

Project Skill Energy BSR is part financed by the EU within the Lifelong Learning Programme

## I. VOCATIONAL EDUCATION IN POLAND – AFTER VOCATIONAL EDUCATION REFORM OF 1 SEPTEMBER 2012

### 1. Public vocational schools for the youth in Poland – before 2012

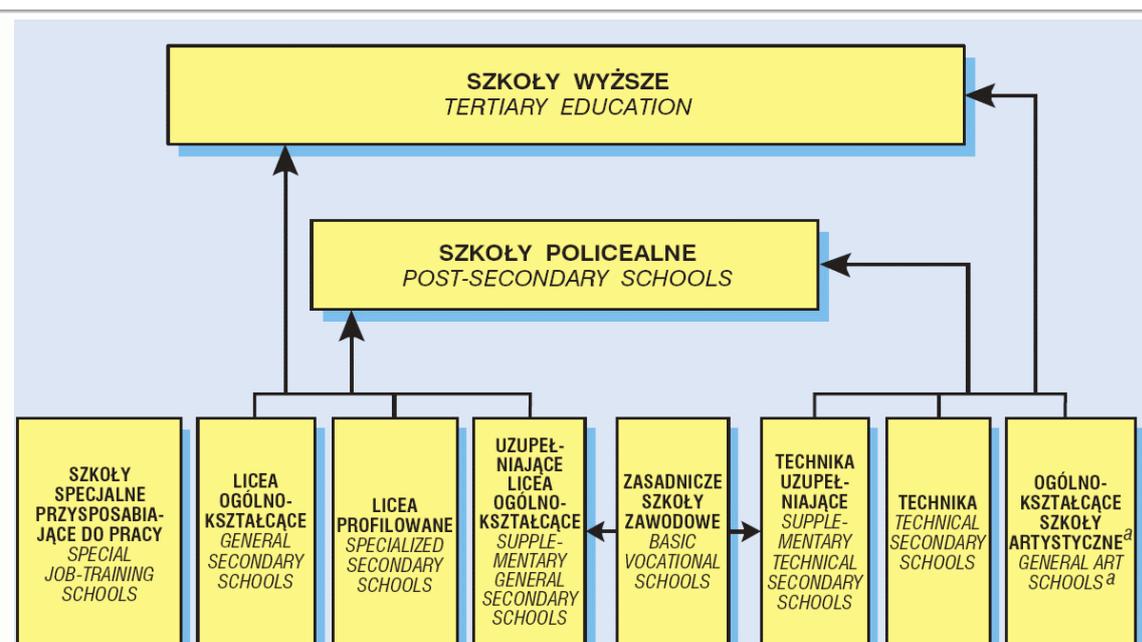
Each vocational school (basic vocational schools, technical secondary schools, supplementary technical secondary schools and post-secondary schools) carries out certain tasks in scope of vocational training. Education in these schools comprises:

- general education (e.g. Polish, Mathematics, Physics, History);
- theoretical vocational education (e.g. vocational drawing, design, gastronomical technology, mechanical technology);
- practical vocational education (practical vocational learning by means of practical classes and/or vocational apprenticeship).

In total, in school year 2009/2010 in Poland there were:

- 1411 basic vocational schools for the youth (except special purpose schools) with 204974 students;
- 3173 technical secondary schools, supplementary technical secondary schools and general art schools with 612500 students (including 1907 technical secondary schools with 517124 students and 89 supplementary technical secondary schools with 3375 students);
- 245 public post-secondary schools with 33300 students.

Figure 1 Structure of vocational education in Poland until 2012.



Source: *Mały rocznik statystyczny Polski 2010*, GUS, Warszawa 2010, p. 232.

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## 2. Structure of vocational education in Poland – reform

The educational system in Poland is characterized by significant diversity. The same applies to vocational secondary schools, which is in detail presented in the figure below (Figure 1).

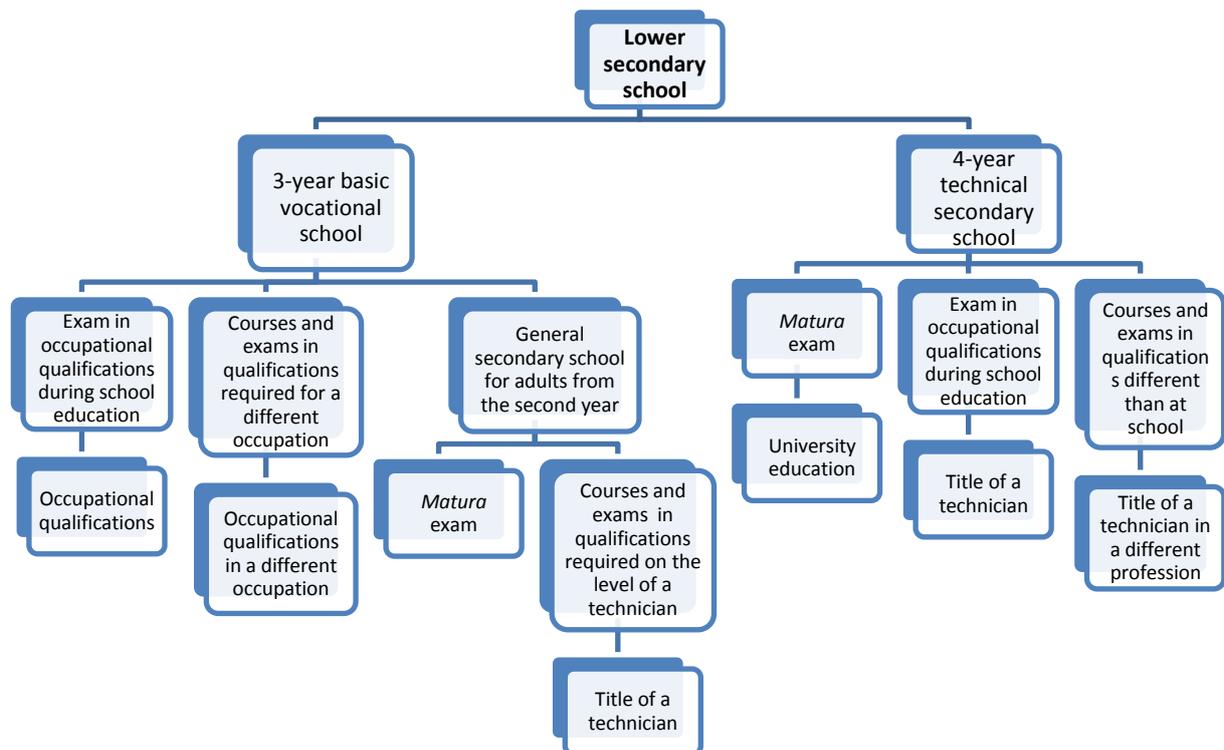


Figure 2. Structure of vocational education in Poland since 2012.

Adapted from: [www.zdz.cku.bytom.pl](http://www.zdz.cku.bytom.pl)

Since 1 September 2012 there is a new structure of secondary education introduced by an amendment of the Act on the Education System of 19 August 2011.

**Graduates from lower secondary schools can choose one of the three types of schools:**

- a 3-year general secondary school, preparing for the *matura* exam;
- a 4-year technical secondary school, preparing for the *matura* exam and an exam in vocational qualifications required for a specific profession;
- a 3-year basic vocational school, preparing for exams in vocational qualifications required for a specific profession.

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The aim of the introduced changes is improvement of educational effects, increase in effectiveness and adjustment of educational efforts to the changing labor market. Thank to these provisions, it will be easier to obtain vocational education, supplement qualifications and educate in a new profession.

Since the school year 2012/2013 education in general secondary schools, technical secondary schools and basic vocational schools has been connected with education in lower secondary schools.

Students in technical secondary schools and basic vocational schools have to learn the same elements of general education on the basic level as students in the first year of a general secondary school. Graduates from basic vocational schools of the new model who want to obtain secondary education (the *matura* exam) may continue their education in general secondary schools for adults directly from the second year.

Education in a general secondary school and a basic vocational school lasts three years, whereas in a technical secondary school – 4 years and in a post-secondary school – 1-2.5 years.

The novelty in the vocational education system is introduction of vocational courses (so-called course forms). Employers may commission schools to conduct them. In consequence, it is easier for educational facilities to adjust the educational offer to the needs of the labor market.

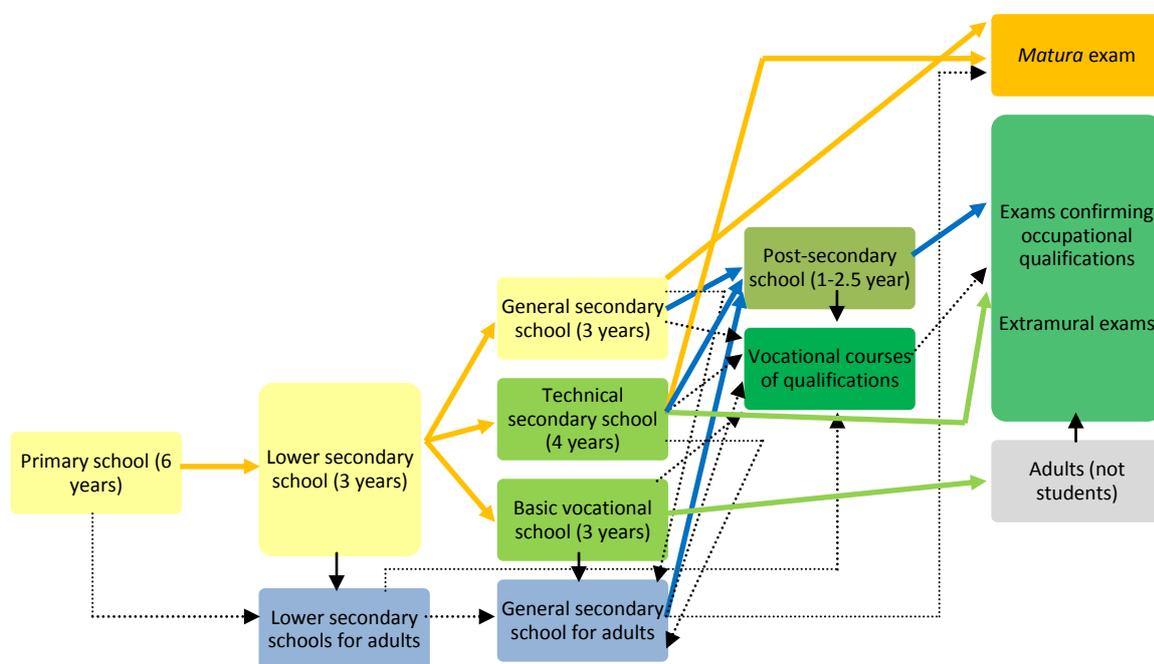


Figure 3. Structure of vocational education in Poland after reform.



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## **New vocational classification and the core curriculum for professions**

Some qualifications were separated from professions specified in the classification of professions of vocational education. A qualification in a profession is understood as the scope of knowledge and skills allowing for performing professional tasks and enabling to undertake a job in a profession. Each qualification is accompanied by a description of educational effects divided into knowledge, skills and personal and social competences. Each profession may have from one to three qualifications. Some professions have alternative qualifications on the level of one qualification.

The new classification of professions comprises 8 areas, in which 200 professions are differentiated. 251 qualifications were differentiated in the professions (including 23 professions with 3 qualifications per profession, 72 professions with 2 qualifications, 98 professions with 1 qualification and 7 professions of art education with no specified qualifications).

## **The core curriculum of vocational education**

The educational content in vocational education is described in a so-called core curriculum approved by the Minister of Education (by means of a regulation). The document contains description of effects that shall be attained by a student after completed education in a profession. The description of these effects is also a basis for assessment during external exams (the new core curriculum is simultaneously a standard of examination requirements). The new core curriculum of education in professions includes three types of educational effects:

1. Educational effects **common for all professions**, in scope of:
  - occupational safety and health,
  - undertaking and conducting business activity,
  - a foreign language adjusted to a profession,
  - personal and social competences.
2. Educational effects **common for professions within educational area**.
3. Educational effects **common for a profession**, described in qualifications separated in professions.

On the basis of the core curriculum, each school prepares own curriculum. Sample curricula are prepared by centers of advancement and supporting teachers.



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The new core curriculum may be realized in subject and module programs. The most important issue in a program is to ensure that each unit of the curriculum (e.g. a module) is consistent with units of educational effects described in the core curriculum.

### **Exams confirming vocational qualifications**

Qualifications will be confirmed in the course of education. Each qualification can be confirmed by an external vocational exam. After passing an exam in a specific qualification, a student receives a certificate and after passing all examinations required for each profession and graduating from a school, a student receives a diploma confirming vocational qualifications.

An exam confirming vocational qualifications of students who take part in practical education on an employer's premises (in a dual system) is a journeyman exam certified by a board of craft chambers.

### **Students' individual needs**

The scope of changes in secondary schools also concerns adjustment of educational requirements to individual needs and abilities of students. Provisions in this area specify the target group of this process and how the process should be conducted. In order to conduct it, each school prepares a card of individual needs of a student and a plan of supporting activities.

Teachers teaching in a specific class, as a result of a group analysis of individual cases of students, may create a card of individual needs for a student who is especially gifted, has specific difficulties in learning (dyslexia, dysgraphia, dysortography, dyscalculia) or has disorders of linguistic communication. Individualization of teaching may also include a student chronically ill, being in crisis, neglected by their background or educationally (in connection with a hard living situation of a student and their family, way of spending free time, contacts within the background) and a student with adaptation difficulties (connected with previous education abroad) or cultural differences.

### **Financing of schools and centers of vocational education**

Running basic vocational schools, technical secondary schools (including supplementary technical secondary schools) and post-secondary schools comprises own tasks performed by districts. Among other competent bodies, districts allocate the largest amount of funds for vocational education. Nevertheless, these funds are insufficient. In majority of districts state subsidies are not



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sufficient to cover entire costs of education. For this purpose, competent bodies use their own profits and means from structural funds. Districts cover expenses relating to vocational schools more often by means of funds other than subsidies than they cover expenses relating to general secondary schools. Means that were not obtained from subsidies are also used by districts to finance infrastructural investments. In the surveys, principals admit that only an insignificant number of schools and Centers of Practical Training (CPT) cover expenses for all their needs with funds received from a competent authority. Furthermore, Centers of Practical Training have potential to render external services, which might constitute an additional source of income for institutions. Majority of them benefit from this possibility.

Representatives of local government units in majority of cases carry out current analyses of costs of vocational education. The most popular analyses are: assessment of global costs of running individual complexes of vocational schools and analysis of costs in time. They allow to adjust educational offer to the needs of the labor market.

Representatives of bodies running schools agree that education of a student in a vocational school is far more expensive than in a general secondary school. The opinion prevails that expenditures for education in vocational schools are too low in comparison to educational effectiveness achieved in these schools.

## **II. REALIZATION OF VOCATIONAL EDUCATION WITH A PRACTICAL PART AT THE EMPLOYER'S WORKSHOP (DUAL SYSTEM)**

Students at the age of 15-18 may choose the following forms of vocational education:

### **1. Lower secondary school (*gimnazjum*) with professional training**

A participant supplements general education obtained at a primary school and lower secondary school with simultaneous professional training in a certain profession or obtains vocational qualifications on the level of a basic vocational school. General education is realized in public schools, whereas professional training takes place at the employer's workshop (e.g. craftsmen) or during school workshops. Learning of a profession lasts three years (depending on a curriculum). Preparations for performing a specific job lasts until a participant completes their education in a lower secondary school, but no longer than 22 months.

A graduate receives a school-leaving certificate and after passing an exam in vocational skills required to perform a specific profession – a vocational title or a certificate of completion of professional training required to perform a specific profession. It is not a journeyman exam, but



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tenure attained during the training is acknowledged when a student wants to continue his education in basic vocational school (and pass a journeyman exam).

This form is especially popular among so-called difficult youth, subject to exclusion or delayed in relation to the schooling obligation. A framework plan of teaching in this type of schools is specified in the ordinance of the Minister of National Education as of 7 February 2012 on outline timetables of teaching in public schools – legal basis.

#### **Schedule no. 4 – OUTLINE TIMETABLES OF TEACHING FOR THE UNITS PREPARING FOR WORK, ORGANIZED AT LOWER-SECONDARY SCHOOLS, INCLUDING SPECIAL LOWER SECONDARY SCHOOLS FOR LEARNERS SOCIALLY UNADJUSTED AND LIKELY TO BE SOCIALLY UNADJUSTED**

The number of hours for vocational education (sufficient to take an exam) in this program shall be 570 hours during 3 years.

The most popular professions of the construction industry taught in this mode are:

- Bricklayer-plasterer
- Fitter of development and finishing works
- Roofer

### **2. Basic vocational school**

The above mentioned professions, i.e. a bricklayer-plasterer, a fitter of development and finishing works in the construction industry and a roofer are professions expected to be taught on the level of a basic vocational school. The program based on the core curriculum contains practical education, which may be realized at the employer's (craftsman's) premises and general education. Education lasts 3 years.

Due to educational effects and separated modules (qualifications) comprising a certain profession, a curriculum for the above mentioned professions may have a module character and contain elements of energy-saving building industry.

#### **2.1 Sanitation and sanitary installations fitter (plumber)**

A graduate from a school preparing for the profession of a sanitation and sanitary installations fitter shall be prepared for performing the following vocational tasks:



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- 1) performing preparatory works connected with building municipal networks and fitting sanitary installations;
- 2) performing works connected with building water supply, sewerage, gas systems and systems of heat transfer stations;
- 3) fitting water supply, sewage, gas, heating, ventilating and air conditioning installations;
- 4) performing works connected with maintenance, service and modernization of municipal systems and sanitary installations.

Education may be divided into 4 modules:

1. building works
2. fitting works and operational works of municipal networks
3. fitting works and operational works of sanitary installations
4. preparation for entering the labor market

After two years of education, a student may take a state exam in the module of qualifications – performing works connected with building and renovation of municipal networks. After three years, a student may take a state exam in the module of qualifications – performing works connected with building and renovation of sanitary networks. If a student passes a journeyman exam certified by a board of craft chambers, he takes one journeyman exam after three years and receives a certificate confirming education in a profession.

## **2.2 Fitter of development and finishing works**

A graduate from a school preparing for the profession of a **fitter of development and finishing works** shall be prepared for performing the following vocational tasks:

- 1) fitting systems of dry buildings;
- 2) painting works;
- 3) papering;
- 4) floor works;
- 5) siding works.

Education may be realized in three modules (qualifications):

1. B.5 Fitting dry building
2. B.6 Painting and papering works
3. B.7 Floor and siding works



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Teaching of each module lasts approximately 1 school year and may be followed by a verifying exam. A journeyman exam shall be taken after three years of education.

### **2.3 Bricklayer-plasterer**

A graduate from a school preparing for the profession of a **bricklayer-plasterer** shall be prepared for performing the following vocational tasks:

- 1) preparing mortar, plaster and concrete;
- 2) preparing brick building constructions;
- 3) preparing interior and outside plaster;
- 4) carrying out renovation and demolition of brick building constructions;
- 5) carrying out renovation of interior and outside plaster.

Education may be realized in the following modules:

1. preparatory building works and using design
2. bricklaying works
3. plaster works, renovation and demolition
4. preparation for entering the labor market

A graduate takes one state exam or a journeyman exam after three years of education.

### **3. Technical secondary school**

It is possible to pass the *matura* exam; nevertheless, general education predominates in the number of hours in the curriculum. Practical classes are reduced to a minimum. Among students of a technical secondary school there are also less gifted students who could benefit from the program elaborated within the Skill Alliance program.

## **III. PROPOSALS CONCERNING THE COURSE IN POLAND**

When concerning the possibilities of implementation of a pilot program at the school run by the Handicraft and Small Business Chamber in Lublin, it seems that the best solution is to adjust the already existing course to the dual system.

A profession which is the most suitable for the needs of Skill Energy BSR is a specialist for building insulation (Polish: *monter izolacji budowlanych*). Nevertheless, in this case the major obstacle of implementing the pilot program is the fact that this profession is not taught at schools, which are run



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by the Chamber; whereas in public schools it not taught in dual system. If this solution is chosen, it is essential to obtain all licenses. This process is time-consuming and requires possessing additional funds for the pilot program. It is possible to introduce a so-called educational innovation or an educational experiment permitted by law. Nevertheless, both an innovation and an experiment cannot be in conflict with examination provisions. Furthermore, Polish law provides that conducting an educational experiment requires the consent of the following bodies: the minister of education the minister responsible for a profession, a voivodeship employment board (voivodeship employment agency), an economic self-government (in this case handicraft organizations may act) and a scientific unit, which provides scientific supervision for the experiment. A school's principal submits an application for the consent to conduct an experiment at school to the Ministry of Education until 31 March in the year preceding the school year, during which the experiment is to be conducted.

In consequence of the above, the best solution is to organize a test within the program for the profession – bricklayer-plasterer in facilities run by the Chamber. In this case, there is a possibility to supplement the curriculum (approved by the school's principal) for this profession with the contents connected with building insulation, which will be connected with the core curriculum approved by the Ministry of National Education. In the pilot program, a program adjusted to the requirements of the projects could be created to be realized during two years. In the future, this solution could be used in education of adults in separate courses outside the system of vocational education.

**1. PROFESSION:** bricklayer-plasterer (no. 711204)

**A bricklayer-plasterer** constructs walls of bricks, stones, concrete elements, plaster, ceramics and other building materials and puts layers of plaster (lime, concrete, resin, alabaster). Apart from building walls, he may: build stairs, pillars, ceilings, put siding on the walls, make vents, make mortar and plaster on his own and know the features and ingredients of each of them. Furthermore, he may perform construction and demolition works. A person who wants to perform this profession must get used to: constant changes of place of stay (it depends on the place of a new construction), variable weather conditions and heights; thus, a future bricklayer-plasterer cannot suffer from a fear of height.

**2. TRAINING PERIOD:** 2 years



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**3. TEACHING OBJECTIVES:** A graduate from a school preparing for the profession of a **bricklayer-plasterer** shall be prepared for performing the following vocational tasks, including elements of building insulation:

- 6) preparing mortar, plaster and concrete;
- 7) preparing brick building constructions;
- 8) preparing interior and outside plaster;
- 9) carrying out renovation and demolition of building constructions of bricks;
- 10) carrying out renovation of interior and outside plaster.

In order to perform vocational tasks, it is essential to achieve educational effects specified in the core curriculum for the profession of a bricklayer-plasterer:

- educational effects common for all professions (occupational safety and health, undertaking and conducting business activity, professionally-oriented foreign language, personal and social competences);
- educational effects common for all professions in the area of building which are a base for educating in the profession or a group of professions PKZ<sup>1</sup>(B.c);
- educational effects suitable for the qualification separated in the profession *Performing bricklaying and plastering works* (B.18.).

**4. LEGAL BASIS:** CORE CURRICULUM OF EDUCATING IN THE PROFESSION drawn up on the basis of the ordinance of the Minister of National Education as of 7 February 2012 on outline timetables of teaching in public schools

### **5. EDUCATIONAL EFFECTS:**

#### **I. EFFECTS COMMON FOR PROFESSIONS IN THE AREA OF BUILDING WHICH ARE A BASE FOR EDUCATING IN THE PROFESSION OR A GROUP OF PROFESSIONS PKZ(B.c);**

PKZ(B.c) Below are presented skills which are a base for educating in professions: a chimney sweep, a specialist for development and fit-out in the building industry, a specialist for building insulation, a roofer, a carpenter, a steel-fixer and concreter, a mason, a stove fitter, a bricklayer-plasterer, a specialist for building constructions, an architecture renovation technician, a building technician, a

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<sup>1</sup> Polish Classification of Occupations.



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road and bridge technician, a specialist for pipeline systems, a specialist for railway surface, a road works technician.

A student:

- 1) recognizes the kinds and elements of buildings;
- 2) differentiates construction of buildings and used technologies ;
- 3) differentiates kinds and element of building fittings;
- 4) recognizes building materials and their usage;
- 5) complies with the rules of making building drawings;
- 6) makes sketches;
- 7) differentiates kinds and elements of documentation applied in the building industry;
- 8) differentiates measuring devices used in building works;
- 9) complies with the rules of making measurements connected with building works;
- 10) recognizes elements of the building site management;
- 11) differentiates means of transport used in the building industry;
- 12) complies with the rules of transport and building materials storage;
- 13) differentiates the kinds of scaffolding and complies with the rules of their erection, use and disassembly;
- 14) uses computer programs assisting performed tasks.

## **II. EDUCATIONAL EFFECTS SUITABLE FOR THE QUALIFICATION SEPARATED IN THE PROFESSION OF A BRICKLAYER-PLASTERER**

### **B.18. Performing bricklaying and plastering works**

#### **1. Preparing mortar, plaster and concrete mixtures**

A student:

- 1) differentiates kinds of mortar and plaster, knows their features and usage;
- 2) uses project documentation, technical specifications for performing works and their acceptance, standards, catalogues and instructions for preparing mortar, plaster and concrete mixtures;
- 3) chooses ingredients of mortar, plaster and concrete mixtures;
- 4) prepares a bill of quantities connected with preparation of mortar, plaster and concrete mixtures and estimates their cost;
- 5) chooses tools and equipment to prepare mortar, plaster and concrete mixtures;
- 6) prepares ingredients for mortar, plaster and concrete mixtures;



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- 7) prepares mortar, plaster and concrete mixtures in accordance with a recipe;
- 8) assesses the quality of prepared mortar, plaster and concrete mixtures;
- 9) prepares a re-measurement of quantities connected with making mortar, plaster and concrete mixtures and prepares a settlement of these works.

## **2. Building constructions of bricks**

A student:

- 1) differentiates kinds of building constructions of bricks;
- 2) uses project documentation, technical specifications for performing works and their acceptance, standards, catalogues and instructions for building constructions of bricks;
- 3) recognizes types of brick bonding in walls;
- 4) differentiates types of building insulation and specifies methods of its construction;
- 5) chooses and prepares materials for building constructions of bricks;
- 6) chooses tools and equipment for building constructions of bricks;
- 7) prepares a bill of quantities connected with building constructions of bricks and estimates their cost;
- 8) pinpoints building constructions of bricks;
- 9) constructs walls, ceilings, lintels, domes, columns, pillars and chimneys of bricks;
- 10) grouts and faces walls;
- 11) performs earthworks and insulation works, as well as auxiliary concrete and steel-fixing works connected with building constructions of bricks;
- 12) assesses the quality of bricklaying works;
- 13) prepares a re-measurement of quantities connected with building constructions of bricks and prepares a settlement of these works.

## **3. Plastering works**

A student:

- 1) differentiates kinds of plaster;
- 2) uses project documentation, technical specifications for performing works and their acceptance, standards, catalogues and instructions for performing plastering works;
- 3) chooses and prepares materials for making internal and external plaster;
- 4) chooses tools and equipment to prepare internal and external plaster;
- 5) prepares a bill of quantities connected with preparing internal and external plaster and estimates its cost;
- 6) prepares groundwork for internal and external plaster;



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- 7) prepares internal and external plaster;
- 8) performs works connected with finishing plastered surfaces and fixing gable vents and other elements;
- 9) recognizes types of damages in internal and external plaster and chooses methods of repair;
- 10) repairs internal and external plaster;
- 11) assesses the quality of performed plastering works;
- 12) prepares a re-measurement of quantities connected with preparing internal and external plaster and prepares a settlement of these works.

#### **4. Performing renovation and demolition works of building constructions made of bricks**

A student:

- 1) uses project documentation, technical specifications for performing building works and their acceptance, standards, catalogues and instructions for performing renovation and demolition works of building constructions made of bricks;
- 2) chooses and prepares building materials used for renovation of building constructions made of bricks;
- 3) prepares a bill of quantities connected with renovation and demolition works of building constructions made of bricks;
- 4) chooses tools and equipment to perform renovation and demolition works of building constructions made of bricks;
- 5) performs bricklaying works connected with renovation of building constructions made of bricks;
- 6) performs renovation and demolition works of building constructions made of bricks;
- 7) assesses the quality of performed renovation and demolition works of building constructions made of bricks;
- 8) prepares a re-measurement of quantities connected with performing renovation and demolition works of building constructions made of bricks and prepares a settlement of these works.

#### **5. Preparing thermal insulation**

A student:

- 1) defines types of thermal strata in buildings and causes of their existence;
- 2) differentiates types of thermal insulation;
- 3) uses project documentation, technical specifications for performing building works and their acceptance, standards, catalogues and instructions for making thermal insulation;
- 4) prepares a bill of quantities connected with insulation works and estimates their cost;
- 5) chooses methods of making thermal insulation;



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- 6) chooses materials, tools and equipment to make thermal insulation;
- 7) performs auxiliary construction works connected with making thermal insulation;
- 8) prepares groundwork for thermal insulation;
- 9) prepares materials for performing thermal insulation;
- 10) performs thermal insulation and protects heating fitting and hot water fitting against loss of heat;
- 11) performs works connected with protection of thermal insulation against damp, wind and mechanical damages;
- 12) performs works connected with repairing thermal insulation;
- 13) assesses the quality of performed thermal insulation;
- 14) prepares a re-measurement of quantities connected with performing insulation works and prepares a settlement of these works.

## **6. MODULES:**

Education may be realized in the following modules:

1. building thermal insulation
2. preparatory building works and using design
3. preparation for entering the labor market
4. bricklaying works
5. plastering, renovation and demolition works

## **7. PERIOD OF TRAINING AT SCHOOL: 25%**

## **8. PERIOD OF TRAINING AT A COMPANY: 75%**

## **9. RECOGNITION:**

A graduate from a school preparing for the profession of a bricklayer-plasterer after confirming qualification<sup>2</sup> *B.18. Bricklaying and plastering works* (an exam taken before an examination board) may be awarded a diploma confirming qualifications in the profession of a building technician after additional confirmation of the qualification *B.33. Organization and supervision of construction works* and *B.30. Preparing cost calculations and tender documentation*, and after completing secondary education.

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<sup>2</sup> Pursuant to the Polish act on the system of education, *a vocational qualification* shall be understood as a set of expected educational effects separated in a profession, achievement of which is confirmed by a diploma issued by a regional examination board, after passing an exam confirming qualifications in a profession in scope of one qualification.