Speech Practice in Building Construction

Методические указания

МИНИСТЕРСТВО ОБРАЗОВАНИЯ И НАУКИ РОССИЙСКОЙ ФЕДЕРАЦИИ КАЗАНСКИЙ ГОСУДАРСТВЕННЫЙ АРХИТЕКТУРНО-СТРОИТЕЛЬНЫЙ УНИВЕРСИТЕТ

Кафедра иностранных языков

Speech Practice in Building Construction

Методические указания

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Speech Practice in Building Construction: Методические указания. Основная цель указаний – развитие и совершенствование навыков устной диалогической и монологической речи. (англ.яз.)

Рецензент

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1. General Information

Task 1. Answer the questions:

- 1. Do you know how building construction began?
- 2. Is there any difference between civil engineering and industrial engineering?
- 3. Is building engineering a big subject? What does it include?
- 4. Why is building engineering very important in modern life?
- 5. What building engineering courses are usually taught at higher educational institutions?
- 6. What degrees do building engineering academic programmes provide?
- 7. Why did you decide to become a civil and industrial engineer?
- 8. What possibilities will your future profession give you?
- 9. Speak about some famous scientists who contributed to the building science.
- 10. What can you say about the level of housing construction in our country and our republic?
- 11. What do you know about Kazan from the building construction point of view?
- 12. Do you know what civil engineers construct and reconstruct nowadays?

Task 2. Choose the correct variant and complete the sentences.

1. People first lived in ... (a) houses, b) palaces, c) trees and caves). 2. Egyptian pyramids are made of ... (a) stone, b) wood, c) bricks). 3. The cheapest building material is ... (a) wood, b) bricks, c) concrete). 4. The ancient Greeks knew the art of building with ... (a) steel, b) cut stone, c) concrete). 5. Nowadays very tall and huge buildings are made of ... (a) steel and concrete, b) bricks, c) stone).

2. A Living Place

Task 1. Answer the questions:

1. How do you know that you are in another country?

- 2. How does a British house look like?
- 3. What types of living places and dwellings do you know?
- 4. What problems do people face, living in a block of flats?
- 5. What are the pros and cons of living in this or that type of building? (blocks of flats or private house)
- 6. What is the basic idea of home for the English? For our country?
- 7. How can you distinguish a flat from a house?
- 8. What is the difference between the words "house" and "home"?
- 9. Where would you like to live: in the city or in the country? Say why?
- 10. Describe the place you live? Speak about its "+" and "-".
- 11. Describe the house you live? Is it a block of flats or a private house?
- **Task 2.** Speak about other types of living place: *penthouse, house trailer, mobile home, chalet, zulu hut, wigwam, air supported structure, Bedouin tent, monolithic dwellings,* etc.
- **Task 3.** Describe a house of your dream.
- **Task 4.** Find Russian equivalents and speak on the following proverbs.

An Englishman's home is his castle.

My house is my castle.

There is no place like home.

3. Types of Buildings

Task 1. Answer the questions:

- 1. What does a building refer to?
- 2. What needs do building serve?
- 3. What types of buildings do you know?
- 4. How can various types of buildings be classified? Give as many classifications as you can.

- 5. What are the advantages and disadvantages of multi-storied buildings?
- 6. What do you think of sky-scrapers? How can you describe them?
- 7. In what cities are there sky-scrapers?
- 8. Describe "+" and "-" of sky-scrapers.
- 9. Where is it economically efficient to build sky-scrapers?
- 10. What is the reason for high ground prices?
- 11. Do sky-scrapers make the surrounding attractive?
- 12. Would you like to live in a sky-scraper?
- **Task 2**. Design a single-storey house (or any type of building you like) and describe your plan. You can draw the sketch on the blackboard.
- **Task 3.** Choose some well-known building and describe in 7-10 sentences the structure of a building you like according to the plan:
- a) architect;
- b) appearance;
- c) form due to climate;
- d) types of structure;
- e) materials used in its construction;
- f) what the building is used for;
- g) surrounding of the building.
- **Task 4.** From the list of types of buildings, describe the buildings below. Say what each building is used for and discuss the types of activities that could go on in each building.

Block of flats, hotel, hospital, fire station, school, church, railway station, swimming pool, bank, factory, post office, shop.

4. Building Materials

Task 1. Answer the questions:

- 1. What is popular building material in Russia (in Britain) today?
- 2. What is the modern use of concrete?
- 3. What do you know about strength of materials?
- 4. What materials can beams be made of?
- 5. What advantages and disadvantages do buildings made from wood have? (from concrete, brick)
- 6. What are the differences between bricks and concrete blocks?
- 7. What are the materials most widely used in construction?
- 8. For what purpose are these materials used?
- 9. What are the properties of the building materials?
- 10. How do building materials differ from each other?
- 11. What are the most ancient building materials? What can you say about them? 12. What can you say about bricks?
- 13. Into what groups do we divide building materials?
- 14. Is concrete an artificial or natural building material?
- 15. Can you give an example of a binding material?
- 16. What artificial building materials do you know?
- 17. What natural building materials do you know?
- 18. What do you know about cement?
- 19. What is concrete made of?
- 20. What is concrete used for?
- 21. What properties do metals possess?
- 22. Are you able to explain what is meant by "in-situ" concrete?
- 23. What is the most important component of concrete?

Task 2. Match the words with the definitions below.

- a) stone, b) brick, c) concrete, d) slab, e) timber, f) masonry, g) cement, h) clay
- 1. a small, hard, rectangular block used for building walls, houses, etc.
- 2. the parts of a building that are made of bricks or stone
- 3. a thick, flat piece of something, especially stone
- 4. a hard substance that is used in building and is made by mixing sand, water, small stones, and cement
- 5. grey powder that is mixed with water and becomes dry when it dries
- 6. a hard, natural substance that is found in the ground
- 7. wood that is used for building
- 8. a type of heavy soil that becomes hard when dry, used for making things such as bricks and containers
- **Task 3.** Describe the properties of the following building materials: *concrete, aluminium, steel, mineral wool, ceramic tile, timber, etc.* You can use the following characteristics:
- a) waterproof,
- b) thermal conductivity,
- c) fire resistance,
- d) thermal insulation,
- e) sound insulation,
- f) attractive finish.

Make statements about the materials. For example: Concrete is capable of withstanding high temperatures.

Task 4. Discuss what material is the best and the most suitable for this or that part of a building. Say why you have chosen this material. You can use the following plan: lowest floor, external wall, roof, suspended floor, partitions, suspended ceiling, etc.

Task 5. Make a list of the building materials found in your country. Compare these materials from the point of view of cost, strength and appearance.

5. Properties of Materials

Task 1. Answer the questions.

- 1. What properties do building materials have?
- 2. What is the shape of a brick?
- 3. What is the brick's weight?
- 4. Where can plastics be applied?
- 5. What advantages do plastics offer?
- 6. What can plastics be used for except decoration?
- 7. What does plastic material consist of?
- 8. What for is plastics recommended as a structural material?
- 9. What are PVC (polyvinylchloride) panels suitable for?
- 10. Why are PVC panels of particular interest to architects and builders?
- 11. What are doorposts made of?

Task 2. Make sentences about the properties of materials from this table:

Steel		good sound		it can resist high
Steel		insulation.		compressive forces.
Stone		good thermal		it can resist high tensile
Stone	has the	insulation.	This	forces.
Glass	property of	high compressive	means	it does not transmit
wool		strength.		heat easily.
Brick		high tensile		it does not transmit
Dilck		strength.		sound easily.

Task 3. Discuss the following items:

- 1. Why is glass used for window panes?
- 2. Why is some steel covered with a thin layer of zinc?

- 3. Why are some metal sheets formed into corrugated shape?
- 4. Why is concrete used for the columns of a building structure?
- 5. What other types of cladding could be used instead of brick?
- 6. What do you think are the advantages of concrete blocks over bricks with regard to cost, speed of building and the amount of mortar used?

Task 4. Match the following materials (1–8) to the definitions (a–h).

1.	stainless	a.	a metal used to make brass, and in galvanized coatings on	
	steel		steel	
2.	zinc	b.	the predominant metal in steel	
3.	iron	c.	a type of steel not needing a protective coating, as it	
			doesn't rust	
4.	bronze	d.	a dense, poisonous metal	
5.	lead	e.	rocks from which metals can be extracted	
6.	hardwood	f.	an alloy made from copper and tin	
7.	ore	g.	timber from pine trees	
8.	softwood	h.	timber from deciduous trees	

Task 5. Role play. Think of a product you know well. In pairs, discuss the materials used in it and what properties make the materials suitable. Discuss whether alternative materials could be used.

6. Structural Engineering

Task 1. Answer the questions:

- 1. What do you know about structural engineering?
- 2. What does the design of a building begin with?
- 3. Who develops construction documents?
- 4. What are design professionals' responsibilities?
- 5. What sources do design professionals use to prepare their design?
- 6. What site information is required for design engineers?
- 7. What does the design process involve?

- 8. What software programmes are used in the building design?
- 9. Do you know what structural systems are?
- 10. What parts of a building can be made of wood?
- 11. What supports the upper floors, ceiling and roof?
- 12. What is a beam?
- 13. What are joists (beams) used for?
- 14. What elements can beams rest on?
- 15. Why is steel one of the major structural materials?
- 16. What does the roof design depend on?
- 17. What is the purpose of the roof?
- 18. Is it convenient to live in a house with sloping sides? Why?

Task 2. Copy and complete this table by putting ticks in the boxes to show the functions of the components. Use model: Blocks can be used for

	Functions of components			
Form of material	Structural support only	Space dividing only	Both structural	
1 orm or material			support and space	
			dividing	
Blocks			V	
Sheets				
Rods				

Task 3. Say what are the functions of these things: the external walls, the roof, the partition, the floor, etc. You can use the following verbs: to enable to, to serve, to act, to function, used for, to provide, is designed to, etc.

Task 4. Complete the following sentences to match the idea in brackets:

- a) The external walls ... (structure)
- b) The precast concrete floor units ... (ability)

- c) The external doors ... (measurement)
- d) The grill and air intake ... (function)
- e) If a wall is too thin ... (cause and effect)
- f) Block walls ... (ability)

Task 5. Role playing.

You ordered to draw a plan of your own house. An architect shows it to you. Discuss the plan with the architect. Say what you like about it and what you think should be changed.

7. Surveying

Task 1. Answer the questions:

- 1. What experts does civil engineering depend on?
- 2. What areas and structures are surveyors involved in?
- 3. What does a surveyor's work include?
- 4. What does a cadastral survey involve?
- 5. What surveying instruments do you know?
- 6. How is leveling instrument operated?
- 7. Why are self-leveling instruments preferred on sites?
- 8. What is a digital electronic level?
- 9. What scientific knowledge do surveyors use for surveying?
- 10. What is required to get a qualification of a surveyor?
- 11. Why has surveying always been important in the development of human environment?
- 12. What modern uses of surveying do you know?
- 13. How can a surveyor measure a slope?
- 14. Why are levels calibrated?
- 15. What are a surveyor's responsibilities and duties?

Task 2. Match the words with the definitions below:

- a) survey, b) a compass, c) an altimeter, d) peg, e) theodolite, f) surveyor, g) level, h) measuring tape.
- 1. An instrument for finding direction, with a needle that always points to the north.
- 2. An instrument used by surveyors for measuring angles.
- 3. A glass tube partly filled with liquid, with a bubble of air inside. It is used to test whether a surface is horizontal.
- 4. A person whose job is to examine and record the details of a piece of land.
- 5. An instrument for showing height above sea level.
- 6. A long narrow strip of plastic, cloth or flexible metal that has measurements marked on it and is used for measuring the length of something.
- 7. A short piece of wood, metal or plastic used for holding things together, hanging things on, marking a position, etc.
- 8. The act of examining and recording the measurements, features, etc. of an area of land in order to make a map or plan of it.

Task 3. Tell about one of your relatives or friends working as a surveyor.

8. Foundations of Buildings

Task 1. Translate the following words and expressions:

Deep foundation, floating foundation, friction foundation, pile foundation, shallow foundation, slab-on-grade foundation.

Task 2. Answer the questions:

- 1. What is foundation?
- 2. What types of foundations do you know?

- 3. What is a shallow foundation?
- 4. What is a deep foundation used for?
- 5. How soil can influence foundations?
- 6. What are the criteria for foundation stability?
- 7. Why is it important that the foundation bottom be below the maximum winter frost level?
- 8. What materials can foundation walls be built of?
- 9. Who designs foundations?
- 10. What aspects must be taken into account when designing a foundation?
- 11. What are some specific features of the foundations of low-rise buildings?

Task 3. Match the verb on the left with suitable item on the right. Make your own sentences with the expressions.

1.	scour	a.	a pile
2.	place	b.	a concrete pad
3.	embed	c.	under stress
4.	pour	d.	the ground
5.	form	e.	a beam
6.	transfer	f.	settlement

7. stabilize g. concrete in layers

8. experience h. cracks

9. drive i. a foundation

10. distort j. a load

Task 4. Give a description of a building site in your local area. Describe its shape, square, surrounding objects, what object is being built on it, how it looks like, what machines work on the site, etc.

Task 5. Role play. Discuss the things that could go wrong on a building site. Say when they might occur and how they could affect the time schedule.

9. Building the Walls

Task 1. Answer the following questions:

- 1. What is the first step in the construction of a house?
- 2. What is the name of the part of a building upon which the stability of the structure depends?
- 3. Does it carry the loads which are imposed on it?
- 4. What do we call the tools used by a bricklayer?
- 5. Can you name the chief tools used by a plasterer?
- 6. What natural and artificial building materials are used for the construction of walls?
- 7. What materials are buildings built of?
- 8. How should the interior be planned?
- 9. In what way should the exterior be planned?
- 10. What should every building be provided with?
- 11. What is done first when the construction of a building begins?
- 12. What keeps the walls and floors from contact with the soil?
- 13. What are the floors for?
- 14. What do the walls of a building serve for?
- 15. Why brick-building has been popular for many hundreds of years?

Task 2. Think about the statements given below and say if they are true or false.

- a) The bricks must be carefully bonded in order to provide for the mixing of mortar.
- b) Bricks have lower water absorption than concrete blocks.
- c) Cavity walls do not prevent heat from escaping from the building.
- d) The bricklayer has to be skillful to keep each layer of bricks horizontal.
- e) Concrete blocks are used for the walls of industrial buildings.
- f) A stucco surface is a sort of decoration.

g) Surface-bonding cement does not make a wall stronger.

Task 3. Match the nouns on the left with a suitable item on the right. Use each item once only.

- The courses
 A metal tie
 b. builds walls.
- 3. A plumb c. is used for curved walls.
- 4. Mortar joints d. checks verticality.
- 5. Header bond e. are laid horizontally.
- 6. Rubbers f. was embedded in connection joints.
- 7. The building g. create carved brickwork.
- 8. Stucco h. were pointed.
- 9. A bricklayer i. is required to lay straight courses.
- 10. A brickwork pattern j. has a brick veneer.

Task 4. Match the words with the definitions below.

- a) grout, b) nail, c) drywall, d) lime, e) screw, f) enclosure, g) lath, h) tile, i) gypsum, j) terrazzo.
- 1. a long flat narrow piece of wood/metal used to support plaster
- 2. concrete floor finish containing chips of marble
- 3. a wide plasterboard used to cover walls, ceilings or partitions
- 4. a piece of baked clay used for covering roofs, walls, floors, etc.
- 5. a thin mortar used to fill cracks in masonry
- 6. a soft white chalklike substance from which plaster is made
- 7. exterior assembly enclosing the interior space of a building
- 8. a thin pointed piece of metal for hammering into wood
- 9. a type of nail that is driven into something by a twisting action
- 10. a white substance obtained by burning limestone

Task 5. Complete these sentences:

1. In order to build a house a careful ... of the site has to be made and the soil has to be examined in order to ... 2. Foundations keep the floors and walls from ... 3. The stability of a structure depends on ... 4. The designer decides how ... are to be spaced and arranged.

10. Finishing the Inside. Interior Design

Task 1. Answer the questions:

- 1. What do interior finishes define?
- 2. What is the most widely used wall finish?
- 3. How is wet gypsum plaster cast?
- 4. What areas is gypsum board used in?
- 5. What are the finishes of doors?
- 6. Where are plastic laminates used?
- 7. What finishes are used for floors?
- 8. At what stage of design should built-in components be considered?
- 9. What is the purpose of built-in furniture?
- 10. What is the idea of open planning?

Task 2. Describe the interior design of the place you live.

Task 3. Role play.

Imagine that you have invited an interior designer to decorate your flat or house. Discuss your preferences and wishes concerning the interior design of your dwelling.

11. Health and Safety Precautions

Task 1. Discuss the following items:

1. Describe health and safety precautions that must be taken into account in construction industry.

- 2. Emphasize the importance of precautions.
- 3. Discuss regulations and standards that occur in construction industry.
- 4. Some engineering or industrial activities are especially dangerous. In pairs, think of more examples to add to the following list.
- a. Manufacturing processes using dangerous chemicals.
- b. Casting and welding involving high temperatures.
- c. Riding the air, i.e. working very high.

Task 2. Match the words (1-8) to the definitions (a-h).

1.	confined spaces	a.	burns the skin
2.	exposure	b.	contact (with a danger)
3.	irritant	c.	sources of ignition
4.	toxic	d.	small areas without ventilation
5.	corrosive	e.	poisonous
6.	flammable	f.	causes skin to react
7.	naked flames / sparks	g.	catches fire easily

Task 3. In pairs, discuss the hazards in the following situations and the precautions that should be taken.

- 1. Working inside a container with limited air circulation.
- 2. Cleaning metal using acid that can burn the skin and which gives off fumes.
- 3. Using a grinder to cut through a steel plate.
- 4. Applying paint that can cause painful rashes on the hands.

Think of other hazards that may happen during building construction process.

Task 4. In pairs, discuss the basic precautions for working on construction site according to the plan:

- a) before starting;
- b) during work;

c) finishing stage.

Task 5. In pairs, think of an operation you are familiar with that requires safety precautions. Student A, you are a safety officer; explain the precautions to a new employee. Student B, you are a new employee.

12. Jobs in Construction. Tools and Instruments

Task 1. Discuss the following statements and answer the questions:

- 1. Speak about different construction careers you know.
- 2. Tell your groupmates about any construction career your relatives or friends made.
- 3. Speak about construction engineers' responsibilities.
- 4. What do you think a qualified building worker must be able to do?
- 5. Why does the building profession attract so many numbers of young men and women nowadays?
- 6. What qualities must a person entering the building profession possess?
- 7. What common aim do civil engineers and architects have?

Task 2. Make up sentences of your own according to the model.

Model: Civil engineers specialize in the building of industrial or dwelling construction.

- 1. An architect specializes in
- 2. A hydrotechnician specializes in
- 3. A road engineer specializes in
- 4. A sanitary engineer specializes in
- 5. A plumber specializes in
- 6. A bricklayer specializes in
- 7. A welder specializes in

- 8. A carpenter specializes in
- 9. A plasterer specializes in
- 10. A mechanic specializes in

Task 3. Say in one or two sentences what the following people do:

A miner, a builder, a turner, a locksmith, a weaver, an engraver, a house painter, a blacksmith, a docker, a moulder, a building engineer, a designer.

Task 4. Complete the table with the correct tools or combination of tools for the jobs.

Tools: lump hammer and bolster, shovel, trowel, float, plane, panel saw, brace and bit, mallet and chisel, pincers, spanner, hacksaw, screwdriver, vice and file, cable shears, wire strippers, combination pliers, brush, steel tape, spirit level. Now make sentences like the example: A bricklayer uses a plumb-bob to check verticality.

Tradesman	Job	Tool (s)
a) carpenter	drilling holes in wood	
b) bricklayer		
c) plasterer		
d) plumber		
e) electrician		
f) decorator		
g) welder		
h) etc.		

Task 5. Role play.

Here are several job ads from www.constructionjobs.com. Choose any ad you like and discuss it with a partner. One of you being an applicant and the other an HR specialist.

1. ABC Real Estate Group is currently looking for a **Construction Project Manager** for multi-family construction. This position will require a minimum of 12 years of experience in large multi-family construction management and will be responsible for all aspects of project development including: design team management, budget development, value engineering, scheduling, budget variance reporting, subcontract scope analysis, site personnel management. This position is a site based position and will report to the Director of Construction. Applicants must be literate in steel, cast in place concrete and traditional wood framed construction. This is a growth position and needs someone looking for long term employment. Average yearly compensation of \$90,000 to \$120,000 depending on individual applicant capabilities.

2. Bartlett Cocke General Contractors has an opening for a **Safety Manager** – San Antonio. An applicant must have the following:

- Seven (7) years experience in building construction safety.
- Six (6) of the recent seven (7) years of work history must have been solely dedicated to building construction safety with at least five (5) years of construction management safety experience.
- Must have practical knowledge, working experience, and documented continuing education in areas such as fall protection, scaffolds, excavation, confined space, crane/equipment operations.
- Electrical, incident investigation, and other such safety/health related training.
- Show evidence of specialized training for Emergency First Aid.

We are an Equal Opportunity Employer. We encourage females, minorities, disabled and Veterans to apply.

3. Gannett Fleming is a global planning, design, and construction management firm with more than 60 offices worldwide. Our Construction Management Practice in New Jersey is currently seeking top-notch professionals with experience as a Resident Engineer, Construction Manager, Office Engineer, or Construction Inspector on public or commercial facilities/buildings projects throughout New Jersey.

Qualifications:

- A minimum of 5-10 years applicable experience in Facilities Construction Management.
- Professional Engineer license is highly desired, or NICET Certification.
- BS Degree in Engineering/Construction Management is highly desired.
- ICC Special Inspector Certifications desired.
- Experience with State or Federal agencies such as Turnpike Authority, Port Authority, School Construction Authority, DEP, GSA, USACE or DOD highly desired.
- Familiarity with all applicable trades, and related building codes including ICC/BOCA.
- Must be proficient with MS Word and Excel; Primavera proficiency a plus.
- LEED AP and/or experience with LEED certified building a plus.

4. Title: Senior Manager Gas Pipelines

Description: Underground Construction Company, Inc. is a national utility and heavy civil engineering contractor based in Benicia, California. The company focuses on private utility (gas & electric), oil and gas pipeline, telecommunications and industrial projects.

Responsibilities:

Complete supervision of gas pipeline division including overseeing all operational functions, client relations, and financial responsibilities for

division.

Reviews project proposals, estimates and budgets.

• Coordinate with divisional managers for staffing requirements of projects.

• Manages all project managers, engineers, and superintendents within

division.

Requirements:

Minimum 15 years of industry related experience in utility and gas

pipeline construction.

• Exhibits strong leadership and management skills.

• Ability to work with customers to develop and maintain long term

relationships.

Location: Northern California.

Supplementary exercises.

Task 1. Rearrange the words given below so as to make up sentences:

Model: the bricklayer, a trowel, the instrument, by, is called, used. \rightarrow The

instrument used by the bricklayer is called a trowel.

1. work, the foundation, anchoring sills, by providing, is finished

2. of prefabs, a lot of, are built, houses

3. courses of bricks, consists, the building, together, of a wall, and bonding

them, in laying down

4. of two layers, cavity walls, a small gap or cavity, are made, between, with,

them

Task 2. Give nouns corresponding to the following verbs:

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To construct, to develop, to plan, to populate, to supply, to continue, to build, to settle, to house, to educate, to provide, to produce, to utilize, to study, to specialize, to train, to improve.

Task 3. Complete the following sentences:

- 1. The ancient Greeks used pillars for
- 2. We usually make houses of
- 3. Bricks are made of
- 4. The ancient Egyptians made their homes of
- 5. No gas can be used in blocks of flats that have more than 12 storeys because
- 6. The door frames are made of
- 7. All the flats are wired for
- 8. Around new residential blocks there is plenty of
- 9. Building materials are divided into
- 10. The interior should be planned to suit
- 11. Every building should be provided with

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Методические указания

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