**Math knowledge and competences in Life Long Learning process**

*Vilnius, Lithuania, September 10, 2014*

**Speakers**:

1. Izolda Bražukienė, associate professor at the Vilnius University;
2. Algimantas Čeponis, employer of UAB „Darbo aplinka“;
3. Rasa Dauguvietytė, adult teacher of mathematics;
4. Mindaugas Geryba, adult teacher of ICT and mathematics.

**Participants**: adult learners and teachers from different adult education centers.

This seminar is connected with an idea that mathematic becomes essential in the lifelong learning process and there is a need to use mathematic in everyday life, in the workplace, that we need to explore mathematics for life, we need more practical knowledge. It is obvious that mathematic knowledge and competences have a great input in everyday life and in the workplace and we need to know what the situation is in different institutions, starting from adult education centers and finishing with universities. So we organized a practical seminar for the learners and teachers from different adult education institutions. The purpose of this seminar was to disseminate idea, that learning mathematics can be interesting, valuable and very meaningful practically.

In the context of lifelong learning, the definition of “mathematical competence” is based on the ability to solve problems in everyday contexts, and places emphasis on aspects of the process and the habit of using models of thinking (logical and spatial) and presentation (formulas, constructs, graphs, charts, etc.). It consists in the ability to identify structures and connections, repetitions and systematicity. Moreover, a positive attitude in mathematics is based on the respect of truth and willingness to looks for reasons and so assess their validity (EC recommendations "Key competences for lifelong learning", 2006).

1) **Izolda Bražukienė**, associate professor at the Vilnius University started with her presentation „Economical situation in Lithuania and practical math knowledge/skills of the students in the Vilnius University“. In this presentation we had possibility to hear the insights of an experienced lecturer, many years working in the Vilnius University. Izolda Bražukienė reported on economical situation in Lithuania nowadays and continued her report about economical knowledge and practical skills of Vilnius University students.

2) **Algimantas Čeponis**, employer of UAB „Darbo aplinka“ presented his ideas in the practical workshop „Practical skills of mathematic for the workplace“. Just as the level of mathematics needed for intelligent citizenship has increased dramatically, we need to increase the level of mathematical thinking and problem solving needed in the workplace. Algimantas Čeponis talked about the most common employers problems, related with lack of mathematical competence of employees in the work. He confirmed that the lack of practical knowledge of mathematics is really an important issue.

He presented very interesting ideas, related with study program of Practical Mathematics. <https://www.fmf.uni-lj.si/en/study-mathematics/practical-mathematics-I/> (the primary goal of the professional study program in Practical Mathematics is to produce professionals capable of application of their mathematical knowledge in the working process in communications and information technology, technology, logistics, and elsewhere).

Generic competences developed by the student:

* ability of critical assessment of solutions,
* ability of application of knowledge,
* ability of professional team work,
* ability to use and follow professional literature,
* ability to follow professional information on the internet,
* ability of written as well as oral presentation of professional reports,
* ability to adjust to new computer environments,
* understanding the role of advanced knowledge of information technologies,
* ability of identification of statistically significant differences,
* ability of lifelong self–education

Subject specific competences developed by the student:

* ability of employment of mathematical tools at practical problem solving,
* ability of identification of mathematical processes in professional environment,
* ability of result analysis,
* ability of presentation of results,
* ability of employment of mathematical tools in everyday environment,
* ability of initiation and conduct of software upgrade,
* ability of business process optimization,
* ability of mathematical modeling of technological processes,
* ability of employment of numerical methods at mathematical problem solving

3) **Rasa Dauguvietytė**, adult teacher of mathematics presented her ideas in the presentation „How to teach mathematics adults? Experience of different adult education centers“. Rasa shared her practical experience in teaching adults math and presented and introduced what mathematics teaching methods are used by teachers in other adult education centers. All participants of the seminar had the opportunity to try to solve some practical math tasks.

4) **Mindaugas Geryba**, adult teacher of ICT and mathematics finished seminar with a practical workshop „Knowledge of mathematics in a practical way“. Experienced adult teacher organized very interesting practical workshop for all students and teachers. We had the opportunity to make sure that the math is really very interesting science and we use the science of mathematics and knowledge of economics every day in our daily life.