Classification and Distribution of Teaching Methods and Approach
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Minutes

Participants

Lāsma Zaščerinska (Riga State Technical School), Sandis Breiers (Riga State Technical School), Anita Krišmane (Riga State Technical School), Natālija Karpova (Daugavpils Vocational School), Māra Bērente (Ventspils Technical College), Sandra Bidzāne (Riga State Technical School), Arita Ošiņa (Riga State Technical School), Uldis Heidingers (Riga English Grammar School), Romans Vitkovskis (Latvian Education Fund).

Profile of Experts

Uldis Heidingers holds a position of Project Development Director at Latvian Education Foundation supported Goerudio project. His main responsibilities include development and implementation of teaching and learning methodologies concerning the participation in project, as well as organization of student's volunteer's involvement and evaluation. He graduated Riga Polytechnic Institute (currently Riga Technical University) engineer's faculty at 1981. At 1995 he graduated the University of Latvia additional trainings in specialty of teacher of physics. Since 1985 Uldis Heidingers has been working in Riga English Grammar School as teacher of physics, for short moment he has also been involved in teaching of additional school subjects as astronomy, natural sciences and mathematics. Besides main duties he has been involved in various activities – has been a class leader for several classes, responsible for physics laboratory, as well as participated in project of bilingual teaching. Since 2009 Uldis Heidingers has been seriously involved in development of Goerudio additional training tool Project that after significant involvement of school staff and students received Latvian Education Innovation Award in year 2011. Besides the Project Uldis Heidingers continues to involve Riga English Grammar School students in various after-class activities such as international essay writing contest and competitions both locally and internationally.

Romans Vitkovskis

Member of Latvian Education Foundation board. Graduated Latvian State University in 1971, mathematics and for long time works as a constructor of information systems with high level of complexity. His parallel scientific work was in close connection with intellect modelling using theory of recursive functions and systemology. Since 1980 started creation on comprehension based method of textbooks, user manuals etc. In 1990 together with Latvian University (since 1990 recalled) organized establishment of Latvian Education Foundation. Since 1995 one of owners and head of the board of consulting company E&IC working in economics. Since 2009 one of owners and head of the board of company EM – methodologies working to develop comprehension use. Since 1983 Romans Vitkovskis is a member of Artists Union of Latvia, graphics, approximately 90 illustrated text books and books, 3 written and illustrated books.

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As an introduction Lāsma Zaščerinska presented the agenda of the meeting. Seminar was held in Riga State Technical School. The aim of the seminar was to disseminate the results achieved during the project by Latvian teachers. During two years of the project were realized tasks and activities to achieve project aims. With the cooperation with Professional Education Competence Centres in Latvia there were organized training seminars for teachers and involved in project activities: sharing, commenting and discussing on experiences, identified, commenting and discussion on relevant initiatives, development of Educational products. In three virtual meetings national results achieved was presented to project partners. Teachers involved in the project were trained to use Goerudio comprehension model method. During the project, were organized national

seminars in different regions of Latvia to disseminate the results and discuss on Goerudio comprehension model method. Project was disseminated in two conferences – in Brussels (2014) and Florence (2015). There were two publications on the Goerudio project.

Romans Vitkovskis did the first speech about classification of teaching methods and teaching approach by availability, accessibility, objectives and problems of distribution. His speech was based on the results achieved on the Goerudio project where relevant initiatives were collected and discussed.

Students and teachers are mostly concentrated on material and method attractiveness directed on teaching and remembering neither on new teaching and learning methods and have marked as good a number of initiatives using new technical equipment, internet, excursions, etc. Teachers are looking for universal teaching methods to use them to teach science subjects. There are teaching materials and methods but useful only in very specific area. Methodological materials are useful but not universal for obtaining a sustainable knowledge. There is need for a new, innovative approach to learning, creating persistent knowledge in the development of creativity and motivation to learn science subjects with interest. Modern learning typical trend is an excess of information selection and revision. To perform this task, the student must understand what to look for, what to select. If a student does not understand on what to focus, it is difficult to obtain knowledge, and it leads to lower motivation to learn. Comprehension model methodology is universal for creation sustainable knowledge. Created models can be used for other students or teachers to raise awareness. The learning by using model methodology brings more concreteness, not just descriptive. Models can be created by students themselves through understanding patterns of childhood experience, domestic situations, or other mundane things, parables that explain the incomprehensible. Learning tool www.goerudio.com is free of charge available for all the potential users.

Uldis Heidingers did his speech on the topic of developed education products highlighting the main work done by Latvian teachers and also analysing work done by partner teachers. Teachers in Latvia worked with model method with large interest involving their students. During training seminars they were provided with information about method, developed methodology descriptions and worksheets. The education product "Teacher recommendations" is made for teachers as methodological material with suggestions of how use model creation process in their lesson. It consists of description of evaluation criteria of students work. The education product "Student's worksheet for model evaluation" is made for use of evaluation of the model. It consists of description of the task and boxes to be filled in by student. There are described criteria for evaluation and student must give his evaluation, commentaries and suggestions for model improvement. The expected result of the education product is it's use in lessons during evaluation of the models. The education product "Student's worksheet" is made for use of description of the model. It consists of description of the task and boxes to be filled in by student. In the first part of the worksheet there is task to find and describe theoretical justification for the concept. In the second part student must create and describe model that explains the concept described earlier. In the third part student must translate his work in English. Together with students, teachers worked on Goerudio method in the classrooms and developed educational models and analysed them in next training seminars. There were created lot of models in field of mathematics, physics, chemistry, and professional subjects in themes of electricity and railway. Uldis Heidingers demonstrated created educational products on the Goerudio portal.

On the second part of the seminar Latvian teachers, involved in the project, presented their work done in their school. Sandis Breiers, teacher from Riga State Technical School, presented his lesson where students worked with comprehension model method, created models, analysed and evaluated team. Students made models about themes based on some actual events, or daily things. When there is connection between what student learn in school and some actual event it is possible to remember more easily and brighter the theory. Then students edited each other work and presented their own models in front of the class and later discussed about them. Sandis Breiers pointed out that model method is good type of teaching/learning method in schools for all age of students and he will continue to work with it. Natālija Karpova, teacher representing Daugavpils Technical School demonstrated her and her colleagues work done in the school. She is a teacher of professional subjects Railway Station Construction, Rules of Railway Technical Exploitation. On her lessons, students created models to explain some terms of railway witch made them to understand the complex themes. Natālija Karpova admits that it is not possible always to use model method for all the theory in her specific subjects, but for explaining terms and definitions, it is good and creative method and help students to

motivate to learn. Māra Beirente, teacher from Ventspils Technical College, presented work done in her school. She is teacher of mathematics and presented models made by her students. She mentioned that the main challenge is to evaluate created models and to explain students why the model is incorrect. But by these discussions comprehension of themes are clear for students and they score better in tests. The general overview and conclusion is that the model method definitely should be as part of teaching/learning process. It helps not to lose the interest of learning process and helps student to lead their own learning process by helping each other, searching information and explaining difficult themes.