LECTURE № 4

Education in Britain

As Great Britain does not have a written constitution, there are no constitutional provisions for education. The system of education is determined by the National Education Act.

Until recently planning and organization were not controlled by central government. Each Local Educational Authority was free to decide how to organize education in its own area. There were wide variations between one part of the country and another. In September 1988, however, "The National Curriculum" was introduced, which means that there is now greater government control over what is taught in schools and the Secretary of State for Education and Science in the Cabinet is responsible for all the schools, universities and teachers in Britain. In each county education in Britain is provided by the Local Education Authority (LEA). It is financed partly by the Government and partly by local taxes.

Education in Britain mirrors the country's social system: it is class-divided and selective. The first division is between those who pay and those who do not pay. The majority of schools in Britain are supported by public funds and the education in them is free.The most popular schools are called comprehensive. There is also a considerable number of public (private) schools. Parents must pay fees to send their children to these schools. The fees are high.

School Education

The National Education Act of 1944 provided three stages of education: primary, secondary and further education. Compulsory schooling in England and Wales lasts 11 years, from the age of 5 to 16.

Primary education takes place in infant schools (pupils aged from 5 to 7 years) and junior schools (from 8 to 11 years). This marks the transition from play to "real work".

Secondary Education (11 to 16/18 years)

In 1965 the Labour Government introduced the policy of comprehensive education. Before that time, all children took an exam at the age of 11 called the "11 + ". Approximately the top 20 per cent were chosen to go to the academic grammar schools. Those who failed the "11 + " exam (80 per cent) went to secondary modern schools.

A lot of educationalists thought that this system of selection at the age of 11 was unfair for many children. So comprehensive schools were introduced in 1965 to offer suitable courses for pupils of all abilities. Pupils at comprehensive schools are quite often put into "sets" for the more academic subjects. Sets are formed according to ability in each subject.

Private Education (5 to 18 years)

Some parents prefer to pay for private education in spite of the existence of Free State education. Private schools are expensive and attended by about 7 per cent of the school population. There are about 500 public schools in England and Wales.

The schools, such as Eton, Harrow, Rugby and Winchester, are famous and have a long history and traditions. Public schools educate the ruling class of England. Children of wealthy or aristocratic families often go to the same public school as their parents and their grandparents. Eton is one of the most famous private schools. The elder son of the Queen Prince Charles left Gordonstoun in 1968. Harrow School is famous as the place where Winston Churchill was educated, as well as six other Prime Ministers of Great Britain, the poet Lord Byron and many other prominent people. Public schools are free from state control and called independent. Most of them are boarding schools. The education is usually of a high quality; the discipline is very strict. These schools accept pupils from the preparatory schools at about 11 or 13 years of age. The fundamental requirements are very high. At 18 the most public school-leavers gain entry to universities. The majority of independent secondary schools are single-sex, although in recent years girls have been allowed to join the sixth forms of boys' schools.

Independent schools also include religious schools (Jewish, Catholic. Muslim, etc.) and schools for ethnic minorities.

Exams

At the age of 14 or 15, in the third or fourth form of secondary school, pupils begin to choose their exam subjects. In 1988 a new public examination — the General Certificate of Secondary Education (GCSE) — was introduced for 16 year-olds.

Many people decide to leave school at the age of 16 and go to a Further Education (FE) College. Here most of the courses are linked to some kind of practical vocational training, for example in engineering, typing, cooking or hairdressing. Some young people are given "day release" (their employer allows them time off work) so that they can follow a course to help them in their job. For the 16 year-olds who leave school and who cannot find work but do not want to go to Further Education College, the Government introduced the Young Opportunities

Scheme (YOPS). This scheme places young, unemployed people with business or an industry for six months so that they can get experience of work, and pays them a small wage. They generally have a better chance of getting a job afterwards and sometimes the company they are placed with offers them a permanent job.

After the age of 16 a growing number of school students are staying on at school, some until 18 or 19, the age of entry into a higher education in universities and Polytechnics.

Pupils who stay on usually fall into two categories. Some pupils will be retaking GCSEs in order to get better grades. Others will study two or three subjects for an "A" Level (Advanced Level) GCE exam (General Certificate of Education). This is a highly specialized exam and is necessary for University entrance.

British Universities

How British school leavers enter universities.

Good "A" Level results in at least two subjects are necessary to get a place at a university. However, good exam passes alone are not enough. Universities choose their students after interviews, and competition for places at university is fierce.

There are 46 universities in Britain. The oldest and best-known universities are located in Oxford, Cambridge, London, Leeds, Manchester, Liverpool, Edinburgh, Southampton, Cardiff, Bristol, and Birmingham.

British universities differ greatly from each other. They differ in date of foundation, size, history, tradition, general organization, methods of instruction, the way of student life.

The two intellectual eyes of Britain which are frequently jointly referred to as "Oxbridge — Oxford and Cambridge universities are the most famous of Britain’s universities and date back to the twelfth and thirteenth centuries. The University of Oxford (informally Oxford University or simply Oxford) is located in very pretty town Oxford. While having no known date of foundation, there is evidence of teaching as far back as 1096, making it the oldest university in the English-speaking world and the world's second-oldest surviving university. It grew rapidly from 1167 when Henry the Second banned English students from attending the University of Paris. In 1188 the historian Gerald of Wales gave a public reading and in 1190 the international scholarship was initiated. In 1231 it got the name universitas or corporation.

The student life was very different from what it is now. Books were very scarce and all the lessons were in the Latin language which students were supposed too speak even among themselves. Students were of all ages and came from

everywhere. Those from the same part of the country tended to group themselves together and these groups, called “Nations”, often fought one another. There were riots between so-called “gown” and “town”. The students were armed; some even banded together to rob the people of the countryside.

The story of Cambridge University began in 1209 when several hundred students and scholars arrived in the little town of Cambridge after having walked 60 miles from Oxford. Gradually the idea of the College developed, and in 1284 Peterhouse, the oldest College in Cambridge, was founded. In 1440 King Henry VI founded King’s College, and other colleges followed. Erasmus, the great Dutch scholar, was at one of these, Queen’s College, from 1511 to 1513.

Both universities achieved eminence already in the medieval time and won the praises of kings, politicians and popes. In 1355 Edward 111 paid tribute to Oxford University for its invaluable contribution to learning and to the services to the state by its graduates.

Until 1878 only male students were allowed to enter the university but from 1920 38 Oxford colleges have changed their laws and started to admit both males and females.

During its history Oxford educated many notable people, including 5 kings, 25 prime ministers, 3 saints, 85 archbishops, 18 cardinals and many foreign heads of state. All in all 40 Nobel prize-winners graduated from Oxford.

Many other great men studied at Cambridge, among them Bacon, Milton, Cromwell, Newton, Wordsworth, Byron and Tennyson.

Today “Oxbridge”, continues to attract many of the best brains thanks to their prestige and the beauty of many buildings and surroundings. The universities operate the largest university press in the world [and the largest academic libraries in the United Kingdom.

Now Oxford and Cambridge Universities are made up of a variety of self-governing and independent colleges as parts of the university, each controlling its own membership and with its own internal structure and activities. They don’t have a main campus; instead, all the buildings and facilities are scattered throughout the city centre.

At Cambridge and Oxford Universities, students are taught in the tutorial system in groups of one to three on a weekly basis. At Cambridge, these are called "supervisions" and at Oxford they are called "tutorials." One benefit of the tutorial system is that students receive direct feedback and work in small discussion settings.

Student tutorials are generally more academically challenging, because during each session students are expected to orally communicate, defend, analyze, and

critique the ideas of others as well as their own in conversations with the tutor and fellow-students.

University College London (UCL) was founded on 11 February 1826, under the name London University, as a secular alternative to the strictly religious universities of Oxford and Cambridge. However its founders encountered strong opposition from the Church of England, among others, which prevented them from securing the Royal Charter that was necessary for the award of degrees, and it was not until 1836, when the latter-day University of London was established, that the college was legally recognized and granted the power to award degrees of the University of London.

Besides Oxbridge and London University there are a lot of newer universities so-called Redbrick universities built in the 19th century as a result of the Industrial Revolution and the expansion of Britain's overseas empire. With the expansion of higher education in the 1960s so-called "plate-glass" or "concrete and glass" universities were established. Over 50 polytechnics and similar higher education institutes acquired university status in 1992.

The Scottish universities of St. Andrews, Glasgow, Aberdeen and Edinburgh date back to the fifteenth and sixteenth centuries.

British university courses are rather short, generally lasting for 3 years. The cost of education stars from 3000 pounds per annum depending on the college and specialty which one chooses.

The academic year in Britain's universities is divided into three terms, which usually runs from the beginning of October to the middle of December, from the middle of January to the end of March, and from the middle of April to the end of June or the beginning of July.

After three years of study university graduates are called undergraduates. They leave with the Degree of Bachelor of Arts(BA), Science. Engineering, Medicine, etc. Later they may continue to take the Master's Degree (MA or MSC) and then the Doctor's Degree (PhD). Research is an important feature of university work during two last stages.

Some universities offer a vocationally - based Foundation degree, typically two years in length for those students who hope to continue to take a first degree but wish to remain to work. This form of education is especially popular for adult students. Continuing education or Lifelong learning is offered to students of all ages. These may include the vocational qualifications and so-called access programme of one-two year courses to allow adults access to university.

There is so-called Distant Open University, intended for people who study in free time and «attend" lectures by watching television and listening to the radio and

now working on the internet. They keep in touch by phone and email with their tutors and attend summer schools.

Scientific research and development remains important in British universities, with many establishing science parks to facilitate production and co-operation with industry. Between 2004 and 2012 the UK produced 6% of the world's scientific research papers and had an 8% share of scientific citations, the third- and second-highest in the world (after the United States' 9% and China's 7% respectively). Scientific journals produced in the UK include Nature, the British Medical Journal and The Lancet(ланцет, копье).

1 Answer the following questions:

I. At what age do British children go to school?

2. What types of school exist in Britain?

3. What age do British pupils normally take exams?

4. How can they enter Universities and colleges?

5. Which types of British universities do you know?

6. What degrees do British students receive on leaving universities?

2. Translate from Russian into English:

Обязательное школьное образование

Государственные, общеобразовательные, средние школы

Профессиональное образование

Оплата за учебу

Поступить в университет,закончить университет

Science and technology in the United Kingdom

Science and technology in the United Kingdom has a long history, producing many important figures and achievements in the fields.

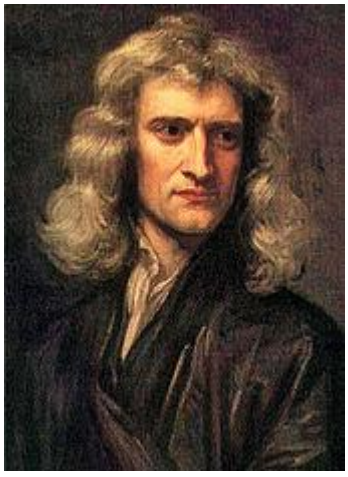
Great Britain was the leading centre of the Scientific Revolution and Industrial Revolution from the 17th century and the 18th century. It was James Watt (1736-1819) , a Scottish inventor and mechanical engineer whose invention of steam engine in 1736 powered the Industrial Revolution in the UK and played a key role in transforming England into the world's first industrialized nation.

Since James Watt the UK has produced a lot of scientists and engineers credited with important advances. Some of the major theories, discoveries and applications advanced by people from the UK are given below.

Major theorists from the UK include Isaac Newton (1643-1727), physicist, mathematician, astronomer, natural philosopher, who was for more than 30 years a lecturer of mathematics at Cambridge. In 1665 he advanced an idea that light consisted of small particles, called today as photons. Later on he came to the conclusion that light had a dual nature and was a combination of photons and waves. When he got interested in the problem of the cause of the motion of the planets he came to the conclusion that the force that kept the planets in the orbits round the sun was the same force that caused objects to fall onto the ground, namely the force of gravity. A popular legend says that he made his discovery while observing the fall of an apple from a tree in his garden. In 1884 Newton published his famous book the “Principia” in which he explained the law of universal gravitation and motion that has been seen as a keystone of modern science.

Newton was elected a member of the Royal Scientific Society for the invention of mirror telescope which made a great impression on the contemporaries.

There is a monument to Newton in Trinity College at Cambridge with the inscription: “Newton Who Surpassed All Men of Science”.



Major scientific discoveries include hydrogen by Henry Cavendish (1731-1810) and Charles Darwin ‘s (1809–82) theory of evolution by natural selection, fundamental to the development of modern biology.

Major engineering projects and applications pursued by people from the UK include the steam developed by Richard Trevithick

locomotive

(1771-1833) and Andrew Vivian(1759-1842).

The electric motor was engineered by Michael Faraday (1771–1867), who largely made electricity viable for use in technology.

The theory of aerodynamics was discovered by Sir George Cayley (1773–1857).

The first public steam railway as constructed by George Stephenson (1781–1848).

The first commercial electrical telegraph was co-invented by Sir William Fothergill Cooke (1806–79) and Charles Wheatstone (1802–75).

The first tunnel under a navigable river, the first all iron ship and the first railway to run express services were contributed to by Isambard Kingdom Brunel (1806–59).

The invention of the incandescent light bulb (лампы накаливания), by Joseph Swan dates back 1826–1914.

The unification of electromagnetism belongs to James Clerk Maxwell (1831–79) who was born in Edinburgh in Scotland and worked both as a professor of experimental physics first at Kings College in London and in Cambridge University. He wrote a great number of works in the field of kinetic theory of gases and electricity.

The first practical telephone was patented by Alexander Graham Bell (1847–1922) who also was born in Scotland. Both his grandfather and his father studied the mechanics of a sound and became the pioneer teachers of speech to the deaf people. In 1871 Alexander Bell moved to the USA where he became the professor of Boston University. There he became interested in the conversion of sound wave vibrations into a fluctuating electric current. That work led him to the invention of the telephone in 1876. The first transcontinental telephone was opened in 1915.

Later on the UK continued to play a major role in the development of science and technology. Major technological advances in this country include the aerospace, motor and pharmaceutical industries.

- The discovery of penicillin, by biologist and pharmacologist, Sir Alexander Fleming (1881–1955).
- The world's first working television system, and colour television, by John Logie Baird (1888–1946).
- The first synthesis of quantum mechanics with special relativity by Paul Dirac (1902–84) in the equation named after him, and his subsequent prediction of antimatter.
- The invention of the jet engine, by Frank Whittle (1907–96).
- The invention of the hovercraft (судно на воздушной подушке), by Christopher Cockerell (1910–99).
- The structure of DNA by Francis Crick (1916–2004).

- The theoretical breakthrough of the Higgs mechanism to explain electroweak symmetry breaking and why some particles have mass, by Peter Higgs (1929-).

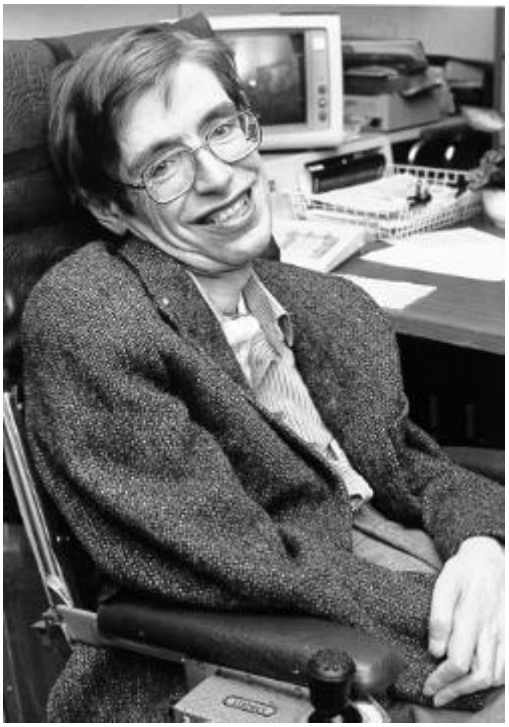
The UK has been playing a very great role in the field of computing. “A father of computer” Charles Babbage(1791-1871) was born in Great Britain. A mathematician, philosopher and mechanical engineer, Charles Babbage is credited with inventing the first mechanical computer. Although his computer was not completed it is considered the one which led to more complex designs. In 1991 his computer was constructed from the parts on display in the London Science Museum according to Babbage original plan and it was proved that Charles Babbage’s computer could have worked.

The invention of the first digital computer also belongs to the Englishman Alan Turing (1912–54). So-called Turing Machine became the foundation of the modern theory of computation. Besides during the Second World War Turing was a leading successful participant in the breaking of German ciphers.

Turing is widely considered to be the father of theoretical science and artificial intelligence. In 1950 he published a very impressive work “Computing machinery and intelligence”, foreseeing many questions of artificial intelligence. In this paper he proposed the Turing Test, which is still applied in attempting to answer whether a computer can be intelligent

Scientists are continuing to play a very important role in the UK Tim-Berners Lee (1989) took a great part in the creation of the World Wide Web.

Some words about a very important British scientist Stephen Hawking (1942). In spite of his terrible physical state (he is paralyzed and can work only on computer with eyes) Hawking made outstanding discoveries and theories in cosmology, quantum gravity and black holes.



The UK remains a leading centre of auto design and production, particularly of engines, and has around 2,600 component manufacturers.The UK plays a leading part in the aerospace industry, with companies including Rolls-Royce playing a leading role in the aero-engine market;

BAE Systems defense company, developing armory and information security acting as Britain's largest and the Pentagon's sixth largest defense supplier of military weapons.

GKN (концерн, производящий компоненты автомобилей, вертолетов, сельхоз техники и др.) acting as major suppliers to the Airbus project. The Airbus A380 has wings and engines manufactured in the UK. Two British-based companies, GlaxoSmithKline and AstraZeneca, ranked in the top five pharmaceutical companies in the world by sales in 2009 and UK companies have discovered and developed more leading medicines than any other country apart from the US.

Suggested projects(compositions) on the UK life (5-12 pp).

1.Important scientific and technological advances made by people from the UK
2.Scientific research3.Cultural life.
4. Music.
5. Literature and writers
6. Museums and interesting sights
7. National life and characters

8. Personalities