

## ECTN – Links with Schools: Examples of good practice, Part VI

Starting from ECTN-Newsletter 1/2005 the Links with Schools-Group within the ECTN will regularly provide examples of how to cooperate between HE institutions and schools. The example of this issue is coming from the Jagiellonian University Kraków, Poland. It reports a journal for teachers and students about chemistry. In addition a short survey about the perception of chemistry among Polish students and teachers from the Jagiellonian University is reported.

### Niedziałki - A Chemistry Journal for Teachers and Students

By Anna Kolasa  
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The Department of Chemical Education of the Faculty of Chemistry of the Jagiellonian University in Kraków is responsible for publishing a special journal for those, who are interested in chemistry. This journal is called „Niedziałki”. This no more used but meaningful (something that cannot be divided) Polish word, was invented by Professor of the Jagiellonian University Emilian Czyrniański (1824 – 1888) to describe moving particles – pre-atoms. In this way the title is both intriguing and connected with the history of the Faculty.

The whole story started in December 1994 with the first issue in modest setting of only 4 pages. In the meantime the journal reached 60 issues and at present it has a form of a small booklet of 24 pages with coloured hard cover. Since 1998 the journal has been financed partly by the European project Tempus JEP-12236-97 “TRUCS”. Since 1998 it is also recommended by the Polish Chemical Society for schools. The continuation of publishing is now possible due to the Foundation PRO-CHEMIA operating at the faculty and because both the editorial office (Zofia Kluz, Michał M. Poźniczek) and all the authors are treating this activity as a mission and are working for free.

*To whom this journal is addressed?*

The journal is addressed mainly to teachers but also to students and interested pupils. The edition has reached now 1000 copies that are subscribed not only by Polish schools but also by readers' abroad (e.g. Polish schools in Lithuania and the Ukraine, Pedagogical Academy in Hradec Kralove in Czech Republic).

*How about the authors of articles published in the journal?*

They are mainly scientists active at the Faculty of Chemistry of the Jagiellonian University but also scientists from other universities, many teachers from various schools, also students from our faculty.

*What is the goal?*

At the very beginning the idea was to report some important events organised by the faculty: yearly two sessions for teachers with interesting lectures, poster sessions and discussions; appointments with interesting chemistry; open days of the faculty connected with the possibility of visiting laboratories; post-diploma studies for teachers of chemistry and science teachers. In fact all this events have found much place in the journal, e.g. usually the shortened versions of lectures presented at sessions for teachers are published in “Niedziałki”.

But now the aim of the journal is:

- To popularise various aspects of chemistry and its achievements
- To turn attention of readers to history of chemistry

- To disseminate the interesting ideas and the best solutions in teaching and learning chemistry and related subjects (e.g. how to introduce difficult subjects, how to avoid popular mistakes, how to prepare more interesting lessons)
- To transfer various information concerning e.g. chemistry knowledge competitions organised by the faculty, reform of education etc.

Both readers and authors hope that this useful activity will help to improve teaching/learning process also in the future.

(based on an article by Z. Kluz and M.M. Poźniczek published in *Nauka*, **2000** (1) 199-204)

### **Rating according to ECTN criteria**

*Is the link personal, reliable, and cooperative?*

YES. The faculty staff takes itself in charge to publish a series of issues over a long time.

*Is the link acknowledged, networked, and is support available?*

YES. The link was networked with an EU-Tempus project and is now supported by the faculty's foundation PRO-CHEMIA.

*Is the link visible?*

YES. The link is visible by the distribution of 1000 copies of the journal to Polish schools and beyond.

*Is the link attractive and helpful for the students?*

YES. The link allows teachers and students to get insights into universities activities for schools and about actual questions of chemistry and chemical education.

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## **Image of chemistry among students and teachers**

By Iwona Machiejowska  
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Out of many initiatives serving the purpose of increasing the motivation of „non-chemistry” students to learn chemistry in the Vth Liceum - upper secondary school in Krakow creating a student's portfolio was proposed.

The students' task was to collect press cuttings on chemistry-related issues over a certain period. However, it was not up to the student to decide which press cuttings belong to this category. Students were asked to gather information which contained names of chemical compounds or processes. This was meant to avoid classifying newspaper cuttings as related to chemistry on the basis of this particular word (chemistry). One of the aims of this task was to check whether the image of chemistry emerging from the students' portfolios would really be as bad as its image among teachers seems to be (even in students' text books). Newspaper cuttings from Polish professional periodicals such as e.g. *Przemysł Chemiczny* (Chemical

industry), *Chemik* (Chemist), *Chemia w Szkole* (Chemistry in School) were not allowed.

During the summary lesson, the students presented mainly interesting news from the field of pharmacy, medicine, cosmetics and textile industries etc. Not more than 20 per cent of the information referred to fires, explosions, poisonings. While discussing the collected press cuttings, an attempt was made to change the negative image of chemistry as destructive and polluting to the image of chemistry which „provides food, medicines and clothing” - the image that was popular in the 1970s and has been becoming more and more true over the recent years again.

The collected press cuttings are now used by the teachers as a source for case study material.

In 2004, the Board of the Polish Association of Science Teachers (PSNPP) developed the survey regarding the attitude of the teachers towards preparation and results of education system restructuring. One of the questions sounded: does the subject you teach enjoys sufficient prestige and understanding of its rank in the population? 97 teachers, (members of PSNPP) responded to this question. This is only a minor proportion of Polish teachers, the answer, however, seems to be typical for the tutorial environment. 61% of chemistry teachers believe that the subject they teach still suffers from the absence of the sufficient prestige in the population (like biology and geography teachers), while the teachers of physics see this problem even worse (72%). On the contrary, the teachers of science (as an integrated subject in primary level of education) present a different opinion - as many as 65% of them believe that their subject is well perceived by the population.

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