METHODS OF DEVELOPING QUALITY EDUCATION

Amirova O'g'iloy Sultonovna
Teacher of physics at the military academic lyceum "Temurbeklar School" in Urgench

Abstract: The aim of this study is to determine the level of teachers attitudes with regard to the scientific literacy. To achieve sustainable improvements in scientific literacy, it is crucial for teachers to develop their own positive attitude toward science. The formation and development of learning skills lifelong is necessary to ensure the ability to investigate and to educate regarding to the new scientific developments. The panel members are selected from the highschool teachers in the historical region of Maramures. According to the findings, understanding the educational reality facilitates the actions, with clearly defined strategies, for strengthening the skills of scientific knowledge.

Keywords: literacy, attitude toward science, scientific competents, teaching science.

Introduction. New technologies currently dominate humanity. The Internet has allowed the development of knowledge relying mostly on Science. Science was the basis of the technological progress offering a form of knowledge accessible to all. On the other hand, to become active and responsible citizens it is necessary knowledge and understanding of the problems faced by mankind. Science Education contributes to the development of the ability of understanding of the most effective way to use science in daily life and social responsibility. Science Education has a beneficial role in the knowledge of the surrounding world. For a better understanding of the importance of science, it is necessary the familiarity with the scientific environment through a systematized knowledge. One of the most important objectives of Science Education is the development of scientific literacy. Information and scientific.

Scientific expertise. Approaches Scientific expertise developing is an integral part of the education system. Achieving the scientific literacy is a basic reason for all disciplines of basic sciences taught in secondary education. However, scenarios can be developed in the classroom and beyond. To resolve them students use scientific information in different ways; from assessment of sources and evidence used in media reports on science, to recognize the role and value of science in society the interpretation of the information and achievement of the quantitative tasks. The recognition and analysing of the methods used in the investigation, that lead to scientific knowledge and the ability to organize, analyze and interpret quantitative data and scientific information is the measure of the ability to use scientific literacy. The process of achieving scientific literacy covers two dimensions:

1. Curricular ;
2. Methodological. The curricular dimension comprises two components: scientific skills and content / knowledge / information conveyed;

3 The methodological size has also two components: methods and means used in the educational process for training and developing the most important skills for scientific literacy. Specialty literature focuses largely on scientific literacy in the compulsory education. The education policy documents and curricula provides recommendations that target skills and abilities such as

understanding communication about science; it deals with the problems of collecting, evaluation and data interpretation. These skills include conceptual understanding and also points of view on science and society. Curriculum reform underway, from Romanian education, has a positive impact on students in term of scientific literacy. The comparative analysis of the skills required by international assessment tests and competences provided by the National Curriculum in Science shows three coordinated equivalence: scientific explanation of the problems; Evaluation and projection of scientific investigation; Scientific interpretation of data and evidences. For this study we identified two categories of scientific literacy skills: 1. Skills on the recognition and use of investigation methods that lead to scientific knowledge and

4. Skills on organizing, analyzing, interpreting the data and scientific information. Proper management of content / knowledge in the classroom is a means to motivate the students to take seriously learning activities meant for scientific literacy. The dynamic exchange of scientific information, through the emergence of new resources and access to the internet, inevitebly pressurizes the incorporation in educational policy documents with suggestions for content and learning activities that facilitates scientific skills training. The information culture has in the research forefront two plans: transliteracy and metaliteracy. Thomas defines transliteracy in 2007 thus: „Transliteracy is the ability to read, write and interact across a range of platforms, tools and media from signing and orality through handwriting, print, TV, radio and film, to digital social networks." Mackey and Jacobson (2011) proposed a new term metaliteracy: „Metaliteracy is an overarching, self-referential, 170 Viorel Dragoș and Viorel Mih / Procedia - Social and Behavioral Sciences 209 (2015) 167 – 172 and comprehensive framework that informs other literacy types. Information literacy is the metaliteracy for a digital age because it provides the higher order thinking required to engage with multiple document types through various media formats in collaborative environments" (pg. 70). Transliteracy and metaliteracy are particularly important for the information culture in the scientific disciplines, thnaks to the proliferation of open access materials, various digital repositories available online for sharing, and online blogs, research and forums. The argumentation and scientific reasoning are important for the development of scientific abilities and yet often missing from the scientific learning efforts. The information and information science are in a constant evolution, which is why the students must prepare to meet the challenges of this ever-changing information landscape. Students must be given the tools they need to stay current with this department. Which are these tools? What to do, with which methods? In this sense, the meaning of information culture has exceeded the original definition as being the ability to recognize information. When information is needed, we rely on the ability to locate, evaluate, and use effectively the needed information. Students' perception of understanding scientific literacy improves their motivation and for the teachers the understanding of scientific literacy leads to the science of literacy. This one in turn helps them to design scientific literacy curriculum and to develop classroom activities adapted to students attitudes and expectations. Description of the samples The research population is made up of teachers who work in schools in the historic Maramureú area. The samples consist of 92 professors with major in primary school pedagogy and major in sciences, physics, chemistry, biology. The sample distribution on education level is next: 32 teachers (34,78%) come from the primary school; 26 teachers who teach science (28,26%) come from secondary school; 34 teachers who teach science (36,95) come from high school. One of the selection criteria of the samples is to ensure the representativeness pre-university education levels. Practically there are represented all curricular cycles in which the common core includes

disciplines through which the scientific literacy. The numbers for secondary school sample is lower than the other two because the number of hours allocated is less to accurate disciplines. Other sample selection criteria are the teaching experience of teachers and students school performance. The teaching experience of teachers is reflected in the education experience: 36% of the teachers have over 20 years education experience; 48% have between 5 years and 20 years education experience; 16% have less than 5 years experience. The criterion relating to the school performance is based on students' results at national assessment at the end of every educational cycle. The collection of data The present study, by invoice ameliorative-ascertaining, aims to capture the attitude of teachers in relation to the process of scientific literacy in the compulsory education. We watched science teachers' opinions with regard to what it means for them scientific literacy; the importance which attaches to the design, organization and conducting didactic activities to the science. Also, we have been interested in the possible influences of curriculum and teaching methodology in the development of teachers ' attitudes on scientific literacy; if these constitute variables which are influencing the attitude of teachers and, eventually the existence of significant relations between attitudes and variables. The main instrument used for collecting data was the questionnaire. The participants were from Maramureú; all have an academic training, different experiences teaching in primary, secondary and high schools. The questionnaire is structured on three categories by teaching staff: teachers primary education "TPE"; teachers secondary education, "TSE"; teachers high school education "THSE". The questions from the questionnaire refer to: the impact of curriculum reform on the process of scientific literacy; measurable competencies critical for scientific literacy; important skills for the scientific literacy; the quality of the sources (content/information) constitutes integral part of the analysis of scientific arguments; the correlation between curriculum reform and the interest to find ways to assess the development of scientific literacy to students in the context of science disciplines.

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