# DESIGNING AND USING NON-STANDARD TESTS ON THE SUBJECT "STRUCTURE, TECHNICAL SERVICE AND MAINTENANCE OF AN AUTOMOBILE" WITH THE HELP OF MYTESTX PROGRAM

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## ABSTRACT

In modern conditions the functional and technological capabilities of ICTs help to achieve efficiency in designing and using non-standard tests. The development of ICT has enabled the use of computer technology services in designing and implementing the training tests. The MyTestXPro program helps to develop and implement training tests effectively. The certain didactic tasks can be effectively completed when designing tests based on the MyTestX software. Also, non-standard tests are designed in accordance with certain criteria. The article is about designing and using non-standard tests on the subject "Structure, technical service and maintenance of an automobile" using the MyTestX program for students of professional colleges.

**Keywords:** Test, non-standard tests, MyTestX program, designing non-standard tests with the help of MyTestX program, using non-standard tests with the help of MyTestX program.

## INTRODUCTION

In modern conditions the education is considered as an essential factor of social, economic and cultural development. Thus, education plays an important role in training of qualified professionals who are the driving force behind the development of society. Therefore, each society focuses primarily on improving the education system, updating the content of education, taking into account the socio-economic changes and emerging needs.

In educational system the tests, as a form of control, are the method of diagnosing the "level of knowledge, skills, abilities and other personality traits. During recent years the testing as a method of assessing the knowledge has been gaining popularity" [3, 1214]. The development of ICT has enabled the use of computer technology services in designing and implementation of training tests. The MyTestXPro program helps to develop and implement training tests effectively.

### Materials and methods

Theoretical knowledge of students on the subject "Structure, technical service and maintenance of an automobile" was identified with the help of non-standard tests designed with the MyTestXPro program. In 2011-2019 students of Bukhara automobile professional college (57), Karshi construction professional college (52), Sergeli polytechnic college (54), in total 163 students took part in the test. Students were required to do 35 non-standard tests on the subject "Structure, technical service and maintenance of an automobile". One point was given for each correct answer. The following assessment scheme was used in the test: less than 20 points - low, 21-25 points - satisfactory, 26-30 points - average, 31-35 points – excellent.

**DISCUSSION**

MyTestX is a program system consisting of three modules – a testing module (MyTestStudent), a test editor (MyTestEditor) and a test log (MyTestServer) for creating and conducting computer testing, collecting and analyzing results, and rating on the scale specified in the test. The program runs on Windows XP, Vista, 7, 8. Wine can be used for working with Linux. With the help of MyTestX programs, it is possible to organize both local and network testing, both with the aim of revealing the level of knowledge on any academic subjects as well as with educational goals [1]. The program was developed in 2003 and is constantly improving. Today the capacities of the program have been increased. At present "the program contains wide range of text formatting opportunities for questions and answer options, including the type and size of the font; color of characters and background; superscript and subscript; separate paragraph formatting, creating lists; inserting drawings and formulas, etc." [2].

The following didactic tasks can be effectively completed when designing tests based on the MyTestX software: "entering each task according to complexity; using several options for the question of the task; creating tooltip attachment options; establishing a specific sequence or random presentation of questions and answers; establishing any or certain grading system; creating tasks and results protection capacities" [1].

Non-standard tests are also designed in accordance with certain criteria. Essentially, "the presence of a goal, brevity, technological effectiveness, logical form of expression, the presence of a specific place for answers, the same rules for evaluating answers, the correct location of the elements of the task, the same instructions for all subjects, the adequacy of the instructions in the form and content of the task" [2].

MyTestXPro program gives an opportunity to work with ten types of tasks [1]. Attention was given to the use of these ten types of assignments in the development of non-standard tests on the subject "Structure, technical service and maintenance of an automobile**":**

1. Single choice:

What is the name of a machine that performs special operations on land, railless road with the help of freight or person-mounted devices?

**a**) **automobile;**
b) bus;
c) route taxi;
d) electromobile.

2. Multiple choice:

Which of the following answers represents the types of buses by engine cylinder capacity and overall length?

| | | | |
|---|---|---|---|
| Very small – up to 1,2 liters; small – from 1,2 liters up to 1,8 liters; medium – from 1,8 liters up to 3,5 liters; big – 3,5 liters and more | Very small – up to 5 meters; smal – from 6 meters up to 7,5 meters; medium – from 8 meters up to 9,5 meters; big – 3,5 liters and more | Very small – up to 5 meters; smal – from 6 meters up to 7,5 meters; medium – from 1,8 liters up to 3,5 liters; big – 3,5 liters and more | Very small – up to 5 meters; smal – from 6 meters up to 7,5 meters; medium – from 8 meters up to 9,5 meters; big – 10 meters and longer |
| A | B | C | D |
| ***A*** | B | C | ***D*** |

2. Putting the sentences in the right order:

Put the statements about of history of automobile production in correct chronological order.

| **Historical dates** | **Number of order** |
|---|---|
| Creation of a "scooter" by a Russian mechanic Ivan Petrovich Kulibin which is moved by a person (1791) | 2 |
| Creation of a three-wheeled cart with internal combustion engine by a German engineer Carl Friedrich Michael Benz (1885) | 3 |
| Creation of a four-wheel car by a German inventor Gotllieb Daimler (1886) | 4 |
| Organization of conveyor production of cars by an American businessman Henry Ford (1913) | 5 |
| Creation of a steam machine by a French military engineer Nicole-Joseph Cuneo (1769) | 1 |
| Manufacture of Mercedes-Benz cars by "Daimler-Benz" company (1926) | 6 |

4. A matching task:
Match the phrases with their definitions.

| **№** | **Notions and phrases** | **№** | **Definition** |
|---|---|---|---|
| 1 | Types of hydromechanical oil (fuel) burner | A | Spraying fuel in the form of small particles in the internal combustion engine input collector or directly on the cylinders |
| 2 | Functions of oil spray burner of gasoline engines | B | 1) frame; 2) rod; 3) fuel injector; 4) штуцер; 5) spring |
| 3 | Structure of hydromechanical spray burner | C | 1) spherical clutch valve;<br>2) disc-formed clutch valve;<br>3) pin formed clutch valve |

| **Answer:** | 1-C | 2-A | 3-B |
|---|---|---|---|

5. True or False statements:
Which of the following statements about classification of teaching methods is correct?

A. Components of a specialized farm freight auto-train (farm): automobile; cistern, engine; spool absorbing system; control system; pump; oil filter; centrifugal pump; propeller driving gear, power supply box; switch.

B. Front-wheel drive clutch control gear consists of a tractor; king pin; wheel axles; leverage.

C. Parts of a tanker - winding engine; specialized frame; farm; luggage trolley; luggage trolley wheels; assembly support.

D. Main brake cylinder; working brake cylinders; hydraulic booster; pipes; the brake pedal (with fasteners) are integral parts of the hydraulic system.

**Answers:** B, C.

6. Manual number(s) entry:
Decide the order of numbering of cars.

| Class of an automobile | Car model serial number | Name of an automobile | Type of an automobile | Modification serial number |
|---|---|---|---|---|
| | | | | |

**Answer**

| Class of an automobile | Car model serial number | Name of an automobile | Type of an automobile | Modification serial number |
|---|---|---|---|---|
| 2 | 4 | 1 | 3 | 5 |

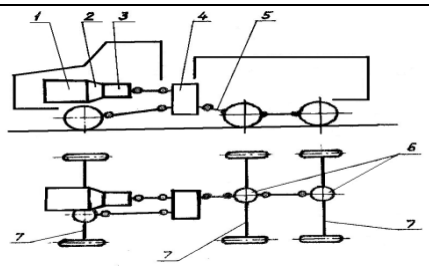
7. Manual text entry:

| | | |
|---|---|---|
| 1 | Automobile | |
| 2 | Passenger car | |
| 3 | Types of specialized cars | |

Answer:

| | | |
|---|---|---|
| 1 | Automobile | A road vehicle, typically with four wheels, powered by an internal combustion engine or electric motor and able to carry a small number of people |
| 2 | Passenger car | Motor vehicles with at least four wheels, used for the transport of passengers, and comprising no more than eight seats in addition to the driver's seat. |
| 3 | Types of specialized cars | Ambulance, fire-fighter truck, cargo vehicles |

8. Matching the numbers with the right parts:
List the parts of the car ZIL-131 in a right order.

| | | |
|---|---|---|
|  | 1-<br>2-<br>3-<br>4-<br>5-<br>6- | **Answer** |

**1** – engine;
**2** – mechanism of ignition system;
**3** – gearbox;
**4** – transfer (gear)box;
**5** – cardan transmission;
**6** – primary and differential transmission;
**7** – half-axles

9. Rearranging the letters:
Describe the types of hydromechanical oil (fuel) burners in A, B, and C:

| Toothed | Spherical | Catenary | Belt | Disk-shaped | Pin formed |
|---|---|---|---|---|---|
| A | B | C | D | E | F |
| D | **A** | **B** | E | F | **C** |

10. Filling the gaps:
A. All the work cycle processes that occur in the engine are carried out by a _____.
B. All processes in the engine run inside the _____.
**Answers:**
A. All the work cycle processes that occur in the engine are carried out by a **piston engine**.
B. All processes in the engine run inside the **cylinder**.

## RESULT

The non-standard tests help students of professional colleges gain theoretical knowledge on the subject "Structure, technical service and maintenance of an automobile" and develop their logical thinking, analytical thinking, decision-making, and help teachers to identify consequent consistency between these skills.

Designing and using non-standard tests with the help of MyTestXPro program helped students of professional colleges economize their time and promptly calculate the results in getting theoretical knowledge on the subject "Structure, technical service and maintenance of an automobile".

Most students did not demonstrate good results in answering the test questions at the initial stage of testing (low and satisfactory - 47%); at the final stage, they achieved good results with the ability to solve non-standard tests based on MyTestXPro (high and medium results - 69%).

## CONCLUSION

Thus, vocational colleges need an innovative approach to diagnosing and evaluating students' knowledge. ICT development allows using functional and technological capabilities of computer technologies in diagnosing and evaluating knowledge of students. gram serves this purpose. Educational practice in professional colleges confirms the effectiveness of designing and using non-standard tests with the help of the MyTestX program on the subject "Structure, technical service and maintenance of an automobile".

## REFERENCES

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