

WHY?

To enhance motivation for learning and student activity in secondary technical education program.

MOTIVATION AND CONSTRUCTIVE LEARNING IN SECONDARY TECHNICAL SCHOOL

RESULTS

Constructive learning increases student's motivation and enhances their activity.

Collaboration between students, interest in studying, real life problem solving and usefulness of learning material was also improved.

HOW?

1. Experiment:

Carried out in two groups.
Learning theme was Computer networks in both groups and was divided in two phases.
- Topic of the first phase was Introduction to computer networks.
- Topics of the second phase were Client server model and network services, Network devices.

2. Control Group:

Lessons were carried out in a traditional way. Teacher explained new topics on the board, students were listening and writing notes.

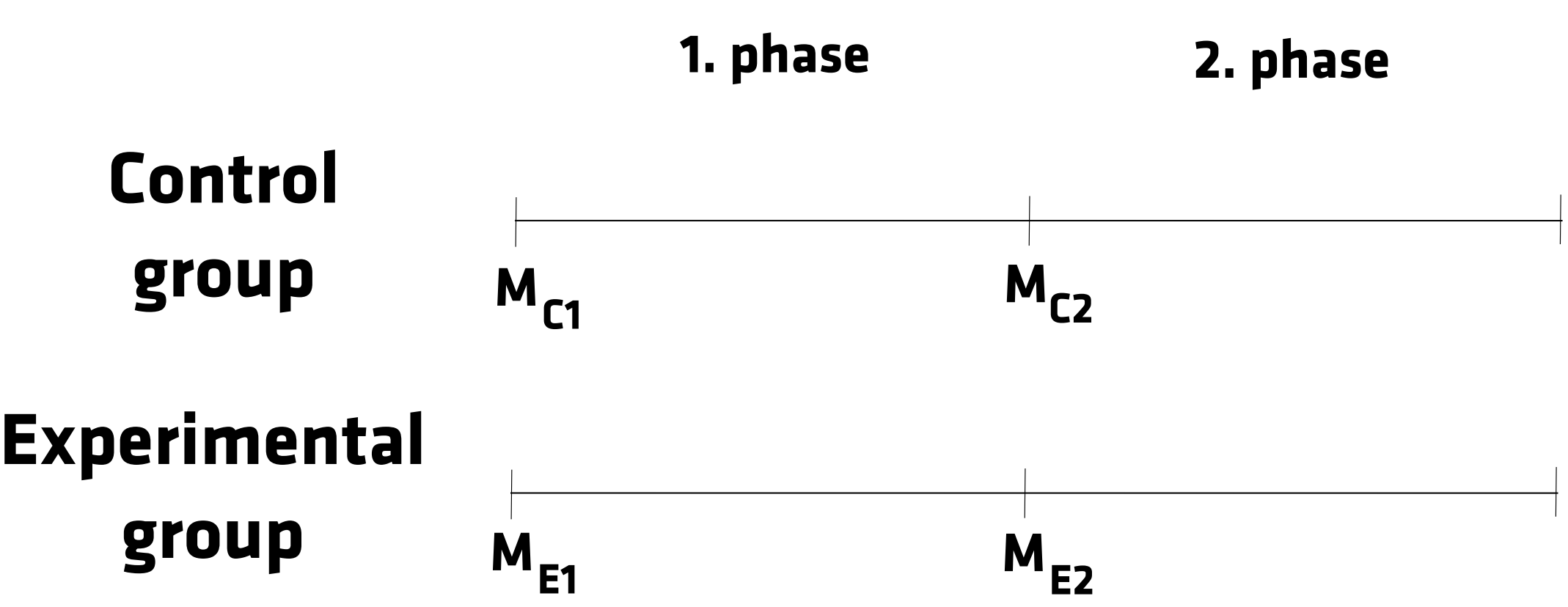
3. Experimental Group:

Students were grouped in heterogeneous groups consisted of four students and groups were given a series of tasks during each lesson. At the end of each lesson a small contest was made between these groups.

4. Measuring tool:

Motivation was measured with a short questionnaire prior each phase, which consists of 4 demographic questions, 20 statements and 3 open questions.

Note:
 M_C - arithmetic mean in control group
 M_E - arithmetic mean in experimental group
 $D_C = M_{C2} - M_{C1}$
 $D_E = M_{E2} - M_{E1}$
Likert Scale used in a questionnaire
1 - strongly disagree
2 - disagree
3 - neutral
4 - agree
5 - strongly agree



ANALYSIS

Sample size:

- Control group: 25 students
- Experimental group: 25 students

Interesting correlations:

| Statements | M _{C2} | M _{E2} | D _C | D _E |
|--|-----------------|-----------------|----------------|----------------|
| Good grade is a motive for learning for me. | 4,08 | 3,54 | -0,08 | 0,33 |
| I do homework, because I have to. | 3,35 | 4,04 | -0,29 | 0,41 |
| Teacher's excercises are too difficult. | 3,23 | 2,44 | 0,48 | 0,11 |
| I do not want to collaborate with my classmates. | 2,31 | 1,83 | 0,55 | 0,20 |
| If the teacher gives you opportunity to give your opinion, you can quickly see if you are thinking in the right direction. | 3,54 | 3,96 | -0,02 | 0,08 |
| I want to solve a problem by myself, not with help of a teacher. | 2,77 | 2,28 | -0,03 | -0,14 |

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