

## **CEMO long-term plan for academic and administrative positions**

Approved by the CEMO Board: 8 June 2022

The purpose of this long-term plan for academic and administrative positions is to support future recruitment processes at the Centre for Educational Measurement at the University of Oslo (CEMO; <https://www.uv.uio.no/cemo/english/>). Plan (1) describes briefly CEMO's development since it was founded in 2013 (2) before it details the types and profiles of positions in relation to CEMO's strategic objectives concerning research, teaching, outreach, and administrative support. (3) Finally, conclusions are drawn regarding future recruitment processes.<sup>1</sup>

### **1 Development of CEMO**

CEMO opened in spring 2013 after the Faculty of Educational Sciences had won the funding competition for a Centre for Educational Measurement in Norway, as announced by the Norwegian Ministry of Education and Research. The Ministry's expectation for the grant was that the Centre should develop into an international research unit that conducts basic and applied research within educational measurement and assessment, as well as early childhood, primary, secondary, and higher education. In addition, the Centre was expected to develop educational measurement competence in Norway and the Nordic countries by counselling stakeholders and teaching bachelor's students, master's students, PhD candidates and practitioners.

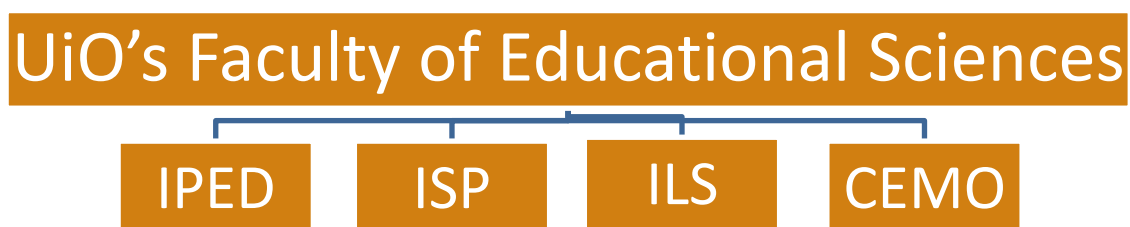
The grant lasted for a total of 10 years divided up into two five-year periods. An extension following the first five years was granted after an external evaluation carried out in 2018 by a committee comprising Stephen G. Sireci (Center for Educational Assessment, University of Massachusetts Amherst, USA), Torberg Falch (Department of Teacher Education, Norwegian University of Science and Technology, Norway), Pamela Sammons (Department of Education, University of Oxford, UK), and Sissel Skillinghaug (Norwegian Directorate for Education and Training, Norway). The Faculty of Educational Sciences has been matching the external funding with a similar amount of financial support throughout the 10-year period. In the future, CEMO will receive funding the same way as any other regular unit at the Faculty of Educational Sciences.

---

<sup>1</sup> Note that CEMO is leading a large application for a Centre of Excellence together with researchers from the other units at the Faculty of Educational Sciences. If the application succeeds, major structural changes will take place that have not yet been included in the present plan.



CEMO was built up as part of the Faculty of Educational Sciences on the same hierarchical level as the three existing departments: the Department of Teacher Education and School Research (ILS), the Department of Education (IPED), and the Department of Special Needs Education (ISP) (see Figure 1):



*Figure 1.* Institutionalisation of CEMO

Growth in the number of employees has characterised the time since CEMO opened in 2013, due to its success with external grants and other factors. As of January 31, 2022, CEMO includes 27 employees from 16 countries: five (associate) professors (including the director), two postdoctoral fellows, 13 PhD candidates, three administrators (a fourth position is in process), and four adjunct professors (10-20% positions at CEMO while their main employment is elsewhere). In addition, an associate professor from the Faculty of Medicine has an affiliation at CEMO. Furthermore, the Centre announces each year a Gustafsson & Skrondal scholarship. A varying number of student assistants working on an hourly basis completes the team.

The highest decision-making body at CEMO is the CEMO Board. It has six members: two representatives of relevant scientific communities at the Faculty of Educational Sciences (appointed by the Faculty Board), two CEMO employees (elected by the groups of permanent respective fixed-term employees), one student representative from CEMO's master's programme (appointed) and one representative of relevant external communities (appointed). The CEMO Board meets about three times per year to approve the CEMO budget, CEMO's position plan, the director's progress report, CEMO's three-year plan of research, teaching, and outreach activities, and the employments of permanent team members.

In 2016, CEMO established an International Scientific Advisory Board to receive feedback on the Centre's activities from renowned and highly experienced international colleagues (<https://www.uv.uio.no/ceмо/english/about/organization/international-advisory-board/>). The Board also promotes research between CEMO and other international research centres. It comprises four members who meet once a year with the CEMO team. As of January 31, 2022, the members are Cees A. W. Glas, University of Twente, The Netherlands; Stephen Sireci, University of Massachusetts, Amherst, USA; Petra Stanat, Humboldt University of Berlin, Germany; and Carolin Strobl, University of Zürich, Switzerland.

Since 2018, CEMO has had a master's programme with 20 study places that awards a Master of Science in Assessment, Measurement and Evaluation degree. The programme trains students to become measurement specialists in the social and behavioural sciences. They earn 120 ECTS by training in quantitative methods and statistics with an emphasis on educational measurement and use of the software environment R for statistical computing and graphics; they also write a master's thesis, which comprises 40 of the total ECTS

(<https://www.uio.no/english/studies/programmes/assessment-evaluation-master/index.html>).

Most classes are open for PhD candidates, thus CEMO provides substantial methods training for young researchers. CEMO also occasionally organises workshops for policy-makers and test developers.

A central part of CEMO's scientific outreach is a bi-weekly open Brown Bag seminar where junior and senior researchers informally present their research to colleagues. The Centre in addition organises high profile talks with international colleagues and larger scientific conferences such as the Standard-Setting conference in 2015 or the Psychometric gathering in 2021. Since 2018, CEMO has organised the bi-annual "Frontier Research in Educational Measurement (FREMO)" conference, although the 2020 conference had to be cancelled due to the pandemic. CEMO is also visible on social media where both Twitter and Facebook are used to spread information about CEMO's activities.

## **2 Types and profiles of positions in relation to CEMO's strategic objectives**

CEMO's mission is to promote pioneering research in the field of educational measurement and assessment. It aims to offer research-based education and to ensure that research-based knowledge is employed in the field to solve the challenges of the educational assessment systems in Norway and the Nordic countries in a sustainable manner and with high quality. To accomplish these goals, the Centre needs a stable infrastructure and a clear and recognisable profile in line with the responsibilities established when CEMO was founded.

### **Academic positions at CEMO**

To guarantee both synergy and breadth, CEMO's research profile includes four strands that cover the field of educational measurement from different psychometric-statistical and educational-psychological perspectives:

- 1) Research on "Modern test design" is based on an item-level validation framework. The main characteristics of this approach are the use of theoretical item models defining radical and incidental item features, explanatory item response models, automatic item generation

and pre-calibration to systematically build effective item banks, and adaptive testing for efficient test administration.

- 2) Research on "Statistical methods for innovative assessments" is directed towards the development of new methods for analysing innovative tasks, repeated measurements, and process data as well as to apply the methods in analyses of educational assessments. The areas of application are, for example, within the Norwegian national assessments, international large-scale assessments and small-scale computer-based learning platforms.
- 3) Research on "International large-scale assessments" pays particular attention to the challenges and opportunities related to the longitudinal nature of these assessments at the system-level and to the measurement challenges associated with an implementation of these assessments across widely different languages and cultures and within countries.
- 4) Research on "Educational measurement in the Norwegian context" is specifically directed towards primary and secondary schools in Norway. The emphasis is on linking the assessments available to receive information about student progress during schooling and trends in student progress over a longer period. By linking the test scores to other data (e.g., register data), the context of student progress can be taken into account.

The research group "Frontier Research in Educational Measurement (FREMO)" is organised along this research profile (<https://www.uv.uio.no/english/research/groups/fremo/>). The four strands also represent the guiding principles for recruitment. The intention is to have one professorship (besides the Centre director) with a strong specialisation in each of these four strands. However, to avoid barriers between the different specialisations and to support collaboration, it is a strategic priority to recruit people that are highly qualified in at least one other strand. Furthermore, each professor is heavily involved in the master's programme so that teaching experience in several of its areas are a necessary qualification. We expect that this structure of CEMO positions will be more or less stable over the course of the next five to ten years, to some extent depending on future success with external grants (unless the application for a Centre of Excellence will be successful which will come with major structural changes). A vulnerability is that a centre with such a small size can hardly compensate for turnover. Recruitment has been successful in the past, but international researchers are by definition quite mobile so that changes in the permanent staff are very likely.

Compared to the other units at the Faculty of Educational Sciences, CEMO has relatively many full professorships (three, excluding the Centre director) in relation to associate professorships (one). This was an explicit decision since there are several senior functions to be covered (such as study leader and research leader; more about this below). All permanent academic positions have an even distribution of time for research and teaching/ administration. Out of the five professor positions, four professors are male while the Centre director is female. Three of the four adjunct professors are male. In contrast, the gender composition is more balanced on the young researcher levels: One out of the two postdocs are female, and seven out of the 13 PhD candidates are female.

The strategic aim is to distribute recruitment positions evenly across the four strands to support the respective research. However, given the small size of the Centre some fluctuation is to be

expected over the strands. The Centre's position plan comprises one postdoctoral fellowship and three PhD positions. CEMO has also currently ten PhD candidates and two postdocs due to success with external grants or savings from earlier CEMO years. All permanent academic employees are expected to apply for external grants so that a chance exists to have at least one externally-funded project at all times. The additional PhD and postdoc positions that this gives us is crucial to helping us achieve our vision to be an internationally highly-acknowledged research centre delivering the next generation of expertise. On average, CEMO submits two to three grant applications per year to the Research Council of Norway and/or other funding agencies. This explicit strategy to focus on training the next generation of educational measurement specialists means that all CEMO professors use a substantial amount of their teaching time on PhD supervision and postdoc mentoring.

Given that the number of CEMO professors is limited, each professor at CEMO has larger administrative responsibilities. In addition to covering all the permanent senior functions (see below), the relative proportion of involvement in ad-hoc committee work is also higher for the permanent staff at CEMO. Besides the Centre director, there are also the roles of CEMO co-director, research leader (incl. PhD coordination and PFU membership), study programme leader, FREMO research group leader, and postdoc coordinator. Moreover, every professor can upon application be granted one year's research and educational leave after six years of employment (or a six-month leave after three years). However, the teaching responsibilities with respect to CEMO's master programme make it desirable to grant such applications during a semester where the professor has a low teaching load. In cases where the teaching duties remain, it would be beneficial for the Centre's economy to have the sabbatical (partly) funded by an external grant to allow for hiring replacements.

In light of the teaching capacity available, the teaching responsibilities required by the master's programme cannot fully be covered by the CEMO professors. In practice, this means that CEMO includes, to some extent, postdocs and PhD candidates in its teaching, which is regarded as highly beneficial for their career. It provides them with the experience required for positions as (associate) professors anywhere in the world. These groups therefore receive four-year contracts where one year mainly is devoted to teaching. While postdocs teach largely independently from the start of their contracts, PhD candidates largely serve as teaching assistants with only small independent teaching tasks at the beginning, gradually developing into instructors with larger responsibilities. This begins with single lectures and later involves taking over parts of a course or, if possible and necessary, organising an entire course. PhD candidates aiming for an academic career also have the opportunity to apply for participation in the university pedagogy course offered by UiO. However, competition is fierce here and priority is given for permanent employees from UiO's side. Beyond these groups, CEMO can hire another adjunct professor to strengthen research and teaching. Currently, there are four adjunct professors at the Centre who can be related to three of the four strands of CEMO's profile.

## **Administrative positions at CEMO**

In line with the growth of academic positions, the administration has over the years been extended from two positions (an administrative leader and a higher executive officer) to 3.6 positions to be able to match the increase in research and teaching support tasks. CEMO's position plan for administrative positions comprises an administrative leader (100%), a study administrator (100%), a higher executive officer (100%), and a research administrator (60%; currently in process). These positions are profiled in a way that they can substitute each other on crucial fields in case of sick leave or vacation. All current administrators are female.

### **3 Conclusions for future recruitment processes**

None of the CEMO team members approaches retirement age within the next ten years. However, this does not mean that there will be no recruitment. PhD and postdoc positions are fixed term, so there will be a continuous process of renewal. Our intention is to announce one of these positions each year to achieve a stable group size. With the international profile in the permanent academic staff, we should assume that CEMO has a higher than normal mobility, and turnovers are likely to occur. Furthermore, the experience is that the administrative team members also are quite mobile with respect to new tasks or employers.

In conclusion, the assumed mobility of CEMO employees represents a challenge in terms of being able to replace the current employees. However, this also comes with the possibility to evaluate and adjust the composition of both academic and administrative staff according to possible future changes in the Centre's strategic aims. Furthermore, this represents a good opportunity to achieve a better gender balance on all levels.

As presented above, the Centre's teaching capacity is vulnerable given the many administrative roles that need to be covered and the Centre's ambitious research aims. Time demands with respect to writing applications for external grants and publishing articles in internationally renowned journals are high. CEMO does very well in these respects, and it will be important to keep these efforts up for the sake of high-quality contributions to the field of educational measurement, but also due to the outcome-based funding principles in place at Norwegian universities. We will therefore aim at using our adjunct professor positions in the future mainly for teaching purposes but including master's thesis supervision. Moreover, we are exploring opportunities to include colleagues from the other units at the Faculty of Educational Sciences. We have already accomplished an agreement with the Department of Special Needs Education regarding one course. In the long run, the ideal solution would be to expand the team with a lecturer or senior lecturer position with 75% teaching time. For appointment, a master's degree is the minimum requirement but since this is a university position with teaching duties related to advanced measurement topics and research tasks, we will aim for a candidate who has a PhD. However, we expect that filling such a position will be challenging given that we need to recruit a person with

substantial measurement expertise who would be willing to accept a relatively high teaching load. The aim is therefore to provide the opportunity of promotion to docent based on accomplishments. Moreover, establishing a new position requires a stable long-term budget which involves an increase in the outcome-based parts of the CEMO budget, in particular study point production and the number of master's graduates.