2018

CEMO

Centre for Educational Measurement

ANNUAL REPORT

UiO : Faculty of Educational Sciences
University of Oslo

The Centre for Educational Measurement at the University of Oslo (CEMO) is an international research unit which conducts basic research on educational measurement and assessment as well as applied research with advanced quantitative methods with the goal to to solve challenges of educational assessment systems and, thus in the long run, to promote student development and educational quality. CEMO develops measurement and assessment competence in Norway and the Nordic countries by teaching Bachelor, Master and PhD students as well as practitioners, and by counselling stakeholders. The Centre collaborates with similar units in many other countries and is part of a large international research network.

CEMO 2018 IN BRIEF

The Centre for Educational Measurement at the University of Oslo (CEMO), chaired by Sigrid Blömeke, includes more than 20 team members: four (associate) professors, four professor IIs, three postdoctoral fellows, nine PhD candidates, three administrators and four student assistants. CEMO is now in its fifth year and thus in its consolidation phase where the main task is to develop sustainable research, teaching and outreach activities.

An external evaluation has taken place this year that acknowledged our outstanding quality and provided valuable feedback on our mission, activities and organizational structure. Based on that, we developed a strategy on how to transform into a permanent centre.

In 2018, CEMO's first PhD candidate Stephan Daus submitted his thesis to the Faculty of Educational Sciences. After four years of employment at our centre, he could immediately go over to a permanent research position at a Norwegian institute. With Associate Professor Björn Andersson, CEMO was able to recruit an expert on the estimation and application of latent variable models. In addition, study coordinator Siri Heslien joined the team and has been a valuable support in building up our Master of Science in Assessment and Evaluation program.

CEMO had again huge success with European funding in 2018: Professor II Henrik Daae Zachrisson received an ERC Consolidator grant which is among the most prestigious funding an individual researcher can receive. He was also successful with his application for a professorship at the Department of Special Needs and moved there in the fall.

Based on the external evaluation and in line with the objectives of the Faculty of Educational Sciences, CEMO undertook a major reform of its internal structure in 2018 by establishing the research group "Frontier research in educational measurement" (FREMO). FREMO hosted right at its start a very successful international research conference under the same label.

More than 40 scientific articles were published by CEMO (co-)authors in 2018. The majority of these appeared in journals on the highest quality level (2) according to the Norwegian publication system. Highlights specifically targeting the Norwegian and Nordic audiences were a book about 20 years of international large-scale assessments in Norway and a special issue on national assessments in the Nordic countries of Acta Didactica.

Both the CEMO director and co-director were involved in large evaluation processes of national assessment systems: Rolf Vegar Olsen in Denmark and Sigrid Blömeke in Norway. CEMO team members are in addition part of several editorial boards and expert groups. These functions may indicate that CEMO is recognized externally as a strong institution.

Our Master of Science in Assessment and Evaluation has successfully started in August 2018. As it is typical with new programs, a lot of challenges came with the implementation of the program but so far students and teachers are enjoying the classes and discussions. CEMO has in addition contributed with PhD supervision and a range of teaching activities at other research units. During 2018, CEMO further developed both the Norwegian and English websites. Numbers of followers on social media increased significantly.

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1 THE DIRECTOR'S COMMENTS

CEMO's mission is to promote pioneering research in the field of educational measurement and assessment, to offer research-based education and to ensure that research-based knowledge is employed to solve challenges of the educational assessment systems in Norway and the Nordic countries in a sustainable manner, with high quality and by making the best use of existing expertise. As Centre Director it is a pleasure for me to conclude that we continue to succeed with this mission and to reach or even outmatch our yearly objectives.

The most important achievements this year were certainly the outstanding results of CEMO's external evaluation, the start of our Master of Science program in Assessment and Evaluation (MAE), our first "Frontier Research in Educational Measurement" (FREMO) conference, and the delivery of the first PhD thesis written at CEMO. On top of new and ongoing research activities, 2018 can therefore be regarded as another record-breaking year for CEMO.

We were very happy to receive the conclusion of the evaluation committee, consisting of renowned international and national researchers as well as stakeholders, that "CEMO has been successful in fulfilling its stated mission and has made important contributions to the University of Oslo, to the Ministry of Education, and to the educational measurement field. (…) The External Committee was impressed with the accomplishments of CEMO and with the care and concern it has for contributing high quality research, teaching, and outreach." The committee's recommendations how to continue were invaluably helpful.

Activities related to establishing the MAE have had a dominant place at the Centre this year. Planning all the new courses, welcoming the great international student crowd that had passed the selection process and accepted our study place offer, teaching them, dealing with unexpected challenges, seeing the results of the first exams was a lot of fun. The Faculty of Educational Sciences acknowledged our success by providing funding for additional seven study places so that the start of the program is now fully financed. It will be exciting to see if the word has spread so that we again can count on many applicants for next year.

In its fifth year of existence, CEMO is still a dynamic working environment. We are continuously adjusting our research profile and our internal structure to new experiences, resulting this year in the new research group FREMO. Welcoming new team members or seeing former team members succeed in new positions is also very enjoyable. 2018 was a year with several Gustafsson & Skrondal scholars at CEMO. Janine Buchholtz (DIPF/Frankfurt, Germany), Jesper Tijmstra (University of Twente, the Netherlands) and Chen-Wei Liu (Beijing) represent a very important influx of ideas and perspectives to our centre.

The Faculty of Educational Sciences including all its departments continue to be of vital support for CEMO, both through formal and administrative support and by giving us a much-needed connection with the broader field of educational research. In particular, as we now are having a Master program, it is reassuring for us that we are part of a larger community with administrative and scientific staff with long experience in running such programs.

We look forward to the new year with great expectations. Continuing with the Master program, consolidating our research profile and team composition will include new challenges but are first of all a lot of fun.

Sigrid Blömeke

Comments by the CEMO Board chair: Rita Hvistendahl

The CEMO Board met three times in 2018, on 2 March, 15 August and 10 September. Several issues were also decided upon in electronic board meetings on 12 January, 16 March, 9 May, 31 May, 16 November, and 26 November.

The Board has welcomed two PhD Candidates and two Postdoctoral Fellows this year. The reports from the evaluation committees have been of a high standard, documenting that all applicants have been considered in a transparent and fair evaluative process. The Board has also welcomed two Adjunct Professors and extended the contracts for another two Adjunct Professors and a Postdoctoral Fellow. During 2018, excellent and highly qualified persons have been recruited to the Centre. Further, the Board has approved the announcement of a permanent position as Professor at CEMO.

2018 has been a crucial year in the development of CEMO. The new Master Program in Assessment and Evaluation has started with more than 20 students, and a new research group, FREMO, is established. This year, CEMO also hosted its first biennial conference, Frontiers in Educational Measurement, and the OCCAM project started. The Centre is now in the middle of its initial 10-years period, and the Board highly acknowledges what CEMO has accomplished over the course of its first five years. The Board particularly congratulates CEMO with the "midterm" evaluation committee's acknowledgement of the Centre, which concludes that CEMO should be able to establish itself as a sustainable Centre beyond 2023.

2 RESEARCH AT CEMO

The research mission

Basic research is the primary task for CEMO, and team members are specialized on psychometrics and latent variable modelling, the development of innovative assessment formats as well as linking and equating of data. These methodological issues frequently appear in different substantive areas where CEMO researchers are involved: from measuring socio-emotional and cognitive outcomes, via large-scale assessments and twenty-first century skills, to examination models with objective structured clinical examinations and rater effects. A special highlight in the latter respect is our collaboration with the Faculty of Medicine. Both units are contributing with substantial resources to examine grading and classification challenges with the homogenous small samples typical for medical education.

CEMO is firmly established as a research center: high numbers and high quality of publications, very successful in competition for external grants, and successful in terms of recognition. The Centre has built up its research portfolio around two strands: Educational Measurement and Educational Assessment, as well as around four themes that link the two strands: modern test design, statistical methods for innovative assessments, educational measurement in the Norwegian context, and international large-scale assessments. CEMO is, thus, covering research areas not well covered in Norway or the Nordic countries.

CEMO strives to move the field of educational measurement forward so that we can solve the challenges of educational assessment systems and, thus in the long run, promote educational quality. This includes examining the psychometric quality, fairness and effectiveness of assessments and diagnostic tools including the development of new measurement approaches to meet the quality criteria in a better way. In addition, moving the field forward includes examining unintended consequences and side-effects of assessments. A special objective of CEMO is to contextualize educational assessments in the societal and cultural characteristics of the Nordic countries.

The research group FREMO

FREMO has been established in 2018 and focuses on cutting-edge research and advanced training of PhD candidates and Master students in the field of educational measurement. FREMO includes all academic CEMO employees and is open for members from other departments at the Faculty of Educational Sciences. FREMO serves to build up an internationally recognizable research profile and to address measurement issues of specific relevance in the national context. Its activities are centered around the four focus themes at CEMO: modern test design, statistical methods for innovative assessments, international large-scale assessments, and educational measurement in the Norwegian context.

As a research coordination unit, FREMO thus:

- provides the leadership and support needed to establish and scale ambitious research
- gives a formal structure for organising a cutting-edge bi-annual international conference with the same label as the research group

As a training unit, FREMO thus:

- provides advanced support and training for the PhD candidates at CEMO
- hosts and organizes a Research Seminar together with the research groups LEA and LeMoWe; this seminar is a compulsory component of the PhD program at the Faculty of Educational Sciences
- creates an arena where our Master students are integrated into research activities

As an operational unit, FREMO thus:

- provides resources for strengthening future applications for research grants
- facilitates cooperation with other research groups at the Faculty of Educational Sciences

The first FREMO leader is Associate Professor Björn Andersson who is a specialist in item response theory and equating/linking in educational assessment and who is involved in various applications in education, gerontology and psychology. Andersson, who has a background in statistics, thus represents the profile of CEMO by combining strong methodological expertise with applied research in education and other fields. Prior to joining CEMO Andersson was a post-doctoral researcher at Beijing Normal University where he worked on improving the NAEQ, a large-scale Chinese assessment of basic education quality.

The FREMO conference is a milestone activity for CEMO, both as an arena for dissemination, but also for facilitating networking and future collaborations. It was arranged for the first time in 2018 and will become a bi-yearly conference, thus providing a platform to research across the world and allow CEMO to get fresh input and expand the research network.

PhDs at CEMO

A core task of ensuring sustainable research activities is the training and support of PhD candidates and postdocs. These two groups are therefore our most valuable resources when it comes to long-term effects of CEMO's work. In 2018, we have expanded our PhD supervision guidelines. For reasons of quality assurance and a joint understanding of the PhD process, supervisors and PhD candidates from CEMO are encouraged to discuss and mutually agree on how to work together. The supervision guidelines describe how a PhD project should be initiated, established and maintained. Furthermore, they describe expectations and responsibilities for both the candidates and the supervisors. Supervision of a PhD candidate needs to seek a balance between support by the supervisor and independent development of the candidate. We distinguish in this context between PhDs in their first two years and those that have started on their final two years.

In our new guidelines, we promise to facilitate collaboration and communication among the PhD candidates with the aim to create a community of young researchers that share the same language and a joint understanding of the field of educational measurement. Given the uncertainty and unpredictability of PhD work, varying working hours, a high degree of autonomy in their PhD work, at the same time with a power balance between supervisor and PhD candidates perceived as not being completely equal, CEMO seeks to build and continuously maintain a culture characterised by mutual trust and respect, curiosity and openness to new ideas, and a sense of community where everyone experiences that his/her efforts are important for reaching the joint goals set for the organisation.

CEMO has currently nine PhD candidates and to a large extent they have joint needs for training in advanced quantitative methodology. The idea is to establish a focused joint training program that regularly provides all our PhD candidates with, on the one hand, a structured and coherent package of courses on core issues in educational measurement, and on the other hand, a selection of more specific and less formal workshops for each thematic strand. This scheme will also be a support for the Postdocs at CEMO.

3 TEACHING ACTIVITIES

CEMO is involved in a range of teaching and development activities from the BA through the PhD level to professional development within areas at the core of our research profile. The relationship between the quality of our research and teaching is regarded as a two-way street where both are mutually dependent on the other.

The Master of Science in Assessment and Evaluation (MAE) program is probably the most important long-term contribution from CEMO to the sectorial needs. Both Norway and the other Nordic countries are currently implementing what could be coined as a "silent reform" where teachers, schools and school owners are increasingly made accountable for providing a high quality and equitable educational system. The centre's Master program, led by Professor Johan Braeken and study coordinator Siri Heslien, provides specialized training in developing, administering, analysing, and reporting the results from any assessment or evaluation as the first and only program in the Nordic region.

CEMO received more than 100 applications for its Master program out of which 30 full-time and part-time students started their journey through the different courses at the end of August 2018. It started with a challenging Data Science class (taught by Johan Braeken) that provided not only the basics for everyone intending to work or do research in the fields of assessment and evaluation but introduced the students also to the open-source software R. Currently students are taking the follow-up classes Constructing Measures (Rolf Vegar Olsen) and Principles of Measurement (Björn Andersson) before they will go over to Measurement Models (Denise Reis Costa) and Structural Equation Modelling (Ronny Scherer) in the spring.

In parallel to these courses, topics such as Research Design and Current Topics and Debates in Assessment and Evaluation have to be taken. It is a packed program that intends to provide students with all the knowledge and abilities needed to succeed as assessment professionals. We are in addition convinced that successful candidates from the master program will help securing a good pool of applicants for PhD positions in the future.

Already in 2017 CEMO had received funding for 13 study places from the central level of the University of Oslo. In 2018, the Faculty of Educational Sciences provided funding for additional seven places so that the start of the program now is fully financed. We have signed agreements with several Norwegian research institutes for giving students the possibility to conduct their Master thesis projects in cooperation with professionals in the field and potential employers dealing with issues of measurement, assessment and evaluation.

4 OUTREACH ACTIVITIES

An explicit assignment to CEMO is to reach out to non-specialists related to the educational sector and in need of knowledge about measurement, assessment and evaluation. Educational measurement often has profound impact both on individuals and on processes and outcomes of teaching and learning. This, in combination with the fact that educational measurement often is technically complex, generates different information needs on the side of students, parents, teachers, schoolleaders, politicians and administrative bodies.

A central part of CEMO's scientific outreach activities in 2018 was co-editing a book (in Norwegian) focusing on the fact that international large-scale assessments have been conducted in Norway for more than 20 years. The chapters in the book presents analyses emphasizing the long time-series of data in TIMSS and PISA documenting for instance that performance being in rapid decline early in the period was turned into an equally positive trend in the last half, students' motivation is increasing, learning environment and school climate has improved and that the gap in favour of girls in reading is constantly among the largest in the world. The book was a cooperation between CEMO and the LEA research group at the Department for Teacher Education and School Research, and it is available open-access. It was presented in an open seminar with a large audience in October this year.

Another milestone was a special issue on testing in Norway and Sweden in the scientific journal Acta Didactica Norge, also co-edited by CEMO and also open-access. This issue included 18 papers presenting a large variety of perspectives on and analysis of data from the diversities of tests organized at the national level.

As a part of the PhD training at CEMO, students will receive tutoring and instruction on how to write outreach pieces on their work. The main focus will be on communicating research findings and discussions in the field to academics from other fields and to the general public. This part of the training will be coordinated by Stefan Schauber, Associate Professor at the Centre for Health Sciences Education, Faculty of Medicine.

Websites and social media

During 2018, CEMO further developed both the Norwegian and English websites. Numbers of followers on social media increased significantly. Both Twitter and Facebook were used extensively to spread information about CEMO's research activities, possibilities, and cooperation. On the websites the main features remain the personal pages for each CEMO member, information about CEMO's research and teaching, upcoming events, and the list of publications. Overall, our websites had more than 77.000 hits in 2018.

5 OUTLOOK TO 2019

The CEMO team has developed a 3-year plan with specific short-, mid- and long-term objectives regarding research, teaching, outreach and organization. The plan will be updated regularly. We will provide a glimpse into these plans from now on in every yearly report to be transparent about our objectives, accomplishments and where we have failed.

Our overall objective regarding research over the course of the next three years is to sharpen and strengthen our research profile and visibility nationally and internationally to accomplish our long-term goal of becoming the leading Nordic and European centre within educational measurement. In 2019, this means among other objectives to

- build up our new research group FREMO (Frontier Research in Educational Measurement) through activities within the four pillars Modern test design, Statistical methods for innovative assessments, International large-scale assessments, and Educational measurement in the Norwegian context
- publish with high-quality on the national and international level so that we have the majority of our publications in core and highly renowned journals of our field, f.ex. as identified by impact factors, among these several in leading SSCI Q1 journals
- further develop the robustness of the centre and the quality of its research by expanding our portfolio of external grants (one more grant from the Norwegian Research Council) and preparing the way for an application for a Centre of Excellence or an individual ERC grant
- provide extensive support for our Postdoctoral fellows and PhD students as the next generation of national and international measurement experts in terms of good mentoring or supervision practices and frequent opportunities to present their work internally and externally, participation in teaching activities, regular feedback meetings with the leadership team, career development and experience with outreach
- strengthening our international network through recruiting highly-qualified Gustafsson & Skrondal scholars and starting with the preparation for our second FREMO conference in 2020

Our overall objective regarding teaching over the course of the next three years is to offer a high-quality Master of Science program in Assessment, Measurement and Evaluation and to attract a large pool of highly-qualified national and international applicants. In 2019, this means among other objectives to

- further develop the selection criteria for the program and the program's profile
- attract a large and qualified enough pool so that we can once more fill all study places
- receive positive feedback from the first Master cohort regarding teaching quality

Our overall objective regarding outreach over the course of the next three years is to become more visible in the Norwegian and the Nordic context. In 2019, this means among other objectives to

- establish a Norwegian board with representatives of the professional testing field besides the already existing scientific international Advisory board
- create a network in assessment, measurement and evaluation as part of the Nordic Educational Research Association (NERA)
- publish at least one article each in a journal with a Nordic focus and in a popular science outlet such as forskning.no

Our overall objective regarding CEMO as an institution over the course of the next three years is to offer our employees a stable, productive and enjoyable working environment. In 2019, this means among other objectives to

- work steadily towards a shared vision of objectives and working processes at CEMO
- fill the fifth professor position with a highly-qualified candidate that fits well to the centre's profile, substantively and personally
- give a voice to all team members and include them in decision-making processes
- ensure good information flow and communication styles
- have regular joint social activities that have the potential to include all team members
- establish and document effective administrative routines for core processes

6 MANAGEMENT & ADMINISTRATION

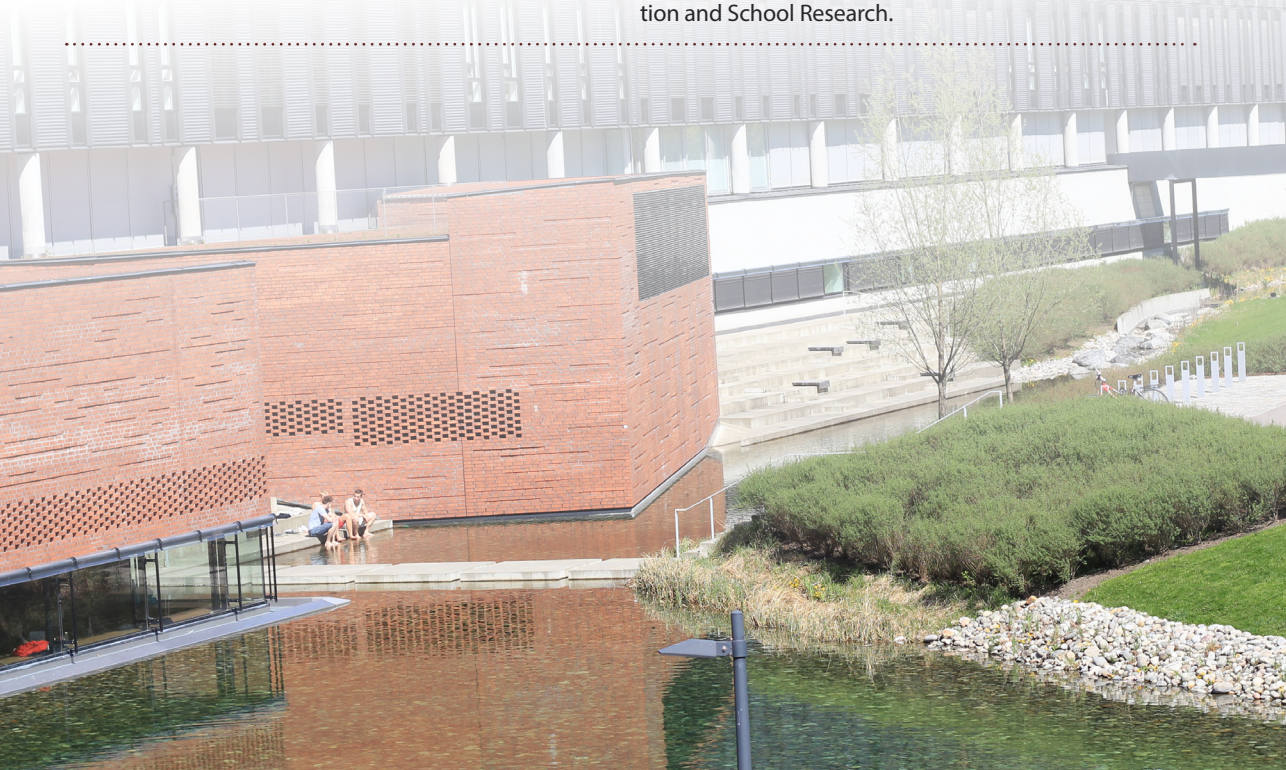
CEMO is established as a research unit hosted by the Faculty of Educational Sciences at UiO. The Centre is located at Gaustadalleen 30. The Norwegian Ministry of Education and Research and UiO are CEMO's main funders. They constitute the final reporting entities that define the guidelines under which CEMO operates. The Faculty of Educational Sciences is responsible for the main load of administrative support.

Administrative structure

The centre is run by the director, Professor Sigrid Blömeke. In collaboration with co-director Professor Rolf Vegar Olsen and under the supervision of the CEMO Board, the director's responsibilities include strategic decisions about CEMO's research, teaching and outreach profile, about CEMO's personnel tableau, recruitment strategies and employments as well as the management of the CEMO budget. The leader team also represents CEMO at the Faculty and higher UiO levels as well as outside the university.

Senior Advisor Anne-Catherine Lehre is responsible for the daily running of CEMO. The administration also consists of Senior Executive Officer, Siri Heslien, and Senior Executive Officer, Øystein Andresen, as well as Research Assistant Frida Karine Feyer. Operative tasks of the administration include, among other things, external communication, facilitating a good reception and stay for guests, maintenance of the websites and social media, taking minutes from board meetings, recruiting interviews, and scientific advisory board meetings, and organizing and implementing the different arrangements like courses, seminars, and workshops. CEMO's administration also functions as permanent secretariat for the CEMO Board and the International Advisory Board.

Faculty of Educational Sciences operates employments at CEMO as well as budgeting and accounting. IT support is provided by the Department of Teacher Education and School Research.



The CEMO Board and CEMO's International Scientific Advisory Board

The CEMO Board is an administrative body that meets three to four times per year to approve the CEMO budget, the director's progress reports about research, teaching and outreach activities at CEMO and the employments. In addition, the department heads and the student representative provide feedback on CEMO's activities from an internal perspective.

The CEMO Board	
NAME	AFFILIATION
Chair: Rita E. Hvistendahl	Head of Department of Teacher Education and School Research, UiO
Ona Bø Wie	Head of Department of Special Needs Education, UiO
Ola Erstad	Head of Department of Education, UiO
Fredrik Helland-Riise	Employee representative
Ilija Asanovic	Student representative

CEMO established in 2016 an International Scientific Advisory Board to receive feedback on its research, teaching and outreach activities from renowned and highly experienced international colleagues working in similar contexts in other countries. The board shall also promote research between CEMO and other international research centers. The Board had its third annual meeting in September and discussed the CEMO portfolio including general strategic issues, research and recruitment politics, the new master program, the roadshow, research on the Norwegian assessment system, and research innovations ahead.

International Scientific Advisory Board	
NAME	AFFILIATION
Cees Glas, Professor of Educational Measurement	University of Twente, The Netherlands Chair of the Department of Research Methodology, Measurement and Data Analysis
Susan Embretson, Professor of Quantitative Psychology	Georgia Tech, USA
Irwin Kirsch, Director of the Center for Global Assessment	Educational Testing Service ETS Distinguished Presidential Appointee
Sophia Rabe-Hesketh, Professor of Educational Statistics and Biostatistics	University of California, Berkeley Fellow of the American Statistical Association and Elected Member of the National Academy of Education in the U.S.

7 FINANCES

The Norwegian Ministry of Education and Research (7.200 MNOK core-funding to CEMO) and UiO (several positions) are CEMO's main financial contributors.

Revenues and expenditures 2018

		Financial statement	Budgeted expenses
Opening balance		-12 881 137	-12 881 137
Total Opening balance		-12 881 137	-12 881 137
Funding	Core funding	-12 185 275	-11 821 000
	External income		
	Income from sales	-38 203	
Total funding		-12 223 478	-11 821 000
Staff expenses	Salary cost	8 650 077	9 586 024
	Salary (variable)	-266 570	
	Holiday pay, payroll tax, pension	3 620 543	4 179 974
	Salary expenses	27 087	
	Other refunds	271 315	79 465
Total staff expenses		12 302 452	13 765 998
Operating expenses	Consultancy service	51 200	
	Rent	306 050	3 062 998
	Travel costs, courses, conference	696 120	1 191 000
	Other operating expenses	500 604	479 841
Total Operating expenses		1 553 974	4 733 839
Investments	Investments	177 585	100 000
Total investments		177 585	100 000
Netto contribution	Own funding (UiO)	1 052 867	652 639
	Overhead	-2 690 070	-2 180 771
	Salary Reimbursement	-1 442 913	-2 993 389
Total netto contribution		-3 080 116	-4 521 521
Project closing balance	Project closing balance	-2 477	0
Total project closing balance		-2 477	0
Total		**-14 153 197**	**-10 623 821**

Budgeted 2019

		Budget
Opening balance		-14 153 197
Total Opening balance		-14 153 197
Funding	Core funding	-11 385 000
	External income	
	Rental/sales Income	
Total funding		-11 385 000
Staff expenses	Salary cost	9 807 342
	Salary (variable)	
	Holiday pay, payroll tax, pension	4 393 803
	Salary expenses	-60 887
		125 784
Total staff expenses		14 266 042
Operating expenses	Consultancy service	
	Rent	2 064 362
	Travel costs, courses and conference	745 275
	Other operating expenses	779 573
Total Operating expenses		3 589 210
Investments	Investments	100 000
Total investments		100 000
Net contribution from	Own funding (UiO)	2 228 493
externally funded projects	Overhead	-3 728 032
	Salary Reimbursement	-1 645 596
Total net contribution from externally funded projects		-3 145 135
Total		-10 728 080

8 APPENDICES

CEMO current team members

Name	Nationality	Position	Since
Blömeke, Sigrid	Germany	Director	Aug 2014-
Olsen, Rolf Vegar	Norway	Professor/ deputy-director	Apr 2016-
Braeken, Johan	Belgium	Professor	Feb 2014-
Andersson, Björn	Sweden	Associate Professor	Dec 2017-
Liaw, Yuan-Ling	Taiwan	Postdoctoral Fellow	Oct 2016-
Costa, Denise Reis	Brazil	Postdoctoral Fellow	Jan 2018-
Niculescu, Alexandra C.	Rumania	Postdoctoral Fellow	Mar 2018-
Tesema, Melaku Tesfa	Ethiopia	PhD Candidate	Jan 2015-
Helland-Riise, Fredrik	Norway	PhD Candidate	Sep 2016-
Mughogho, Kondwani K.	Malawi	PhD Candidate	Nov 2016-
Van Laar, Saskia	The Netherlands	PhD Candidate	Nov 2017-
Ræder, Henrik Galligani	Norway	PhD Candidate	Nov 2017-
Haakstad, Haakon T.	Norway	PhD Candidate	Nov 2017-
Veletic, Jelena	Bosnia	PhD Candidate	Aug 2018-
Ye, Wangqiong	China	PhD Candidate	Aug 2018-
Gustafsson, Jan-Eric	Sweden	Professor II (from July 2014 UV Fac.)	Oct 2012-
Skrondal, Anders	Norway	Professor II	Jan 2015-
Rutkowski, Leslie	USA	Professor II	Sep 2015-
Rutkowski, David	USA	Professor II	Sep 2015-
Frey, Andreas	Germany	Professor II	Sep 2016-
Lehre, Anne-Catherine WG	Norway	Senior Adviser	Jan 2013-
Andresen, Øystein	Norway	Senior Executive Officer	Aug 2014-
Heslien, Siri A. P.	Norway	Senior Executive Officer	Jan 2018-
Feyer, Frida K.	Norway	Research assistant	Aug 2017-
Brandenberger, Isabel A.	Norway	Research assistant	Oct 2018-
Jacobsen, Sigurd E.	Norway	Research assistant	Oct 2018-
Leoncio Netto, Waldir	Brazil	Research assistant	Oct 2018-

CEMO former team members

Name	Nationality	Position	Period
Scherer, Ronny	Germany	Postdoctoral Fellow	Jan 2014-Apr 2018
Zachrisson, Henrik D.	Norway	Professor II	Jul 2014-Jul 2018
Daus, Stephan	Norway	PhD Candidate	Oct 2014- Oct 2018
Schauber, Stefan	Germany	Postdoctoral Fellow	Mar 2015- Sep 2018
Aursand, Leah Rose	USA	Research assistant	Nov 2016 –Mar 2018
Ribero, Lucia	Portugal	Researcher (50 %)	Oct 2017- Jul 2018
Støren, Kristina Strand	Norway	PhD Candidate	Nov 2017- Oct 2018
Matta, Tyler	USA	Researcher	Jan 2018 – Dec 2018

CEMO Gustafsson-Skrondal visiting scholarship

Name	Nationality	Period
Tijmstra, Jesper	The Netherlands	May 2018 – Oct 2018
Buchholz, Janine	Germany	Mar 2018 – Jul 2018
Liu, Chen Wei	China	Jul 2018 – Sep 2018

CEMO guest researchers

Name	Nationality	Period
Bolsinova, Maria	The Netherlands	May 2018 – Oct 2018

CEMO events

Conferences

Frontiers in Educational Measurement (FREMO)	
Theme	Date
Pre-conference	11 Sep 2018
Main conference	12-13 Sep 2018

High Profile talk

Name	Seminar title	Date
Swanson, Dave	*Design of National Medical Licensing Examinations*	22 Aug 2018

Book launch

Name	Seminar title	Date
Olsen, Rolf Vegar	*Tjue* år *med TIMSS og PISA i Norge*	29 Oct 2018

Courses

UV9918V6: Introduction R: a free software environment for statistical computing and graphics, Johan Braeken, Stefan Schauber and Björn Andersson, Mar 2018
A four-day course introducing the software R for statistical computing and graphics.

UV9918V8: Introduction to Statistical Reasoning, Johan Braeken, May-Jun 2018
A 30 hours course introducing fundamental concepts in statistics and modern data-analytical practices.

UV9918V7: Introduction to Item Response Theory, Andreas Frey, May 2018
A three-day course introducing the Item Response Theory (IRT).

UV9257U: Multilevel and Longitudinal Modeling, Anders Skrondal and Sophia Rabe-Hesketh, May 2018
A four-day course introducing introducing models for multilevel or clustered data, such as cross-sectional data with students nested in schools, or longitudinal data with repeated measures/panel waves nested in subjects.

UV9290: Data Science, Johan Braeken, Aug-Oct 2018
In this course the focus was on the core concepts and techniques that function as foundations for formulating and implementing successful data-based analysis strategies to perform evidence-based research.

UV9291: Principles of Measurement, Björn Andersson, Oct-Dec 2018
In this course the focus was on the foundational theories and concepts in measurement.

Publications and Presentations

Contributors affiliated with CEMO in bold; * = Open Access

Articles in peer-reviewed journals included in the SSCI or on level 2 in the Norwegian classification system

SSCI = Social Science Citation Index that provides an impact factor

Impact factor = number of citations of articles in a given year published in the preceding two years

*Arnesen, A.; **Braeken, J.**; Ogden, T. & Melby-Lervåg, M. (2018). Assessing children's social functioning and reading proficiency: A systematic review of the quality of educational assessment instruments used in Norwegian elementary schools. *Scandinavian Journal of Educational Research*. Doi: dx.doi.org/10.1080/00313831.2017.1420685

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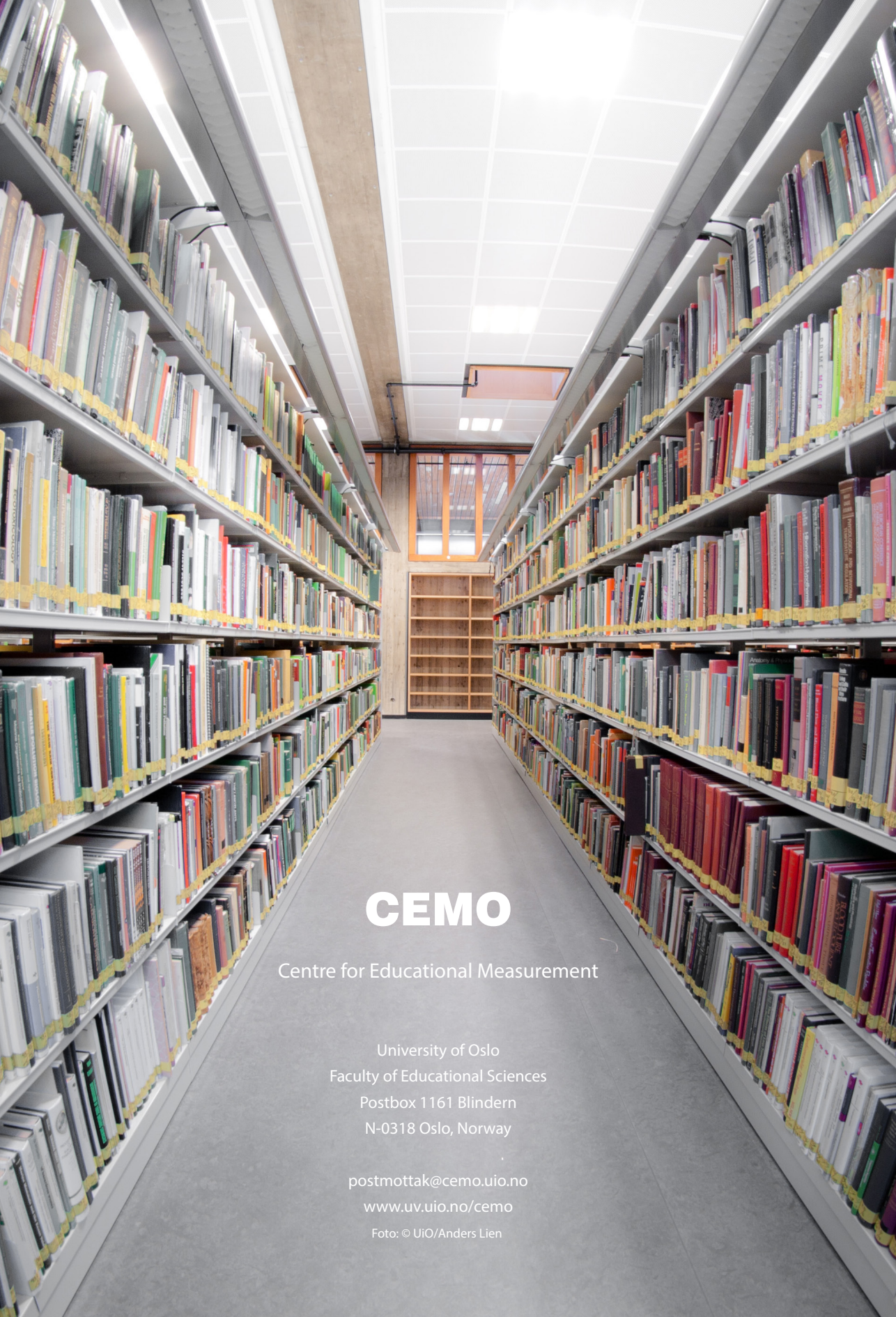

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