respondents with higher education employed in IT, management, research, art, engineering, and other intellectual occupations.

[12]

WRITING

WRITING AN EMAIL

1. Use a neutral email address. It should be a variation of your real name, not a username or nickname. Use periods, hyphens, or underscores to secure an e-mail address that's just your name, without extra numbers or letters, if you can. Never use an unprofessional email address. No one will take you seriously in this case.

2. Use a short and accurate subject header. Avoid saying too much in the subject header, but make sure it reflects the content of your email to a person unfamiliar with you. If possible, include a keyword that will make the email content easier to remember and/or search for in a crowded inbox.

3. Use a proper salutation. Addressing the recipient by name is preferred. Use the person's title (Mr., Mrs., Ms., or Dr.) with their last name, followed by a comma or a colon. Optionally, you can precede the salutation with 'Dear...' (but 'Hello...' is acceptable as well). Using a last name is more formal and should be used unless you are on first-name terms with the recipient. If you don't know the name of the person you are writing to (but you really should try to find one), use 'Dear Sir/Madam' or 'Dear Sir or Madam' followed by a colon.

4. Introduce yourself in the first paragraph (if necessary). Also include why you are writing, and how you found that person's email address, or the opportunity you are writing about.

5. Write the actual message. Be sure to get your point across without rambling; if it is fluffed up, the reader may glance over the important details. Try to break up the message into paragraphs by topic to make your message more logical and digestible.

The email should be no more than 5 paragraphs long and each paragraph should be no more than 5 sentences long. Insert a line break between each paragraph; indenting isn't necessary and will likely be lost during the email transfer anyway. Be sure to avoid informal writing.

6. Use the correct form of leave-taking. This will depend on your level of intimacy with the recipient. Examples include:

Yours sincerely, ...

Yours cordially, ...

Respectfully, ...

Best, ...

Your student, ...

If your salutation was 'Dear Sir or Madam', an appropriate way would be:

Yours faithfully, ...

7. Sign with your full name. If you have a job title, include that in the line after your name, and write the company name or website in the line after that. If you do not have a job title, but you have your own blog or website related to the content of the email, include a link to that below your name.

8. Proofread your message for content. Make sure you haven't omitted any important details (or repeated yourself). Reading your email aloud or asking someone to proofread it is a great way to get a different perspective on what you've written. Proofread your message for spelling and grammar.

Sample email to Professor Asking for Notes

Subject: Request for Notes

Message:

Dear Professor Radley,

I am writing to request the slides and notes from your 8am History 101 class from last Friday, October 1st. I know you usually post them online. However, I have not been able to locate them on your website. I am currently preparing for mid-term exams and would appreciate the information. I was unable to attend this particular lecture.

Thank you in advance.

Sincerely,

Brad Johnson

HIST101, Section 2

[13]

Useful Phrases

I am writing to inform you that / to give you further information / to request ...

I am pleased to say ...

Thank you for your letter of March 17.

Further to our meeting last Friday ...

I am very sorry to say that ...

I deeply regret the fact that ...

Please accept my apologies.

I would also like to mention that ...

I look forward to hearing from you.

VOCABULARY

CONTINUAL / CONTINUOUS

Continual and *continuous* are partial synonyms. Look through the sets of sentences showing how these words are used in context.

A.

To remain competitive in the industry, a **continuous** effort must be made in further research and development to improve our product.

Some psychologists have tried to suggest that development is an accumulation of small qualitative changes over time, causing smooth, **continuous** improvement, called linear dynamics.

With an ageing population and **continuous** progress in medical science, scarcity of health care resources presents a growing problem.

The model has so far suggested that when a country leaves the fixed exchange rate regime, the exchange rate is **continuous** and there is no sudden jump.

In summary, this study demonstrates that a country's economic growth is a **continuous**, long run process.

B.

Continual and accelerated expansion has seen the EU become an ever greater 'economic giant' argues Eysekens, with the addition of ten states in 2004.

In every project, we will run a **continual** measurement in order to ensure achieving every target of the project.

Finally it emphasises the importance of a **continual** assessment of living standards.

Alternatively Conrad, Ford and Joyce express the experience of modern life as a **continual** cycle.

It is reported that there is **continual** decline in hotel telecom revenues.

Exercise 8. Match the word with its definition.

1. continual A. is used to describe things that go on without a break
2. continuous B. is used to describe things which happen repeatedly or the thing that is repeated many times, often in a way that is harmful or annoying

Exercise 9. Use the correct word to fill in the gaps.

1. I had six _____ hours of meetings.
2. His _____ attempts to intervene irritated everybody.
3. For four days the town suffered _____ attacks.
4. He was in a _____ process of rewriting his material.
5. Rain was falling outside in a _____ silver curtain.
6. She was in _____ employment until the age of sixty-five.
7. She kept the letter as a _____ reminder of his kindness.
8. We lived in _____ fear of being discovered.
9. Recovery after the accident will be a _____ process that may take several months.

ABBREVIATIONS AND ACRONYMS

Exercise 10. Read the two definitions – (a) and (b) – and decide which term – *an abbreviation or an acronym* – should be inserted into the gap.

- a) An _____ is a shorter version of something.
- b) An _____ is a shorter version as well, but it is pronounced as a word.

Exercise 11. Complete the following table. Decide which of letters combinations are *abbreviations and acronyms*.

0. BA	<i>abb.</i>	<i>Bachelor of Arts</i>
1. MA	_____	_____ of _____
2. BSc	_____	_____ of _____
3. MSc	_____	_____ of _____
4. MBA	_____	_____ of _____
5. PhD	_____	_____ of _____
6. WHO	_____	_____
7. UNESCO	_____	_____ and _____
8. UCL	_____	_____

Exercise 12. Match the *abbreviation or acronym* from the list above to its description.

- 1. United Nations organization to promote health _____
- 2. United Nations organization promoting education, science and culture _____
- 3. a postgraduate degree in humanities _____
- 4. a postgraduate business qualification _____
- 5. a postgraduate degree, one which entitles the holder to the title Dr. _____
- 6. a first degree in a science subject _____
- 7. a postgraduate degree in a science subject _____
- 8. one of London's main university colleges _____

Common Abbreviations in an Academic Context

Abbr.	Stands for	Example or Comment
e.g.	for example (from Latin, <i>exempli gratia</i>)	Many large mammals, e.g., elephants, rhino...
i.e.	that is (from Latin, <i>id est</i>)	High flyers, i.e. those who are ambitious...
etc.	and so on (from Latin, <i>et cetera</i>)	Smaller European countries – Slovenia, Slovakia, Estonia, etc. – had different interests.
NB.	note carefully (from Latin, <i>nota bene</i>)	NB. You must all the questions on this page.
et al.	and others (from Latin, <i>et alli</i>)	<i>used in bibliographical references, e.g.:</i> as mentioned in T. Potts et al. (1995)
ibid.	in the same place as the preceding footnote (from Latin, <i>ibidem</i>)	1. Smith (2013) History of Engineering. 2. <i>ibid.</i>
cf	compare (from Latin, <i>confer</i>)	cf Lee (2005) for a different approach to this topic
q.v.	which you can see (from Latin, <i>quod vide</i>)	<i>used to refer the reader to another part of a book or article for further information</i>
op.cit	see previously quoted work by author (from Latin, <i>opus citatum</i>)	Potts op. cit. 33–54
ed.	editor	<i>used in bibliographical references</i>
vol.	volume	<i>used in bibliographical references</i>

GRAMMAR

RELATIVE CLAUSES: DEFINING AND NON-DEFINING

Defining relative clauses are used to give essential information about someone or something – information that we need in order to understand what or who is being referred to – and usually come immediately after the nouns they describe. We usually use a relative pronoun (e.g., *who, that, which, whose, whom*) to introduce a defining relative clause.

- They're the people who want to buy our house.*
- Here are some cells which have been affected.*
- They should give the money to somebody who they think needs the treatment most.*

We often leave out the relative pronoun when it is the object of the verb:

- This is a man who takes his responsibilities seriously.*
- Here are some cells the researcher has identified.*

Warning:

In writing, we don't use commas in defining relative clauses.

Non-defining relative clauses are used to give extra information about the person or thing. It is not necessary information. We don't need it to understand who or what is being referred to.

We always use a relative pronoun (*who, which, whose* or *whom*) to introduce a non-defining relative clause.

Clare, who I work with, is doing the London marathon this year.

Not: *Clare, I work with, is doing the London marathon this year.*

Alice, who has worked in Brussels and London ever since leaving Edinburgh, will be starting a teaching course in the autumn.

Warning:

We don't use *that* to introduce a non-defining relative clause:

Allen, who scored three goals in the first game, was the only player to perform well.

Not: *Allen, that scored three goals in the first game, was the only player to perform well.*

Punctuation

In writing, we use commas around non-defining relative clauses:

Unlike American firms, which typically supply all three big American car makers, Japanese ones traditionally work exclusively with one maker.

Compare: *Sports which are dangerous should be forbidden.*

Sports, which are dangerous, should be forbidden.

[14]

Exercise 13. Underline the relative pronoun in the sentences. Explain the usage of commas or lack of them.

1. The AlfredInstitute, where the recordings are kept, has an excellent library.
2. I'd like to hear the recordings that they made of the conference.
3. North America is a continent whose inhabitants used to speak more than 100 languages.
4. Her grandmother, whom we never met, is the only surviving speaker of this dying language.
5. Anyone who has learned to speak another language will have had the sensation of discovering a new personality.
6. Mark Passel, who works at Oxford University, claims that studying mathematics alters the brain.

STUDY SKILLS

PROOF-READING WRITTEN ENGLISH

When writing English for academic purposes it is important to be accurate. It is, however, very difficult to produce language which is intelligent, appropriate and accurate at the same time. It is therefore important to break down the task into stages: an ideas stage and an accuracy stage. In the accuracy stage, all

your ideas are on the paper and you can concentrate on accuracy. You can carefully read your work and correct your mistakes.

However, in the same way that it is difficult to concentrate on ideas and accuracy at the same time, it is difficult to check your work for all kinds of mistake at the same time. You therefore need to check your work several times, for different purposes.

Exercise 14. Proof-read the following text: How many mistakes can you find?

Comparative study of animal help to show how man's space require are influenced in his environment. In animals we can observing the direction, the rate, and the extent of changes of behaviour that follow changes in space available to them as we can never hope to do in men. For one thing, by using animals it am possible to acelerate time, since animal generations is relatively short. Scientist can, at forty years, observe four hundred forty generations of mice, while has in the same span of time seen only two generations of his own kind. And, off course, he can be more detached about the fate of animal.

Exercise 15. Choose the correct word in each of the following sentences:

1. Three times he had made it clear to MacDonald that he did not wish to *accept / except* his resignation.
2. Nevertheless, there was still considerable scope for policy to *affect / effect* the situation.
3. Most environmental Non-Governmental Organizations regard this plan as an *allusion / illusion* at best.
4. The latter has the advantages that the list can easily be *amended / emended* and kept in the patient's notes.
5. It is the duty of us all to *assure / ensure / insure* that an entire cultural group is not tainted by the actions of a criminal minority.
6. The Boards of Directors of each airline would be appointed by the Cabinet, and their profits and losses would be *born / borne* by the Exchequer.
7. The aims of Boniface and Chrodegang *complemented / complimented* each other.
8. The strategies in Axelrod's computer were *definitely / definitively* unconscious.
9. They are more than 300 of the world's most *eminent / imminent* climate scientists — in government service as well as in universities.
10. Bodlund and her colleagues find that, despite anticipated *economic / economical* growth of 54 per by the year 2010, total Swedish electricity-demand could decline by 25 per cent.
11. Only one contestant appeared and at the end of the *prescribed / proscribed* waiting period, he asked for the non-appearance of his adversary to be legally recorded.
12. In the Vedic period the abstract idea of time was regarded as the fundamental *principal / principle* of the universe.
13. Even though the task of pedalling on a *stationary / stationery* bicycle was equally demanding at all times, it was felt by the volunteers to be most difficult to achieve in the middle of the night.

14. Bacon wished to chart a *root* / *route* by which to go where no one had gone before.

15. An Act *passed* / *past* in that year gave power to the court to make an adoption order.

16. At first *sight* / *site* the failure of conditioned suppression to show context specificity looks like evidence against the notion.

17. One can *waive* / *wave* one's rights by consenting, but not by promising.

Exercise 16. Proof-read the following text, checking the punctuation.

what makes human language unique how did language begin this book is a wide-ranging and stimulating introduction to language which students and general readers alike will read for enjoyment as well as instruction it explores the most intriguing questions about the nature of human language drawing on basic insights that have been developed by linguistics this century the author introduces the reader to the study of language through chapters on grammar sounds writing and words emphasising these as systems within the overall system of language later chapters look at the stages through which children learn language and the theories that explain their rapid progress at what can go wrong with speech in childhood and maturity and at how speakers of a language show their different origins in class

[15]

Check Understanding (3)

Exercise 1. Answer the following questions:

1. What stages does education in Russia comprise?
2. How has the Bologna process influenced the structure of tertiary education?
3. What is the K-12 level?
4. What levels is education the United States divided into?
5. What are admission requirements for the undergraduate study?
6. What is an Ed.S. in the American education hierarchy of degrees?
7. How is a Ph.D. earned?
8. What is peculiar about education in the United Kingdom?
9. What stages does education in the UK fall into?
10. How can UK universities be categorised?
11. What reputation do UK universities have?

Exercise 2. Read the text and choose the best sentence from the list below to fill in each of the gaps.

Education as a Public Good

It is often argued that education is a public good and (1) _____. Economists define a public good as satisfying up to three conditions: 1) indivisibility, 2) nonrivalry, and 3) nonexcludability. Indivisibility can be illustrated by the

example of a bridge over a river, which can be used by anyone without extra costs being incurred. Nonrivalry is virtually the same, except (2) _____ that are not reduced, rather than the amount of the good. For example, the good of hiking in the Grand Canyon could be, to a large extent, indivisible, in that many millions of people could do it without thereby hindering others also doing it. However, the greater the number of people who hike, the lower the enjoyment of those who wish to be in an empty wilderness – in (3) _____. Finally, nonexcludability pertains when it is not feasible to exclude any individual members of the group from consuming the good. The classic economic example is of a lighthouse.

It would seem (4) _____. It is clearly not nonexcludable, for a particular child can be excluded from a classroom or any other educational opportunity. The situation is similar for nonrivalry and indivisibility, for it is the case that if some children have the attention of an excellent teacher, then that teacher has less time for others, who therefore can obtain less benefit from the teacher. Indeed, it seems likely (5) _____ that reformers wanted government to intervene in education – to alleviate this inequality of access.

However, if it is not a public good in this sense, education does seem likely to have neighborhood effects, or externalities – defined by economists as (6) _____. That is, there are likely to be benefits to the community or society at large (if there are educational opportunities available) in terms of equality of opportunity, social cohesion, democratic benefits, law and order, economic growth, and so on. Crucially, these externalities are likely to exhibit a large degree of nonexclusion (it is costly to exclude people from these benefits or costs) and there are usually considerations relating to nonrivalry or indivisibility (the external benefits or costs are likely to be available to all with near zero marginal costs). For example, a society lacking in equality of opportunity could be a dissatisfied, lawless society. One could exclude oneself from the problems of such a society, but only at the expense of burglar alarms, bodyguards, high fences, or by restricting one's movements. It is in this sense (7) _____; and it is in this sense that it could legitimately be argued (8) _____.

From these considerations, the discussion would need to focus on the perceived effectiveness, efficiency, and equity of public education, and the presence, or lack, of private initiatives. These concerns bring us squarely back to the major reasons adduced earlier for questioning the role of government in education.

- A. which case the good is not nonrival
- B. that it was precisely because of this nonrivalry or indivisibility
- C. that this implies a particular role for government
- D. that education satisfies none of these conditions
- E. when an activity undertaken by one party directly effects another party's utility
- F. that education needs government intervention to ensure its provision and obtain these externalities

- G. that it is the benefits available to every member of the public
 H. that education could be referred to as a public good
 [16]

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Glossary

academia /n/	the world of learning, teaching, research, etc. at universities, and the people involved in it
academy /n/	a type of official organization which aims to encourage and develop art, literature, science, etc.
access /v/	to reach, enter or use smth
accessibility /n/	how easy smth is to reach, enter, use, see, etc.
accessible /adj/	that can be reached, entered, used, etc. by smb who has problems walking
achievement /n/	a thing that smb has done successfully, especially using their own effort and skill
acquisition /n/	the act of getting smth, especially knowledge, a skill, etc.
adequate /adj/	enough in quantity, or good enough in quality, for a particular purpose or need
affect /v/	to produce a change in smb/smth
affective /adj/	connected with emotions and attitudes
alternative /adj/	different from the usual or traditional way in which smth is done
analyse (yze)	to examine the nature or structure of smth, especially by separating it into its parts, in order to understand or explain it
analysis /n/	the detailed study or examination of smth in order to understand more about it; the result of the study
analyst /n/	a person whose job involves examining facts or materials in order to give an opinion on them
analytic(al) /adj/	using a logical method of thinking about smth in order to understand it, especially by looking at all the parts separately
annual /adj/	happening or done once every year
apparent /adj/	easy to see or understand; obvious
approach /n/	a way of dealing with smb/smth; a way of doing or thinking about smth such as a problem or a task

appropriate /adj/ suitable, acceptable or correct for the particular circumstances

approximate /v/ to be similar or close to smth in nature, quality, amount, etc., but not exactly the same

area /n/ a particular subject or activity, or an aspect of it

aspect /n/ a particular part or feature of a situation, an idea, a problem, etc.; a way in which it may be considered

assess /v/ to make a judgement about the nature or quality of smb/smth

assessable /adj/ possible to judge or calculate

assessment /n/ an opinion or a judgement about smb/smth that has been thought about very carefully

assist /v/ to help smb to do smth

assume /v/ to think or accept that smth is true but without having proof of it

assumption /n/ a belief or feeling that smth is true or that smth will happen, although there is no proof

attitude /n/ the way that you think and feel about smb/smth; the way that you behave towards smb/smth that shows how you think and feel

attribute /n/ a quality or feature of smb/smth

authoritative /adj/ that you can trust and respect as true and correct

authority /n/ the power or right to do smth

availability /n/ the fact that smth is possible to get, buy or find

beneficial /adj/ improving a situation; having a helpful or useful effect

beneficiary /n/ a person who gains as a result of smth

benefit /n/ an advantage that smth gives you; a helpful and useful effect that smth has

categorization /n/ the process of putting people or things into groups according to what type they are; a group made in this way; classification

chapter /n/ a separate section of a book, usually with a number or title

circumstance /n/ (*usually plural*) the conditions and facts that are connected with and affect a situation, an event or an action

civil /adj/ connected with the people who live in a country

code /n/ a system of words, letters, numbers or symbols that represent a message or record information secretly or in a shorter form

comment /v/ to express an opinion about smth

commitment /n/ agreeing to use money, time or people in order to achieve smth

commission /n/ an amount of money that is paid to smb for selling goods and which increases with the amount of goods that are sold

communication /n/ the activity or process of expressing ideas and feelings or of giving people information

community /n/ all the people who live in a particular area, country, etc. when talked about as a group

compensate /v/ to pay smb money because they have suffered some damage, loss, injury, etc.

complex /adj/ made of many different things or parts that are connected; difficult to understand; complete

complexity /n/ the state of being formed of many parts; the state of being difficult to understand

component /n/ one of several parts of which smth is made

computation /n/ an act or the process of calculating smth

compute /v/ to calculate smth

concentrate /v/ to give all your attention to smth and not think about anything else

concept /n/ an idea or a principle that is connected with smth abstract

conception /n/ the process of forming an idea or a plan

conclude /v/ to come to an end; to bring smth to an end

conclusion /n/ the end of smth such as a speech or a piece of writing

conduct /v/ to organize and/or do a particular activity

confer /v/ to discuss smth with smb, in order to exchange opinions or get advice

contrast /v/ to show a clear difference when close together or when compared

consensus /n/ an opinion that all members of a group agree with

consequence /n/ a result of smth that has happened

considerable /adj/ great in amount, size, importance, etc.

constant /adj/ that does not change

constrain /v/ to restrict or limit smb/smth

construct /v/ to form smth by putting different things together

consume /v/ to use smth, especially fuel, energy or time

consumption /n/ the act of buying and using products

constitute /v/ to form a group legally or officially

context /n/ the situation in which smth happens and that helps you to understand it

contract /v/ to become less or smaller; to make smth become less or smaller

contractor /n/ a person or company that has a contract to do work or provide goods or services for another company

contribute /v/ to give smth, especially money or goods, to help smb/smth

convene /v/ to arrange for people to come together for a formal meeting

conventional /adj/ (*often disapproving*) tending to follow what is done or considered acceptable by society in general; normal and ordinary, and perhaps not very interesting

coordinate /v/ to organize the different parts of an activity and the people involved in it so that it works well

core /n/ the most important or central part of smth

corporation /n/ an organization or a group of organizations that is recognized by law as a single unit

correspond /v/ to be the same as or match smth

correspondingly /adv/ in a way that matches or is connected with smth that you have just mentioned

create /v/ to make smth happen or exist

credit /n/ (*education*) a unit of study at a college or university (in the US, also at a school); the fact of having successfully completed a unit of study

criterion /n/ a standard or principle by which smth is judged, or with the help of which a decision is made

culture /n/ the customs and beliefs, art, way of life and social organization of a particular country or group

cycle /n/ the fact of a series of events being repeated many times, always in the same order

data /n/ facts or information, especially when examined and used to find out things or to make decisions

debate /v/ to discuss smth, especially formally, before making a decision or finding a solution

deduce /v/ to form an opinion about smth based on the information or evidence that is available; infer

define /v/ to say or explain what the meaning of a word or phrase is

definition /n/ an explanation of the meaning of a word or phrase, especially in a dictionary; the act of stating the meanings of words and phrases

demonstrate /v/ to show smth clearly by giving proof or evidence

deregulation /n/ the process of making a trade, business activity, etc. free from rules and controls

derivative /adj/ copied from smth else; not having new or original ideas

derive /v/ to come or develop from smth

design /v/ to make, plan or intend smth for a particular purpose or use

dimension /n/ a measurement in space, for example the height, width or length of smth

disproportion /n/ the state of two things not being at an equally high or low level; an example of this

dissimilar /adj/ not the same

distinct /adj/ used to emphasize that you think an idea or situation definitely exists and is important

distinction /n/ a clear difference or contrast especially between people or things that are similar or related

distribute /v/ to give things to a large number of people; to share smth between a number of people

distribution /n/ the way that smth is shared or exists over a particular area or among a particular group of people

document /n/ an official paper or book that gives information about smth, or that can be used as evidence or proof of smth; a computer file that contains text that has a name that identifies it

domestic /adj/ of or inside a particular country; not foreign or international

dominate /v/ to control or have a lot of influence over smb/smth, especially in an unpleasant way

economic /adj/ connected with the trade, industry and development of wealth of a country, an area or a society

economical /adj/ using no more of smth than is necessary

economically /adv/ in a way connected with the trade, industry and development of wealth of a country, an area or a society

economics /n/ the study of how a society organizes its money, trade and industry

economy /n/ the relationship between production, trade and the supply of money in a particular country or region

element /n/ a necessary or typical part of smth

emerge /v/ to start to exist; to appear or become known

emphasis /n/ special importance that is given to smth

emphasize /v/ to give special importance to smth

environment /n/ the conditions that affect the behaviour and development of smb/smth; the physical conditions that smb/smth exists in

ensure /v/ to make sure that smth happens or is definite

error /n/ a mistake, especially one that causes problems or affects the result of smth

ethnicity /n/ the fact of belonging to a particular race

establish /v/ to start or create an organization, a system, etc. that is meant to last for a long time

estimate /v/ to form an idea of the cost, size, value etc. of smth, but without calculating it exactly

estimation /n/ a judgement or opinion about the value or quality of smb/smth

equate to /v/ to be equal to smth else

exclude /v/ to deliberately not include smth in what you are doing or considering

exclusive /adj/ an item of news or a story about famous people that is published in only one newspaper or magazine

expand /v/ to become greater in size, number or importance; to make smth greater in size, number or importance

evaluate /v/ to form an opinion of the amount, value or quality of smth after thinking about it carefully

evidence /v/ to prove or show smth; to be evidence of smth

evident /adj/ clear; easily seen, obvious

export /n/ the selling and transporting of goods to another country

facility /n/ a special feature of a machine, service, etc. that makes it possible to do smth extra

factor /n/ one of several things that cause or influence smth

feature /n/ smth important, interesting or typical of a place or thing

feature /v/ to have an important part in smth

finally /adv/ in a way that ends all discussion about smth

finance /v/ to provide money for a project

focus /v/ to give attention, effort, etc. to one particular subject, situation or person rather than another

formula /n/ a series of letters, numbers or symbols that represent a rule or law

formulate /v/ to create or prepare smth carefully, giving particular attention to the details

framework /n/ a set of beliefs, ideas or rules that is used as the basis for making judgements, decisions, etc.

function /n/ a special activity or purpose of a person or thing

fund /v/ to provide money for smth, usually smth official

goal /n/ smth that you hope to achieve; aim

grant /n/ a sum of money that is given by the government or by another organization to be used for a particular purpose

hypothesis /n/ an idea or explanation of smth that is based on a few known facts but that has not yet been proved to be true or correct

identify /v/ to recognize smb/smth and be able to say who or what they are

identity /n/ the state or feeling of being very similar to and able to understand smb/smth

illegal /adj/ not allowed by the law

illustrate /v/ to make the meaning of smth clearer by using examples, pictures, etc.

immigrate /v/ to come and live permanently in a country after leaving your own country

impact /v/ to have an effect on smth

implement /v/ to make smth that has been officially decided start to happen or be used

implementation /n/ the act of making smth that has been officially decided start to happen or be used

imply /v/ to make smth necessary in order to be successful

impose /v/ to force smb/smth to have to deal with smth that is difficult or unpleasant

inaccessible /adj/ difficult or impossible to reach or to get

inappropriate /adj/ not suitable or appropriate in a particular situation

income /n/ the money that a person, a region, a country, etc. earns from work, from investing money, from business, etc.

inconsistent /adj/ not matching a set of standards, ideas, etc.

inconstancy /n/ the fact that smb is not faithful in love or friendship

indicate /v/ to show that smth is true or exists

individual /n/ a person considered separately rather than as part of a group

initial /v/ to mark or sign smth with your initials

initially /adv/ at the beginning

instance /v/ to give smth as an example

institute /v/ to introduce a system, policy, etc. or start a process

insufficient /adj/ not large, strong or important enough for a particular purpose

integrate /v/ to combine two or more things so that they work together; to combine with smth else in this way

interact /v/ to communicate with smb, especially while you work, play or spend time with them

internal /adj/ connected with the inside of smth

interpret /v/ to explain the meaning of smth

invalidity /n/ the state of not being legally or officially acceptable

invariable /adj/ always the same; never changing

invest /v/ to spend money on smth in order to make it better or more successful

investigate /v/ to find out information and facts about a subject or problem by study or research

investigation /n/ a scientific or academic examination of the facts of a subject or problem

involve /v/ if a situation, an event or an activity involves smth, that thing is an important or necessary part or result of it

irrelevant /adj/ not important to or connected with a situation

issue /n/ a problem or worry that smb has with smth

item /n/ one thing on a list of things to buy, do, talk about, etc.

journal /n/ a newspaper or magazine that deals with a particular subject or profession

justify /v/ to show that smb/smth is right or reasonable

label /v/ to fix a label on smth or write information on smth

labour /n/ the people who work or are available for work in a country or company

layer /n/ a level or part within a system or set of ideas

legal /adj/ connected with the law

legislate /v/ to make a law affecting smth

legislative /adj/ connected with the act of making and passing laws

link /v/ to make a physical or electronic connection between one object, machine, place, etc. and another; connect

linkage /n/ the act of linking things; a link or system of links; connection

locate /v/ to put or build smth in a particular place

maintain /v/ to make smth continue at the same level, standard, etc.

maintenance /n/ the act of keeping smth in good condition by checking or repairing it regularly

major in /v/ to study smth as your main subject at a university or college

major on /v/ to pay particular attention to one subject, issue, etc.

maximization /n/ the act or process of increasing smth as much as possible

maximize /v/ to increase smth as much as possible

mechanism /n/	a method or a system for achieving smth
method /n/	a particular way of doing smth
methodology /n/	a set of methods and principles used to perform a particular activity
minority /n/	the smaller part of a group; less than half of the people or things in a large group
negative /v/	to prove that smth is not true
normalization /n/	the act of making smth fit a normal pattern or condition; the fact of starting to fit a normal pattern or condition
objective /n/	smth that you are trying to achieve
obtain /v/	to get smth, especially by making an effort
obvious /adj/	easy to see or understand
occupation /n/	easy to see or understand
occur /v/	to happen
occurrence /n/	smth that happens or exists
option /n/	(<i>education</i>) a subject that a student can choose to study, but that they do not have to do
overestimate /n/	an estimate about the size, cost, etc. of smth that is too high
outcome /n/	the result or effect of an action or event
output /n/	the amount of smth that a person, a machine or an organization produces
parameter /n/	smth that decides or limits the way in which smth can be done
participate /v/	to take part in or become involved in an activity
partnership /n/	a business owned by two or more people who share the profits
perceive /v/	to understand or think of smb/smth in a particular way
percentage /n/	the number, amount, rate of smth, expressed as if it is part of a total which is 100; a part or share of a whole
perception /n/	an idea, a belief or an image you have as a result of how you see or understand smth
periodic(al) /adj/	happening fairly often and regularly
phase /v/	to arrange to do smth gradually in stages over a period of time

philosophy /n/	the study of the nature and meaning of the universe and of human life
physical /adj/	connected with things that actually exist or are present and can be seen, felt, etc. rather than things that only exist in a person's mind
policy /n/	a principle that you believe in that influences how you behave; a way in which you usually behave
positive /adj/	directed at dealing with smth or producing a successful result
potential /n/	the possibility of smth happening or being developed or used
predict /v/	to say that smth will happen in the future; forecast
precise /adj/	clear and accurate; exact
previous /adj/	happening or existing before the event or object that you are talking about
primary /adj/	(<i>education</i>) connected with the education of children between the ages of about five and eleven
principle /n/	a law, a rule or a theory that smth is based on
principal /n/	the person who is in charge of a college or a university
prior /adj/	happening or existing before smth else or before a particular time
procedure /n/	a way of doing smth, especially the usual or correct way
proceed /v/	to continue doing smth that has already been started; to continue being done
processing /n/	the treatment of raw material, food, etc. in order to change it, preserve it, etc.
project /n/	(<i>education</i>) a piece of work involving careful study of a subject over a period of time, done by school or college students
proportionate /adj/	increasing or decreasing in size, amount or degree according to changes in smth else
promote /v/	to help smth to happen or develop; encourage
publish /v/	to make smth available to the public on the internet
purchase /v/	to buy smth
pursue /v/	to do smth or try to achieve smth over a period of time
range /n/	a variety of things of a particular type

reactionary /n/	a person who is opposed to political or social change
reactive /adj/	showing a reaction or response
reactor /n/	a large structure used for the controlled production of nuclear energy
reassess /v/	to think again about smth to decide if you need to change your opinion of it
recreate /v/	to make smth that existed in the past exist or seem to exist again
reformulate /v/	to say or express smth in a different way
region /n/	one of the areas that a country is divided into, that has its own customs and/or its own government
register /v/	to notice smth and remember it; to be noticed
regulate /v/	to control smth by means of rules
regulatory /adj/	having the power to control an area of business or industry and make sure that it is operating fairly
relevant /adj/	closely connected with the subject you are discussing or the situation you are thinking about; having ideas that are valuable and useful to people in their lives and work
reliability /n/	the quality of being likely to be correct or true
reliance /n/	the state of needing smb/smth in order to survive, be successful, etc.; the fact of being able to rely on smb/smth; dependence
relocate /v/	to move or to move smb/smth to a new place to work or operate
rely on /v/	to need or depend on smb/smth
remove /v/	to take smth/smb away from a place
reside /v/	to live in a particular place
retain /v/	to keep smth; to continue to have smth
require /v/	to need smth; to depend on smb/smth
requirement /n/	smth that you must have in order to do smth else
research /v/	to study smth carefully and try to discover new facts about it
resource /v/	to provide smth with the money or equipment that is needed
respond /v/	to do smth as a reaction to smth that smb has said or done

restrict /v/	to limit the size, amount or range of smth
revenue /n/	the money that a government receives from taxes or that an organization, etc. receives from its business
scheme /n/	a plan or system for doing or organizing smth
secure /v/	to protect smth so that it is safe and difficult to attack or damage
seek /v/	to try to obtain or achieve smth
select /v/	to choose smb/smth from a group of people or things, usually according to a system
sequence /n/	a set of events, actions, numbers, etc. which have a particular order and which lead to a particular result
sexism /n/	the unfair treatment of people, especially women, because of their sex; the attitude that causes this
significance /n/	the importance of smth, especially when this has an effect on what happens in the future
significant /adj/	large or important enough to have an effect or to be noticed
similarity /n/	the state of being like smb/smth but not exactly the same
site /n/	a place where smth has happened or that is used for smth
shift /v/	to move, or move smth, from one position or place to another
source /n/	a person, book or document that provides information, especially for study, a piece of written work or news
specific /adj/	detailed and exact, precise, particular, peculiar
specification /n/	a detailed description of how smth is, or should be, designed or made
specifics /n/	the details of a subject that you need to think about or discuss
specify /v/	to state smth, especially by giving an exact measurement, time, exact instructions, etc.
statistic /n/	a collection of information shown in numbers
status /n/	the social or professional position of smb/smth in relation to others
strategy /n/	the process of planning smth or putting a plan into operation in a skilful way

structure /v/	to arrange or organize smth into a system or pattern
subsequent /adj/	happening or coming after smth else
sufficient /adj/	enough for a particular purpose; as much as you need
summary /n/	a short statement that gives only the main points of smth, not the details
survey /v/	to investigate the opinions or behavior of a group of people by asking them a series of questions
sustainable /adj/	that can continue or be continued for a long time
task /v/	to give smb a task to do
technical /adj/	connected with a particular subject and therefore difficult to understand if you do not know about that subject
technique /n/	a particular way of doing smth, especially one in which you have to learn special skills
technology /n/	scientific knowledge used in practical ways in industry, for example in designing new machines
text /n/	the written form of a speech, a play, an article, etc.
theoretical /adj/	concerned with the ideas and principles on which a particular subject is based, rather than with practice and experiment
theory /n/	a formal set of ideas that is intended to explain why smth happens or exists
transfer /n/	the act of moving smb/smth from one place, group or job to another; an occasion when this happens
trend /n/	a general direction in which a situation is changing or developing
unaffected /adj/	not changed or influenced by smth; not affected by smth
underestimate /n/	an estimate about the size, cost, etc. of smth that is too low
undertake /v/	to make yourself responsible for smth and start doing it
uneconomical /adj/	using too much time or money, or too many materials, and therefore not likely to make a profit
unresponsive /adj/	not reacting to smb/smth; not giving the response that you would expect or hope for
unobtainable /adj/	that cannot be obtained
valid /adj/	that is legally or officially acceptable

validity /n/	the state of being logical and true
variable /n/	a situation, number or quantity that can vary or be varied
variant /n/	a thing that is a slightly different form or type of smth else
variation /n/	a change, especially in the amount or level of smth
vary /v/	to change or be different according to the situation
volume /n/	the amount of space that an object or a substance fills; the amount of space that a container has
welfare /n/	the general health, happiness and safety of a person, an animal or a group; money that the government pays regularly to people who are poor, unemployed, sick, etc.; social security

Keys

Unit 1. What Is Science?

SECTION 1

READING

Exercise 3. Do the crossword. Use words from the text.

Across

3. facet, 4. experiment, 5. hypothesis, 6. equation, 9. investigation, 10. fact

Down

1. evidence, 2. perspective, 4. explanation, 7. diversity, 8. technology

VOCABULARY

Exercise 9. Choose the word from the box to fill in the gaps. Explanation of the missing word is given in brackets.

1. reliable, 2. empirical, 3. accurate, 4. comprehensive, 5. conflicting

Exercise 10. From the following list, use one word to complete the sentences. You may need to change the form of some words.

1. The Health Service should not be judged by financial criteria alone.
2. In this example 'X' denotes the time taken and 'Y' denotes the distance covered.
3. The data was/were collected by various researchers.
4. The report assigned the blame for the accident to inadequate safety regulations.
5. Businesses are beginning to feel the full impact of the recession.
6. It is important to see all the fighting and bloodshed in his plays in historical context.
7. She has lots of good ideas, but she has difficulty formulating them.
8. Falling export rates have impacted (on) the country's economy quite considerably.
9. A new system has been devised to control traffic in the city.

Exercise 11. Read the two parallel texts in Russian and English. Translate the missing words (phrases).

1. the empowerment of people, 2. source of growth and prosperity, 3. so pervasive, 4. facilitate, 5. actively engaged, 6. challenging, 7. enabling environment, 8. has emerged and endured, 9. however, 10. dominant paradigm, 11. legal stat-

utes, 12. The concept of the university, 13. explosion of new ideas, 14. required, 15. validated, 16. The primacy of research, 17. quest for knowledge as an ongoing enterprise, 18. The discernible aspect, 19. specializations structured around disciplines, 20. provides, 21. holistic understanding of knowledge, in its various aspects, 22. materializes at the boundaries

GRAMMAR

Exercise 12. Underline the correct form. If both are correct, underline both.

1. Tim's paper was the first to...
2. Tim et al's articles were the first to...
3. Smits's most recent investigation into...
4. We met all the referees' requests.
5. Turing's original thesis was that... He then went on to reformulate this thesis by...
6. In our work Fourier analysis was used to derive the...
7. Physicist Stephen Hawking's early career was...

Exercise 13. Underline the correct form. If both are correct, underline both.

1. Beer's findings, together with those of Johann Heinrich Lambert, make up the Beer-Lambert's law.
2. Boolean operator may refer to one of the following...
3. They used a Turing machine simulation to obtain their result.
4. A Turing machine is a device that...
5. We used an Apple G6 Powerbook laptop running LION to...
6. Apple's initial decision to make iPods solely compatible with iTunes caused...
7. iPad's potential for education has been investigated...
8. The Thatcher / Thatcher's administration caused tremendous...

SECTION 2

READING

Exercise 3. Scan through the text (paragraphs 1–11) and find words which can help you do the crossword.

Across

1. advanced, 2. fruitful, 5. modify, 7. serendipity, 9. increasingly, 10. brainstorming, 15. inspire, 16. acknowledge, 18. consistent

Down

1. accurate, 3. reveal, 4. complexity, 6. straightforward, 8. revise, 11. rejection, 12. measurement, 13. component, 14. explicit, 17. ensure

Exercise 4. Use words from Exercise 3 to fill in the gaps. Remember to change the form of the word.

1. advanced, 2. reveals, 3. modify, 4. fruitful, 5. revise, 6. rejection, 7. inspired, 8. brainstorming, 9. consistent, 10. accurate, 11. complexity, 12. component, 13. acknowledge, 14. ensure, 15. straightforward, 16. measurement, 17. increasingly, 18. serendipity

Exercise 5. Match the word with its definition.

- | | |
|--------------------|---|
| 1. accept | H. To take as the best explanation based on the evidence. In the scientific community, an idea is generally accepted when it is supported by many lines of evidence and meets other criteria (e.g., consistency with well-established ideas in related fields). |
| 2. applied science | D. Research undertaken with the explicit goal of solving a problem or developing a technology. The boundary between pure and applied science is fuzzy. Research undertaken in the pure pursuit of knowledge often ends up having useful applications, and research begun with an application in mind often ends up informing our understanding of the natural world more broadly. |
| 3. endeavor | G. An attempt to do smth |
| 4. experiment | B. A scientific test that involves manipulating some factor or factors in a system in order to see how those changes affect the outcome or behavior of the system. Experiments are important in science, but they are not the only way to test scientific ideas. |
| 5. hypothesis | E. A proposed explanation for a fairly narrow set of phenomena, usually based on prior experience, scientific background knowledge, preliminary observations, and logic. |
| 6. pure science | F. Research undertaken to build knowledge and understanding, regardless of its potential applications. The boundary between pure and applied science is fuzzy. Research undertaken in the pure pursuit of knowledge often ends up having useful applications, and research begun with an application in mind often ends up informing our understanding of the natural world more broadly. |
| 7. research | C. A detailed study of a subject, especially in order to discover (new) information or reach a (new) understanding |
| 8. scrutinize | A. To examine something very carefully in order to discover information |

Exercise 6. Complete the article with the sentences below.

1B, 2D, 3A, 4F, 5C, 6G

Vocabulary

Exercise 10. Study the difference between the two words. Do exercises.

A.

1. The new system *expanded* the role of family doctors.
2. She *expended* all her efforts on the care of home and children.
3. Smith *had expended* large sums in pursuing his claim through the court.

4. Most animals *expend* a lot of energy searching for food.
5. Metals *expand* when they are heated.
6. Student numbers *are expanding* rapidly.
7. A child's vocabulary *expands* through reading.
8. There are no plans *to expand* the local airport.
9. *We've expanded* the business by opening two more stores.
10. The waist *expands* to fit all sizes.

B.

1. I disliked the *implied* criticism in his voice.
2. His silence seemed *to imply* agreement.
3. Much of the meaning must *be inferred* from the context.
4. It *was implied* that we were at fault.
5. The survey *implies* (that) more people are moving house than was thought.
6. The fact that she was here *implied* a degree of interest.
7. It is reasonable *to infer* that the government knew about these deals.
8. The project *implies* an enormous investment in training.
9. Sustainable development *implies* a long-term perspective.
10. Readers are left *to infer* the killer's motives.

Exercise 11. Use the words from the box to fill in the gaps.

1. observation, 2. experimentation, 3. practitioner, 4. reasoning, 5. natural laws, 6. scientific method, 7. research, 8. discovery, 9. laboratory, 10. objectivity
11. inquiry

Exercise 12. Match the branch of science with its description.

Natural science, Formal science, Social science, Applied science

GRAMMAR

Exercise 13. Underline the correct verb.

1. deal, 2. have, 3. is, 4. cover, 5. contains, 6. is (are) 7. are, 8. are, 9. are, 10. is, 11. have, 12. work, 13. is, 14. shows (show)

Exercise 14. The following sentences contain mistakes regarding uncountable nouns that have mistakenly been used as if they were countable. Identify the mistakes and correct them.

1. much information / a lot of information, 2. a lot of traffic, 3. is little knowledge, 4. this research has achieved much progress, 5. ten dollars... give you it, 6. gave (their) written consent, 7. feedback is, 8. each piece of equipment, the amount of equipment, 9. much attention, this software is, 10. hardware is

SECTION 3

READING

Exercise 3. Read the text and choose the best sentence to fill each of the gaps.

1C, 2F, 3A, 4E, 5B, 6G, 7D

GRAMMAR

Exercise 10. Fill in the gap with the correct article.

1. The only thing you can take into the examination is **a dictionary**.
2. The only thing you can take into the examination is a dictionary. **The dictionary** you choose can either be mono- or bilingual.
3. This project presents **a new system** for modeling maps.
4. This project presents a new system for modeling maps. **The system** is based on...
5. I don't have **an overhead projector** at home.
6. I have a computer at home and at work. **The overhead projector** that I have in my office is a Mac and the one at one is an HP.
7. In this paper, we make **an attempt** to test the efficiency of...
8. In this paper, **the attempt** to assess the relative efficiency of the tested methods was carried out on three levels.
9. **A comparison** of our data with those in the literature indicates that...
10. **The comparison** given in Ch. 3 highlights that...
11. We are now in **a position** to apply Theorem 2.
12. The graph indicates **the position** of each piece of equipment.
13. Contrary to what is currently thought, there is **a growing demand** for experts in this field.
14. We need to satisfy **the growing demand** for experts in this field, which looks set to increase even further.

Unit 2. Science and Academia

SECTION 1

READING

Exercise 3. Scan through the text and find the adjectives which can help you do the crossword.

Across

2. inclusive, 4. analytic, 6. comprehensive, 9. social

Down

1. annual, 3. sustainable, 5. relevant, 7. internal, 8. external

VOCABULARY

Exercise 6. Use the information in the table to help you match the following examples (1-6) to the descriptions of relative pronouns.

- things 3
- people 1
- time 6
- location, situation or point in a process 4
- 'belonging to' and 'associated with' relationships 2
- how something happens 5

Exercise 7. Add the information in brackets as a relative clause (defining or non-defining) to the sentences in an appropriate place. There may be more than one possible answer.

1. *Doctors thought the disease, which was widespread at the start of the last century, had been wiped out in the 1950s.*
2. Ben Johnson, who lived from 1572 to 1637, was an English poet and playwright.
3. An organic compound is any member of a large class of chemical compounds whose molecules contain carbon.
4. The patient whose case is described here was 25 years old.
5. Anaerobic digestion is a simple process whereby organic matter is broken down by microorganisms.
6. The company is in the second stage of business development, where or when activities and customer base are expanded.

Exercise 8. Redraft the following extracts by adding informal from the notes.

1. Another influential social entrepreneur is the Bangladeshi banker Muhammad Yunus, who was born in 1940. He was previously a professor of economics at Chittagong University, where he developed the idea of 'microcredit'.
Muhammad Yunus, born in 1940, was a professor of economics at Chittagong University when he developed the idea of 'microcredit'.
2. Victoria Hale founded the Institute for One World Health (IOWH), whose aim is to make medicines available to poor communities. The IOWH has set up a scheme with major pharmaceutical companies whereby certain drugs they developed can be sold cheaply.
3. Maria Montessori is best known for introducing a method of education which uses self-directed learning activities. She developed her ideas during the early part of her career when she worked with children with learning disabilities.

Exercise 9. ...Which example in each of the following pairs is more appropriate for academic writing?

- 1a, 2b, 3a, 4b

WRITING

Exercise 11. ...Can you find the definition which is factually incorrect?

AIDS is a disease that affects a very small number of people each year.

VOCABULARY

Exercise 14. Read the two parallel texts in Russian and English. Translate the missing words (phrases).

- 1) theoretical foundations, 2) contemporary, 3) keep its strong position, 4) critical input, 5) boosting competitiveness, 6) advancing the tools, 7) improving government statistics

Exercise 15. A.

Assess

1. to make a judgement about the nature or quality of somebody/something
2. to calculate the amount or value of something

Access

1. the opportunity or right to use something or to see somebody/something
2. a way of entering or reaching a place

B. Fill in the gaps with the correct word.

1. access, 2. assess, 3. assess, 4. access, 5. access, 6. assess, 7. assess, 8. access

Exercise 16. Choose the word from the box to fill in the gaps.

1. participating, 2. comparative, 3. cutting-edge, 4. profile, 5. expertise, 6. field, 7. critically, 8. empirical, 9. surveys, 10. up to date.

STUDY SKILLS

Exercise 18. Study the brief information about the research and fill in the gaps 1–3 with the sentences a-c.

- 1b, 2c, 3a

SECTION 2

READING

Exercise 2. Are the following statements TRUE, FALSE or NOT GIVEN, according to the text *Without Modern Science, a Country's Prospects for Development Are Uncertain?*

- 1) TRUE, 2) FALSE, 3) NOT GIVEN, 4) TRUE, 5) TRUE

Exercise 3. Scan through the text (paragraphs 1–8) and find words which can help you do the crossword.

ACROSS

2. cite, 3. available, 6. potential, 9. patent, 10. solution, 12. competitor, 13. expenditure, 14. niche

DOWN

1. incentive, 4. comparable, 5. domestic, 7. significantly, 8. workforce, 11. overcome

Exercise 4. Use words from Exercise 3 to fill in the gaps. Remember to change the form of the word.

1. comparable, 2. significantly, 3. potential, 4. available, 5. expenditure, 6. cited, 7. patent, 8. niche, 9. incentive, 10. solution, 11. workforce, 12. overcome, 13. competitors, 14. domestic

Exercise 5. Match the word with its definition.

- 1d, 2b, 3f, 4c, 5g, 6e, 7a

Exercise 6. Complete the text with the sentences below.

- 1D, 2F, 3B, 4E, 5A, 6C

SPEAKING

Exercise 9. Before you give the presentation examine the presentation assessment form concerning only profiles A and B. Fill in the left column (1–5) with the following aspects assessed:

1. Delivery, 2. Language, 3. Organisation, 4. Content, 5. Evidence of preparation

GRAMMAR

Exercise 10. Choose the most appropriate linking words.

1. for example, Although; 2. for example, Although; 3. Moreover, however; 4. Moreover, thus; 5. nevertheless, as well as, Likewise; 6. Conversely, Besides that

Exercise 11. Match the beginning of each sentence with the most appropriate ending.

1. e (to), 2. g (of), 3. a (out), 4. h (in), 5. b (from), 6. k (to) 7. d (on), 8. j (on), 9. f (from), 10. c (from), 11. i (to)

VOCABULARY

Exercise 12. Fill in the gap with the correct preposition if necessary.

1. to, 2. to/with, 3. to, 4. into, 5. with/to, 6. out 7. – 8. for, 9. on

Exercise 13. Find synonyms among the words given below.

- proponent – adherent
- prominent – outstanding
- elucidator – interpreter
- descriptive – intuitive
- explanatory – illuminative

Exercise 14. Look at the definition of the two commonly misused words *vary* and *very* and do the task. Fill in the gaps with the correct word:

1. very, 2. vary, 3. very, 4. very, 5. varies, 6. vary, 7. vary, 8. very, 9. vary, 10. very

WRITING

Exercise 15. The following extracts are from the conclusions of journal articles in the field of Applied Linguistics. Underline the hedges and add them to the table.

1. Modal verbs indicating possibility e.g., *might, could*
may (be), can (be)
2. Verbs distancing the writer from the claim or showing that the writer is speculating e.g., *seem, indicate*

3. Adjectives, adverbs and nouns showing the degree of certainty e.g., *possible, possibly, possibility*
be likely to, perhaps
4. Other expressions qualifying or limiting a claim e.g., *generally, tend to, in most cases, mainly, to some extent*

Exercise 16. Look at the following claims from academic texts and decide which of them should be hedged. Add a hedge from the table above where appropriate, and make any other necessary changes. There may be more than one possible answer.

- Cities in the Northern Hemisphere will become hotter over the next century. are likely to
- Air pollution is not a new phenomenon. — *no hedge needed*
- Half of the Earth's species will disappear within the next 75 years. may
- Evidence proves that there is a clear human influence on global climate. appears to show / suggests
- By far the worst concentrations of pollutants are found in urban areas. — *no hedge needed*
- Climate change is perhaps the most important danger currently facing humanity.
- Eventually it will no longer be profitable to use oil as the primary fuel for the world. — *no hedge needed*
- Air pollution has got worse in developing countries mainly because of economic growth.

SECTION 3

READING

Exercise 2. Scan through the text *What is an academic career?* and find words which can help you do the crossword.

Across

3. fellow, 6. curriculum, 9. supervise, 10. pursue, 11. postgraduate

Down

1. tutorial, 2. affect, 4. lectureship, 5. disseminate, 7. vary, 8. assess

Exercise 3. Use words from Exercise 2 to fill in the gaps.

- fellow, 2. lectureship, 3. curriculum, 4. disseminate, 5. supervise, 6. pursue, 7. vary, 8. postgraduate, 9. tutorial, 10. assess, 11. affect

Exercise 4. Read the interview *To Enjoy Academic Freedom at the HSE* and fill in the gaps with the words in the box.

- accepted, 2. attended, 3. review, 4. maintain, 5. approach, 6. share, 7. invent, 8. projects, 9. techniques, 10. standards, 11. take, 12. co-authors, 13. obtained

VOCABULARY

Exercise 5. Read the text below and choose the correct word to fill each gap from A, B or C. There is an example at the beginning.
1B, 2A, 3C, 4B, 5A, 6B, 7A, 8C, 9A, 10C

Exercise 6. A. Complete the table using proper word forms.

Verb	Noun	Adjective
classify	classification	classified
permit	permit	permissible
solve	solution	—
count	count	counting
multiply	multiplication	—
analyse	analysis	analytical

B. Use the correct form of the word from the table above to complete the sentences.

- analysis, to analyse, analytical
- permissible, a permit, to permit
- counted, count, counting
- multiply, multiplication
- classify, classification, Classified
- solve, solutions

Exercise 7. Use the preposition(s) from the box to complete the sentence.

- in; 2. at; 3. to, on; 4. by; 5. at; 6. by; 7. with; 8. at; 9. from, to; 10. by

Exercise 8. Find synonyms among the words given below.

wealth — affluence, research — study, transition — transformation, reflect — describe, experiment — test, adjust — adapt

Exercise 9. Look at the definition of the two commonly misused verbs *apply* and *imply* and do the task. Fill in the gaps with the correct word:

- implied, 2. applied, 3. apply, 4. imply, 5. apply, 6. apply, 7. imply, 8. imply, 9. apply, 10. apply

Exercise 10. Read the sentences below and decide which meaning (A, B or C) of the underlined word suits the context.

- 1B, 2A, 3B, 4C, 5A, 6C, 7A, 8C, 9C, 10B

Exercise 11. Read the text below. For each question 1-10 write one word. There is an example at the beginning.

- does, 2. answer, 3. what, 4. more, 5. periods, 6. know, 7. be, 8. Furthermore, 9. role, 10. for

Exercise 12. Parallel texts.

1. rejecting, 2. the favored status, 3. Accepting, 4. merely implies, 5. to decide against, 6. in terms, 7. Since, 8. makes sense, 9. Accepting, 10. there was not enough evidence, 11. On the other hand, 12. rejecting, 13. accepting, 14. rule out, 15. convincingly

Exercise 13. Which of the following extracts do you think are *common knowledge*, and which do you think need *references* to information sources?

need *references* — 2, 3, 5, 8.

Exercise 14. Read the original paragraph below and decide which *paraphrase* (1 to 3) is acceptable, that is, does not in any way plagiarise the source.

Paraphrase 1 does not cite the source; it also uses too much of the source language to be considered a paraphrase.

Paraphrase 2 is a better paraphrase, but it is still not acceptable since the source is not cited.

Paraphrase 3 is a good example of paraphrase mixed with selective quotation. The source (Wilson) is cited and could be easily identified in the Works Cited section.

GRAMMAR

Exercise 15. Find the reporting verbs in this extract from a research article looking at variation in writing in different academic subjects. Write the verbs in the appropriate group (1–3) above.

1. **did** in their research (e.g., *study, measure, use, focus on, conduct, analyse*).
2. **found** in their research (e.g., *find, observe, show, reveal*).
3. **thought** or **said** in their writing (e.g., *think, believe; write, state, comment*).

Exercise 16. Add the reporting verbs in the box to the group (1–3) above.

1. carry out, explore, examine, investigate
2. demonstrate, discover, establish, prove
3. argue, claim, consider, note, point out, show, suggest

Unit 3. International Academia

SECTION 1

Lead-in

Exercise 2. Statistics quiz: How much do you know about education in Russia?

1. 3.6%; 2. 20; 3. 17%; 4. women; 5. 99.4%; 6. 1st; 7. 13th; 8. twice; 9. 8.1; 10. 5.2%

READING

Exercise 3. Scan through the text and find words according to their definitions.

1. predominantly, 2. incompatible, 3. be in line with, 4. enact, 5. curriculum, 6. insert, 7. retain, 8. dissertation, 9. proposal, 10. Ph.D. 11. dedicated, 12. associate professor, 13. prescribe, 14. mentor

Exercise 4. Use the words from Exercise 3 to fill in the gaps.

1. curriculum, 2. proposal, 3. predominantly, 4. incompatible, 5. dedicated, 6. to be in line with, 7. retain, 8. dissertation, 9. insert, 10. enact

VOCABULARY

Exercise 9. Look at the following pair of words, spot the difference and do the task.

1. issue, 2. problem, 3. problem, 4. issue, 5. problems, 6. issues, 7. problem

Exercise 10. Look at the two lists of idioms with *problem* and *issue*. Match the idiom with its meaning.

Problem: 1c, 2d, 3a, 4b

Issue: 1d, 2a, 3b, 4c

Exercise 11. Use the idioms from Exercise 10 to make the sentences complete.

Problem: 1. the root of the problem, 2. for all her problems, 3. teething problems, 4. to work the problem

Issue: 1. take issue, 2. at issue, 3. make an issue, 4. have issue

GRAMMAR

Exercise 13. Put the verb in brackets into the correct passive form.

1. is done, 2. was invented, 3. will be applied, 4. has been admitted, 5. is being carried, 6. was invented, 7. had been done, 8. has been analysed

Study Skills

Exercise 14. Complete the table with missing information.

1. personality should be pleasantly live and attractive, 2. essential to have a genuine capacity for sympathy, 3. essential to be both intellectually and morally honest, 4. must remain mentally alert, 5. must be capable of infinite patience, 6. should have the kind of mind which always wants to go on learning

SECTION 2

READING

Exercise 3. Scan through the text and find words according to their definitions.

1. kindergarten, 2. mandate, 3. board, 4. regent, 5. curriculum, 6. accreditation, 7. affluent, 8. quartile, 9. freshman, 10. sophomore, 11. rigor, 12. extracurricular, 13. enroll, 14. major

Exercise 4. Use words from Exercise 3 to fill in the gaps. Remember to change the form of the word.

1. rigor, 2. regents, 3. extracurricular, 4. accreditation, 5. affluent, 6. enrolled, 7. majors

VOCABULARY

Exercise 9. Complete the table with nouns.

formulation, intention, consumption, combination, definition, evaluation, agreement, rise, enrollment, growth, increase, expansion

Exercise 11. Read the two parallel texts in Russian and English. Translate the missing words (phrases).

1. the role of the private sector, 2. the ongoing debate, 3. the rise, 4. the role of the private sector, 5. annual enrollments in tertiary education, 6. have increased from 100 million to well over 150 million, 7. will account for half as much, 8. only 22 percent and 10 percent, respectively, 9. considerable scope for expansion, 10. an ever-growing segment of the population, 11. the needs of the knowledge-based global economy, 12. questions about quality of education

Exercise 14. Put the verbs in brackets into the correct form.

1. were, 2. would be, 3. will be, 4. would know, 5. spend, 6. would have, 7. studied, 8. will have to think, 9. would consider, 10. were

Exercise 15. Match the halves of the sentences.

- 1d, 2e, 3a, 4b, 5f, 6c, 7g

SECTION 3

LEAD-IN

Exercise 2. Choose among the buildings of a university college where students must go if they want to:

- 1D, 2I, 3A, 4C, 5E, 6L, 7F, 8H

READING

Exercise 3. Match the words with their definitions.

- 1c, 2f, 3g, 4h, 5e, 6j, 7d, 8a, 9b, 10i

VOCABULARY

Exercise 8. Match the word with its definition.

- 1b, 2a

Exercise 9. Use the correct word to fill in the gaps.

1. continuous, 2. continual, 3. continuous, 4. continual, 5. continuous, 6. continuous, 7. continual, 8. continual, 9. continuous

Exercise 10. Read the two definitions — (a) and (b) — and decide which term — *abbreviation* or *acronym* — should be inserted into the gap.

- a) abbreviation, b) acronym

Exercise 11. Complete the following table. Decide which of the letters combinations are *abbreviations* and *acronyms*.

1. Master of Arts, 2. Bachelor of Science, 3. Master of Science, 4. Master of Business Administration, 5. Doctor of Philosophy, 6. World Trade Organisation, 7. United Nations Educational, Scientific and Cultural Organisation, 8. University College London

Exercise 12. Match the *abbreviation* or *acronym* from the list above to its description.

1. WHO, 2. UNESCO, 3. MA, 4. MBA, 5. PhD, 6. BSc, 7. MSc, 8. UCL

Exercise 14. Proof-read the following text. How many mistakes can you find?

Comparative studies of animals help to show how man's space requirements are influenced by his environment. In animals we can observe the direction, the rate, and the extent of changes in behaviour that follow changes in space available to them as we can never hope to do in men. For one thing, by using animals it is possible to accelerate time, since animal generations are relatively short. A scientist can, in forty years, observe four hundred and forty generations of mice, while he has in the same span of time seen only two generations of his own kind. And, of course, he can be more detached about the fate of animals.

Exercise 15. Choose the correct word in each of the following sentences:

1. accept, 2. affect, 3. illusion, 4. amended, 5. ensure, 6. borne, 7. complemented, 8. definitely, 9. eminent, 10. growth, 11. prescribed, 12. principle, 13. stationary, 14. route, 15. passed, 16. sight, 17. waive

Exercise 16. Proof-read the following text, checking the punctuation.

What makes human language unique? How did language begin? This book is a wide-ranging and stimulating introduction to language which students and general readers alike will read for enjoyment as well as instruction. It explores the most intriguing questions about the nature of human language drawing on basic insights that have been developed by linguistics this century. The author introduces the reader to the study of language through chapters on grammar, sounds, writing and words, emphasising these as systems within the overall system of language. Later chapters look at the stages through which children learn language and the theories that explain their rapid progress at what can go wrong with speech in childhood and maturity and at how speakers of a language show their different origins in class.

CHECK UNDERSTANDING (3)

Exercise 2. Read the text and choose the best sentence from the list below to fill in each of the gaps.

- 1C, 2G, 3A, 4D, 5B, 6E, 7H, 8F

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