

**Zmiany w nauczaniu chemii w zreformowanych szkołach od
I do III Rzeczypospolitej**

**Changes in the teaching of chemistry in the reformed schools
from the first to the third Republic of Poland**

SUMMARY

The paper presents the change of the aims and methods of teaching of chemistry in secondary schools in parallel with the progressive development of education in Poland. The author describes the results of two essential reforms introduced when Poland was politically independent: in 1773-94 (1st Republic of Poland (RP)), in 1932-33 (2nd RP) and the move to reform intended to be carried out in 1999-2005 (3rd RP).

Until the middle of the 18th century education in Poland was the same as in other European countries of Latin-Christian civilisation. Almost all time was spent on classics. Secondary schools were run by Roman-Catholic clergymen, mainly by Jesuits or Piarist fathers. Piarists extended their curriculum particular to include science. Experimental physics was introduced in the Piarist Collegium Nobilium in Warsaw in 1746. The task of teaching of chemistry as a part of physics was defined on the grounds of Newton's Natural Philosophy and because of the utility of chemical processes. The reform introduced (1773-94) by Commission of National Education was founded mainly on the idea and experience of reformed Piarist schools. In 1793 science was taught in all (72) secondary schools, some of which had laboratories. Physics (chemistry, botany, geology etc.) was taught twenty four hours a week (II to VI class). Deductive argumentation, old learning and reciting methods were replaced by inductive ways of thinking based on experiments. At the end of 1st RP reformed schools gave a good education, the main object of which was to train the character by learning. The cultural heritage of Poland, its national and religious tradition helped Polish teachers to keep secondary schools on a satisfying level through the occupation that lasted more than one century. The teaching of chemistry was seen as giving rise to the development of industry and agriculture – restrained by the occupants.

In 1932-33 secondary schools were divided into two parts: 4-year gymnasium and 2-year lyceum. A modern curriculum was introduced. Chemistry was taught in gymnasium on the basic level. In lyceum, depending on its type, the programme of chemistry attended to some aspects of technologies and history of chemistry. Experimental teaching was recommended. Some schools were perfect (e.g. high-school in Rydzyna where Piarist tradition was continued).

The new move to reform was urgently expected in the 80-ties and specially after 1989 (3rd RP). More than 40 years of communism changed Polish schools radically. The secondary school (4-year lyceum) trained for the job, rather preparing for life in society and shaping the character. The curriculum (one for all schools) after many changes resembled academic disciplines. The main task was to prepare pupils to pass exams for universities. The teaching of chemistry was based mainly on facts. Its utility almost disappeared. The reform expected to start in 1999-2000 is noticed as a comeback to traditional Polish education with its high position of school and teacher. Chemistry will be taught in the 3-year gymnasium on the basic

level and in the 3-year lyceum where pupils will be allowed to choose its curriculum according to their interests and attitude. It is believed that the teaching of modern chemistry, physics, biology etc. using also case histories will help pupils to feel the simplicity and wholeness of the relationship which nature spreads before us and that it will make them wiser, more civilised, more human.

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