



Chemical Society Annual Report to the EuCheMS Division of Chemical Education for 2019-2020¹

1. Corona highlights

By March 11th, schools and universities were shut down. Staff had to work from home. On-line teaching was intensified or introduced throughout the educational system. Laboratory classes and written and oral examinations were cancelled or postponed. Grade 0-5 were invited back to school one month later and grade 6-12 got back in June.

In mid-April, health-related research at universities was encouraged and intensified and later laboratories were opened to Ph.D. students and master students, working on their thesis, and their supervisors. All research in laboratories was gradually allowed in the early summer. Some lab courses were run in June.

A recent survey reveals that a majority of students are not satisfied with on-line teaching only.

2. National educational policy

During this year, the new (centre-left) government has introduced several changes:

- Higher priority has been given to public “green” research funding in line with the national 70% carbon dioxide reduction goal for 2030
- The general governmental 2% budget-saving act (having cut university budgets annually for several years) has been cancelled.
- More degree programmes in English at universities are gradually allowed.
- Complicated administrative admission rules for the upper secondary school (grade 10-12) are being simplified.
- Previously, you were not allowed to study for a degree if you already had one in a different subject at the same level (typically a Bachelor’s degree). This rule has been part of the former government’s priorities since education is free in DK. The rule has now been cancelled.
- Enrolment into university studies are mainly based on grades from the upper secondary school leaving certificate when the number of applicants exceeds the

¹June 2019- May 2020, all levels of chemistry education: primary, secondary schools, universities, LLL, general and vocational education.

available place. However, a minor quota of the uptake is based upon a personal application including a CV containing other qualifications, disregarding the grade. A lot of time is spent to evaluate these (typically older) applicants and it is considered to introduce an uptake-test to reduce the time spent.

Universities are engaging in The Sustainable Development Goals and it is considered how degrees can become more "green".

3. Events in chemical education

As usual, universities arrange "open house" or visiting days with lectures and demonstrations preferentially for upper secondary school classes. The format and volume varies from university to university. Chemistry has of course been involved in such activities at the universities. "Order a researcher" is a PR-reformulation of the opportunity to get a lecturing researcher to an upper secondary school. Some universities hire some of their own students to perform "chemistry road shows" at local music festivals and other events to get in touch with young people. It seems as if increasing efforts (and money) are put into such enterprise in order to get students into science.

The Danish participation in IChO's for more than 25 years is a well established annual event which is sponsored by industry and universities. The 2019 IChO in Paris resulted in one gold and three bronze medals to the Danish participants. The Danish team prepares for the 2020 IChO in Turkey.

4. Activities of the National Chemical Society

The **Division of Chemical Education** of the Danish Chemical Society is closed, since it is not backed up by university and industrial chemists in The Society. Other priorities apparently exist among university chemists. It has not been possible to appoint new member(s) for the DivCEd council, even from the relatively new departments of science education at a couple of universities. The chemistry teachers of the upper secondary school are by tradition organised in the Chemistry Teachers Association with roughly 800 members. This association is still operating with meetings and a little joint journal in Danish together with mathematics, physics and (the new subject) biotechnology in school.

5. Publications

The national peer reviewed journal in Danish on science and mathematics education, "MONA" (an acronym for mathematics and science), covers science and mathematics education issues from early school to university level. If a direct proportionality between the difficulty of a subject and the number of contributions to the journal existed, chemistry is not a very difficult subject, while mathematics is very much so, especially at the primary and secondary levels.

The monthly Journal "Dansk Kemi" (Danish Chemistry) has focus on applied and industrial chemistry, although it brings news of interest to chemistry teachers and from time to time material directly related to chemistry teaching.

6. Name of delegate and deputy

Jens Josephsen – retired – is still seeking for a new delegate

7. Contact details of delegates.

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