

**Til:** Fakultetsstyret

**Sak:** 7

**Møtedato:** 16. juni 2020

**Tilgang:** Åpen

### **Videreføring av CEMOs virksomhet ved Det utdanningsvitenskapelige fakultet**

Vedlagt følger saksnotat med vedlegg.

**Saken oversendes fakultetsstyret:**

**Til behandling: X**  
**Til orientering:**

#### **Forslag til vedtak:**

1. *Fakultetsstyret viser til fakultetsdirektørens notat av 7.6.2020 og vedtar en videreføring av CEMO som permanent senter på nivå 3 ved fakultetet.*
2. *Senterets finansiering videreføres i fakultetets langtidsprognoser i tråd med fakultetets fordelingsmodell. Det tilstrebes å synliggjøre senterets finansiering på en måte som i størst mulig grad harmoniserer med instituttenes.*

Til:

UV Fakultetsstyret

Dato: 9.6.2020

Saksnr.: 2013/10674 BAARDKJO

### **Videreføring av CEMOs virksomhet ved Det utdanningsvitenskapelige fakultet**

Center for Educational Measurement at the University of Oslo (CEMO) er et forskningscenter og en grunnenhet ved Det utdanningsvitenskapelige fakultet (UV). Det er finansiert med en kombinasjon av en bevilgning fra Kunnskapsdepartementet (KD), en bevilgning fra fakultetet og eksternt finansierte inntekter. Senteret er definert som en nivå 3-enhet, på samme institusjonelle nivå som dagens institutter.

Bevilgningen fra Kunnskapsdepartementet utløper 30.6.2023, og dette dokumentet redegjør for fakultetsledelsens plan for videreføring av CEMOs virksomhet fra 1.1 2021. Innfasingen av CEMO som permanent grunnenhet ved UV må gjøres på et tidspunkt som gir stabilitet i den faglig utviklingen av CEMO og den økonomiske utvikling av CEMO og UV samlet sett. Dette gir en høy forutsigbarhet for UV samlet.

Fakultetsstyret anmodes om å vedta at CEMO videreføres på varig basis som en ny, permanent grunnenhet ved fakultetet, med en ordinær årlig bevilgning innenfor fakultetets fordelingsmodell. Dette er i tråd med de strategier som er lagt og de budsjettmessige disposisjoner som er gjort. I forbindelse med en omgjøring til en varig virksomhet vil CEMOs styringsstruktur bli endret, innenfor rammene av UiOs regelverk. Det foreslås en videreføring av ordningen med tilsatt senterleder.

### **Historisk bakgrunn og etablering**

CEMO ble formelt etablert 1.10.2012 på bakgrunn av et initiativ fra UV-fakultetet og KD. UV-fakultetet vant den fram med sin søknad på en åpen utlysning som Forskningsrådet gjennomførte på vegne av KD. Innledningsvis hadde senteret arbeidstittlen «Senter for psykometri», og senteret skulle iht. utlysningen dekke følgende funksjoner (sitat):

- Enheten skal være en FoU-enhet som bidrar til nasjonal kompetanseutvikling innen pedagogiske målinger.
- Enheten skal i samarbeid med vertsinstitusjon utdanne kandidater på master- og doktorgradsnivå innen pedagogiske målinger. Dette bør gjøres innenfor rammene av allerede etablerte studietilbud i pedagogikk, spesialpedagogikk eller fagdidaktikk.
- Enheten skal drive anvendt forskning knyttet til barnehageområdet, grunnopplæringen og høyere utdanning, samt grunnforskning innen fagområdet.



- Gjennom sine forsknings- og utviklingsaktiviteter skal enheten utvikle og formidle kunnskap til relevante aktører i utdanningssektoren.
- Enheten skal på sitt fagområde fungere som rådgiver overfor Kunnskapsdepartementet, Nasjonalt organ for kvalitet i utdanningen og Utdanningsdirektoratet.
- Enheten skal gjennom samarbeid medvirke til kompetanseoppbygging i pedagogiske målinger ved andre miljøer i universitets- og høyskolesektoren.

Fakultetet var i sin dialog med departementet tydelig med hensyn til hvordan man tolket forutsetningene om en nasjonal kompetanseoppbygging og utvikling av et masterprogram. Begge deler impliserte etter fakultetets vurdering å etablere en varig virksomhet innenfor senterets fagområder. For KD var dette en avgjørende del den strategiske målsetningen for etableringen av senteret.

For UV-fakultetet og UiO var det viktig at CEMO ble etablert med akademisk frihet innenfor sitt fagområde, og med grunnleggende forskning som det faglige fundamentet for den øvrige aktiviteten. For UiO var dette et helt avgjørende vilkår for å bidra til og skape et senter og et nytt fagområde nasjonalt og ved UiO. Samtidig skulle det tas nødvendig hensyn til at bevilgningen fra KD bygger på krav og forventninger om resultater og leveranser. Balansen mellom den akademiske friheten og forpliktelsene overfor departementet er formelt beskrevet i form av et reglement som ble utviklet i dialog med departementet, og som utgjør det formelle grunnlaget for departementets vedtak om finansiering. Senterets reglement følger vedlagt.

Fakultetets faglige ansvarlige for etableringsprosessen var professor Jan-Eric Gustafsson, som på det daværende tidspunkt var professor i full stilling ved Göteborgs Universitet og professor II ved fakultetet. Gustafsson ble senere midlertidig tilsatt som senterets første leder, stod dermed for en stor del av arbeidet med å rekruttere senterets første ansatte. Senteret ble formelt åpnet i mai 2013 med kunnskapsministeren til stede, og den reelle aktiviteten ved senteret tok seg raskt opp i løpet av siste halvdel av 2013. Dette sammenfaller også med den første utbetalingen av midler fra KD og den første årsrapporten for senteret.

Gustafssons innsats var også avgjørende med hensyn til å rekruttere senterets første fasteleder, som fra 1.8.2014 har vært professor Sigrid Blömeke. Blömeke kommer fra stilling som professor ved Humbolt Universität zu Berlin.

Senteret ble etablert iht den innsendte søknaden – med en samlet årlig finansiering på 12,4 MNOK bestående av en bevilgning fra KD på 6,6 MNOK (53 %) og en ordinær bevilgning fra fakultetet («egenandel») på 5,8 MNOK (47 %). Den samlede bevilgningen finansierte ved etableringen en senterleder, 3 faste/kombinerte vitenskapelige stillinger, en professor II, 4 rekrutteringsstillinger (3 stip + 1 postdoc) samt 2,2 årsverk administrativ støtte. I tillegg inngikk driftsmidler øremerket faglig aktivitet og midler til den generelle drift, herunder midler som finansierer den teknisk-

administrative infrastrukturen fakultetet tilbyr som indirekte tjenester, samt husleie. Budsjettet som lå til grunn for etableringen følger vedlagt.

Senteret fikk ved etableringen et senterstyre med 5 medlemmer, bestående av instituttlederne ved fakultetets 3 institutter, en representant for de ansatte samt en student. Styreleder har siden etableringen vært instituttleder ved Institutt for lærerutdanning og skoleforskning (ILS), professor Rita Hvistendahl.

### **Faglig virksomhet**

CEMO er i dag et etablert forskningscenter på et høyt nivå internasjonalt. Denne vurderingen støttes blant annet av at alle faste vitenskapelige ansatte senest etter 2 år på CEMO har fått gjennomslag enten i NFR eller EU, og ikke minst av at fakultetets hittil eneste ERC-grant ble utviklet av Henrik Daae Zachrisson (nå professor ved ISP) i den perioden han var ansatt på CEMO. Senterets ansatte publiserer på et høyt nivå internasjonalt og har også et høyt volum av publikasjoner, jfr. vedlagte årsrapporter.

Det har hele tiden også ligget en forventning til grunn om at man også skal bidra på sitt fagområde innenfor relevante studieprogrammer og innen fakultetets doktorgradsutdanning. Disse forventningene har fullt ut vært imøtekommet. I tillegg har senteret bedrevet forskningsformidling – i hovedsak overfor profesjonelle aktører i feltet.

Som en del av en strategi for å styrke det norske miljøet innen pedagogiske målinger tok senteret i 2016/17 initiativ til etablering av et internasjonalt/engelskspråklig 2-årig masterstudium. Etter en prosess med forankring av ideen og med detaljering av innholdet ved tok Fakultetsstyret og senere Universitetsstyret, i 2017 å etablere studiet «Master in Assessment and Evaluation» (MAE). Første kull, som ble tatt opp høsten 2018, uteksamineres denne våren.

Senterets faglig styrke viser seg både i en høy produksjon av vitenskapelige publikasjoner i høyt renommerte publikasjoner, og i senterets evne til å tiltrekke seg svært gode forskere fra både inn- og utland. Senterets leder, professor Sigrid Blömeke, ble i 2019 tildelt UiOs forskningspris for sitt arbeid med å etablere CEMO som en betydelig internasjonal aktør innen sitt felt.

Årsrapporter for 2018 og 2019 følger vedlagt. For en mer omfattende beskrivelse vises det til årsrapportene som fer tilgjengelig fra senterets websider.

### **Organisatorisk utvikling**

KDs ga ved etableringen tilsagn om en innledende bevilgning over 5 år, og mulighet for en forlengelse med ytterligere 5 år forutsatt at en midtveiseevaluering av senterets virksomhet tilsa dette.

Allerede etter de første 2-3 årene ble det tydelig at senteret evnet å levere resultater som med hensyn til vitenskapelige og andre faglige resultater fullt ut imøtekom, og som med hensyn til hastighet i denne utviklingen i stor grad også overgikk de forutsetninger og forhåpninger som var lagt til grunn for etableringen. I brev av 26.4.2016 bekreftet KD en forlengelse av bevilgningen fram til 31.12.2022, på bakgrunn av den sterke og vellykkede evalueringen<sup>1</sup>. Det ble av KD samtidig besluttet å gjøre om midtveisevalueringen til en formativ evaluering, for å understøtte senterets utvikling gjennom hele den gjenstående perioden.

En ekstern evalueringskomite bestående av professorene Torberg Falch (NTNU), Pamela Sammons (University of Oxford), Stephen G. Sireci (University of Massachusetts Amherst) og divisjonsdirektør Sissel Skillinghaug, Utdanningsdirektoratet ble etablert høsten 2017. Komiteen leverte sin rapport våren 2018, og rapporten bekreftet fullt ut senterets høye vitenskapelige nivå, produktivitet og videre utviklingspotensial. Rapporten følger vedlagt.

CEMO har hvert år siden etableringen levert årsrapporter som har redegjort for virksomheten, og man har gjennomført jevnlige dialogmøter med KD.

Etablering av et studietilbud med studieplassfinansiering (MAE), samt stabile bidrag fra den eksternt finansierte virksomheten har ført til at den faste vitenskapelige staben er utvidet til 4 stillinger i tillegg til direktøren. Etableringen av MAE er også den direkte årsaken til at antallet faste administrative stillinger ble økt med en studiekonsulent. Senteret består våren 2020 av 19 vitenskapelige og 3 teknisk-administrative årsverk:

- Senterleder
- 4 faste vitenskapelige stillinger
- 3 faste administrative stillinger
- 4 Professor II
- 13 rekrutteringsstillinger (stipendiater/PhD-kandidater og postdoktorer)

Senteret hadde i 2019 en omsetning på 14,4 MNOK og en samlet ekstern inntekt på 3,2 MNOK. CEMO hadde i mange år tilhold i NEMKO-bygget, men har nå tilhold i moderne lokaler i Forskningsparken som per i dag deles med IPED.

## Vurderinger

CEMO er i dag en ubetinget faglig suksess, og det er dermed ingen tvil om at den faglige virksomheten knyttet til pedagogiske målinger må og skal videreføres. Det er ikke minst en forpliktelse fakultetet har overfor Kunnskapsdepartementet som strategisk partner og hovedfinansør<sup>2</sup>. Det er etter fakultetsledelsens vurdering også i fakultetets interesse.

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<sup>1</sup> Finansieringsperioden ble senere forskjøvet 6 måneder på grunn av forsinkelser i oppstartsfasen, og går fram til 30.6.2023.

<sup>2</sup> Når finansieringen fra KD opphører i juni 2023 er det fra deres side til sammen investert 66 MNOK i senteret.

Den beste måten å videreføre en aktivitet ved et velfungerende senter på, er å videreføre senteret som en samlet enhet. Videreføring som samlet senter kan da enten skje ved at CEMO videreføres som en selvstendig grunnenhet, eller ved at CEMO legges in under ett av fakultetets institutter.

Fakultetets vurdering er at en av senterets store styrker er at metodene som man utvikler kan anvendes (og blir anvendt) på et bredt spekter av utdanningsvitenskapelige problemområder og at senterets aktiviteter ikke er spesielt knyttet til ett bestemt av fakultetets institutter. Dette peker etter fakultetets vurdering klart i retning av at senteret bør videreføres som grunnenhet på nivå 3, snarere enn som et senter på nivå 4 under ett av instituttene. Det antas at man ved å legge senteret til ett bestemt institutt fort kan oppleve at samarbeidet med de to andre kan bli vanskeligere.

Fakultetet ser også at det vil kunne være en fare for at et senter som etableres som del av et institutt vil kunne bli del av lokale ressursmessige utfordringer som ikke er knyttet til senteret faglige virksomhet. Dette peker også i retning av at senteret videreføres som grunnenhet. Med etablering av et eget studieprogram er det fakultetets vurdering at robustheten er tilstrekkelig til at den selvstendige organiseringen kan forsvares.

En videreføring av virksomheten gjennom å fase inn personer og prosjekter enkeltvis i ett eller flere av fakultetets eksisterende institutter kunne også vært et mulig scenario. Dette ville først og fremst vært et alternativ dersom senterets suksess hadde vært moderat eller uteblitt.

Som evalueringsrapporten tydelig viser, og som utviklingen også i tiden etter at evalueringen ble gjennomført bekrefter, fremstår ikke dette som et aktuelt scenario. Senteret har oppnådd en betydelig suksess, og det er etter både fakultetsledelsens og senterledelsens vurdering utvilsomt at denne suksessen ikke vil kunne opprettholdes og videreutvikles dersom senteret oppløses. Ved en eventuell oppløsning vil dessuten andre klare ulemper oppstå:

- Man vil tape synergieffekten i et samlet miljø, og dermed hovedgrunnen for det høge nivået man har oppnådd. Personer og prosjekter vil bli isolert på hvert sitt institutt, og man vil eksempelvis miste viktige tilbakemeldingene som man som kollegaer gir hverandre i hverdagen (på søknader, artikler, presentasjoner etc.). Dette basert på en høyt utviklet ekspertise.
- Basert på fakultetets erfaringer med å undervise programmer på tvers av enheter vil det trolig bli langt vanskeligere å opprettholde Masterprogrammet, fordi underviserne vil sitte på 3 ulike enheter. Det vil potensielt også bli vanskelig å rekruttere studenter til et program som er forvaltet f.eks. på et spesialpedagogisk institutt eller ligger under lærerutdanningen, fordi profilen fort kan komme til å bli overskygget av dette.
- Det vil være en overhengende fare for å miste flere ansatte – fordi det utenfra fremstår som mindre attraktivt å være fast vitenskapelig tilsatt på et breddeinstitutt, og fordi det ikke var denne forutsetningen som internasjonalt rekrutterte ansatte flyttet til Norge under. Senteret har hele tiden vært det som har skapt rekrutteringsgrunnlaget.

Oppsummert betyr dette at den 10-årige investeringen fra KD og fra fakultetet sin side vil fragmenteres og et internasjonalt fremragende miljø vil kunne gå i oppløsning. De faglige og økonomiske investeringer som er gjort vil da ikke kunne videreføres som del av UVs ambisjoner innen CEMO fagområde.

Det skal også påpekes at CEMO er et meget godt utgangspunkt for en SFF søknad. Det har blitt et viktig kriterium at man klarer å presentere en varig løsning for etter NFR finansieringen – og i vårt tilfelle vil dette være CEMO som permanent senter fra 1.1 2021. NFRs søknadsfrist for SFF er medio november 2020.

Hvorvidt CEMO skal videreføres som «senter», eller om det skal få status som «institutt», er i prinsippet også et spørsmål som det må tas stilling til. Siden CEMO nå er ansvarlig for et mastergradsprogram er det legitimt å sammenlikne den prinsipielle strukturen med det man finner ved et institutt. Fakultetets vurdering er likevel at CEMOs hovedformål fortsatt er å være et forskningscenter. CEMO som forskningscenter har bygget opp en synlighet innen sine fagområder hvilket bør videreutvikles. Man har ikke minst også klart å etablere CEMO som en faglig «merkevare» både nasjonalt og internasjonalt. Instituttene representerer relativt store og brede fag- og/eller profesjonsområder, med mange tilliggende spesialdisipliner og som regel med flere studieprogrammer og langt flere ansatte. Betegnelsen senter reflekterer og kommuniserer til sammenlikning tydeligere at CEMO har begrenset størrelse og en mer spisset profil. Det har i løpet av tiden etter etableringen av MAE har heller ikke fremkommet noen konkrete grunner til at en endring av status på dette punktet er fordelaktig.

Konklusjonen er altså at CEMO etter fakultetets vurdering må sikres en videreføring som senter på nivå 3, slik at kompetansen som er opparbeidet ikke går tapt, men tvert imot kan videreutvikles. Det som da må avklares er styringsstruktur og en robust finansieringsmodell.

### **Økonomi**

Den viktigste utviklingen i senterets bevilgningsøkonomi i tiden etter etableringen består i at man nå har en betydelig eksternt finansiert aktivitet som tilfører et nettobidrag til basisøkonomien, studieplasmidler i fakultetets bevilgning som er tildelt i forbindelse med etableringen av MAE, samt en voksende resultatkomponent i bevilgningen fra fakultetet som følge av publisering og EFV-virksomhet (her vil også studiepoengproduksjon og kandidatmidler tilføres fra MAE).

Samlet inntekt på basis var i 2019 14,3 MNOK, hvorav 11,7 MNOK i bevilgninger og 2,6 i nettobidrag fra den eksternt finansierte virksomheten. Den eksternt finansierte virksomheten genererer inntekter som i 2019 var på 3,2 MNOK. Senteret hadde 14,0 MNOK i ubrukte midler på basis pr. 31.12.2019, og har etter fakultetets vurdering en sunn økonomi. Det vises for øvrig til økonomirapport for 1. tertial 2020, som følger vedlagt. Der fremgår også prognose for perioden 2020-2024.

I den 5-årige prognosen for CEMO er det lagt til grunn at senteret videreføres, og at bortfall av bevilgningen fra KD medio 2023 erstattes av en tilsvarende fakultær bevilgning. Denne forutsetningen har de siste årene også vært lagt til grunn for langtidsprognosene for resten av fakultetet. En videreføring av CEMO vil derfor ikke endre de gjeldende rammebetingelsene eller langtidsprognosene til instituttene.

Oppbygging av et varig fagmiljø har som tidligere påpekt vært et premiss for CEMOs etablering, og det har vært rekruttert personell til faste stillinger både som senterleder, i de 4 kombinerte stillingene og i de administrative stillingene. Ved en eventuell avvikling av senteret som enhet vil fakultetets institutter overta arbeidsgiveransvaret for disse. Senterets aktivitet er høy, og det kan ikke forventes at dette vil kunne videreføres uten at også de administrative ressursene videreføres. På samme måte vil driftsmidler som frigjøres være bundet til den infrastrukturen som er nødvendig for å ivareta den faglige virksomheten.

Den realøkonomiske effekten for fakultetet samlet og for enhetene hver for seg er følgelig i realiteten tilnærmet null, uavhengig av hvilken form for videreføring av den faglige aktiviteten som velges. Det vises til vedlagte økonomioversikt.

### **Styringsstruktur og ledelse**

Da CEMO ble etablert var det viktig for fakultetet at dets virksomhet var bredt forankret ved alle fakultetets institutter. Dette var særlig viktig fordi fakultetet gikk inn med en egenandel omtrent lik som KDs finansiering. CEMOs styre ble derfor satt sammen slik at de tre instituttlederne sitter i styret ex-officio. I tillegg er de ansatte og studentene representert med en plass hver. Styreleder har vært instituttleder ved ILS.

Ved en varig etablering som senter på nivå 3 er det ikke naturlig at CEMO skal fortsette å være bundet til de tre instituttene på samme måte som nå gjennom den formelle styringsstrukturen. Det vil derfor være nødvendig å etablere en styringsstruktur som er hensiktsmessig for CEMO, innenfor rammene av UiOs regelverk for sentre.

Fakultetet vil foreslå å ta utgangspunkt i en modell som ligger innenfor UiOs hovedprofil, og som er benyttet ved andre sentre ved UiO. Ved de fleste av UiOs enheter er institutt/senterleder også styreleder. Styret forøvrig vil eksempelvis kunne bestå av:

- En representant fra instituttlederne ved UV
- En vitenskapelige representant fra annen enhet ved UV
- En vitenskapelige representant fra CEMO
- En administrativt ansatt representant fra CEMO
- En studentrepresentant fra CEMOs studieprogram

Kontorsjef ved CEMO vil fungere som styrets sekretær.



En slik sammensetning er i tråd med UiOs hovedmodell for styring og ledelse og sikrer representasjon av ansatte og studenter. Videre sikres samarbeid med andre enheter ved UV. Man kunne vurdert at en fra dekanatet var del av CEMOs styre, men ut fra strukturen ved UiO der senterleder rapporterer til dekanen og fakultetsstyret er dette ikke ønskelig. Fakultetet vil utforme nye vedtekter for CEMO i henhold til styrets vedtak.

Senteret har til nå hatt tilsatt senterleder som har vært rekruttert spesifikt med den oppgave å bygge opp en forskningsmiljø på høyt internasjonalt nivå, og med et langsiktig perspektiv for senterets eksistens. Som det har vært gjort rede for har denne strategien vist seg vellykket, og det anbefales at senterleder fortsatt skal være ansatt. En endring av dette vil forutsette en utredning som styring og ledelse med forslag som vedtektsendring. Nivå 3 enheter ved UiO har både valgt og ansatt ledelse og ved flere enheter har man gjort endringer i dette over tid.

### **Konklusjoner**

Fakultetsledelsen mener at den riktige beslutning i forbindelse med at Kunnskapsdepartementets bevilgning bortfaller i 2023, vil være å videreføre CEMO på varig basis som en selvstendig grunnenhet på nivå 3 fra 1.1 2021. De faglige argumentene peker entydig i denne retningen, og de økonomiske forutsetningene for en slik beslutning er gode.

Som en konsekvens av en videreføring vil senterets basisfinansiering forbli fullt ut innfaset i fakultetets finansieringsmodell på linje med instituttene – i tråd med de forutsetninger som har vært lagt til grunn for fakultetets budsjett- og prognosearbeid de siste 2 årene.

Senterets formelle styringsstruktur endres for å reflektere de nye rammebetingelsene.

### **Forslag til vedtak**

- 1. Fakultetsstyret viser til fakultetsdirektørens notat av 7.6.2020 og vedtar en videreføring av CEMO som permanent senter på nivå 3 ved fakultetet.*
- 2. Senterets finansiering videreføres i fakultetets langtidsprognoser i tråd med fakultetets fordelingsmodell. Det tilstrebes å synliggjøre senterets finansiering på en måte som i størst mulig grad harmoniserer med instituttene.*

Sten Ludvigsen  
Dekan

Bård Kjos  
Fakultetsdirektør

Dette dokumentet er godkjent elektronisk ved UiO og er derfor ikke signert.

## Vedlegg:

1. Vedtekter
2. Budsjett
3. Formativ evaluering
4. Årsrapport 2018
5. Årsrapport 2019
6. Økonomirapport 1. tertial 2020
7. Økonomioversikt

## Saksbehandler:

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# Vedtekter for Enhet for psykometrisk forskning

*Vedtatt av fakultetsstyret ved Det utdanningsvitenskapelige fakultet 23. september 2011.*

## § 1 Formål

Enhetens formål er å drive forskning og tilby forskningsbaserte undervisningstjenester på internasjonalt nivå innen det psykometriske fagområdet i en utdanningsvitenskapelig kontekst.

Enheten er delvis finansiert over KDs generelle grunnbevilgning til UiO, og delvis gjennom en særtildeling fra departementet. Den skal ivareta de forpliktelser som følger av betingelsene for denne delfinansieringen:

- Enheten skal være en FoU-enhet som bidrar til nasjonal kompetanseutvikling innen pedagogiske målinger.
- Enheten skal gjennom samarbeid medvirke til kompetanseoppbygging i pedagogiske målinger ved andre miljøer i universitets- og høgskolesektoren.
- Enheten skal på sitt fagområde fungere som faglig rådgiver overfor Kunnskapsdepartementet, Nasjonalt organ for kvalitet i utdanningen og Utdanningsdirektoratet.
- Enheten skal drive anvendt forskning knyttet til barnehageområdet, grunnopplæringen og høyere utdanning, samt grunnforskning innen fagområdet.
- Enheten skal bidra til å utdanne kandidater på master- og doktorgradnivå innen pedagogiske målinger. Dette bør gjøres innenfor rammene av studietilbud i pedagogikk, spesialpedagogikk eller fagdidaktikk.
- Gjennom sine forsknings- og utviklingsaktiviteter skal enheten utvikle og formidle kunnskap til relevante aktører i utdanningssektoren.

## § 2 Organisatorisk plassering

Enheten er en grunnenhet ved Det utdanningsvitenskapelige fakultet.

## § 3 Enhetens organer

Enheten skal ha:

1. Et styre
2. En enhetsleder

## § 4 Styret

### § 4.1 Myndighetsområde

Styret er enhetens øverste organ. Enhetsstyret har ansvar for å fastlegge overordnede mål, prioriteringer og strategier for virksomheten, innenfor rammen av gjeldende lover, forskrifter og regler, forutsetninger for særtildelingen slik disse fremkommer i de årlige tildelingsbrevene, samt vedtak fattet av overordnet myndighet.

Enhetsstyret utøver sin myndighet gjennom selv å vedta:

- Overordnede planer, prinsipper og prioriteringer for virksomheten
- Langtidsplaner, med særlig vekt på strategi for forskning, utdanning og formidling
- Årsplan og budsjett
- Enhetens interne organisering i seksjoner, forskningsgrupper eller lignende, innenfor de rammer som er gitt av overordnet organ

Enhetsstyret har ansvar for oppfølging gjennom:

- Godkjenning av regnskap og årsrapport

For øvrig skal enhetsstyret:

- Fremme forslag til innstilling ved tilsetting av enhetsleder og utpeking av stedfortreder
- Innstille i vitenskapelige stillinger hvor fakultetet er tilsetningsmyndighet

Alle beslutninger i enhetsstyret treffes etter delegasjon fra og på vegne av fakultetsstyret.

## § 4.2 Sammensetning

Enhetens styre skal ha fem medlemmer og har følgende sammensetning:

- **Styreleder:** Instituttleder ved Institutt for lærerutdanning og skoleforskning (ILS)
- Instituttleder ved Institutt for spesialpedagogikk (ISP)
- Instituttleder ved Pedagogisk forskningsinstitutt (PFI)
- En student
- En representant valgt av og blant de ansatte ved enheten<sup>1</sup>

Instituttlederne kan velge å utpeke andre personer i sitt sted. Instituttlederne utpeker også sine personlige vararepresentanter.

Studentrepresentanten og dennes personlige vararepresentant oppnevnes av dekanen etter forslag fra Studentutvalget.

Representanten for de ansatte ved enheten velges i samsvar med nærmere fastsatte regler. Det velges minst én vararepresentant for de ansatte ved enheten.

Begge kjønn bør være representert, så langt det er mulig.

## § 5 Valg

Valgperioden til enhetens styre er fire år for representanter for de ansatte ved enheten. En representant eller vararepresentant fratrer hvis vedkommendes tilknytning til enheten opphører.

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<sup>1</sup> I den første perioden av enhetens eksistens da det ikke finnes en valgforsamling å velge en ansattrepresentant fra, erstattes representanten for enhetens ansatte av en representant for tjenestemannsorganisasjonene ved UiO. Det fastsettes en dato for når tjenestemannsorganisasjonenes representant skal erstattes av en representant valgt blant enhetens egne ansatte.

## **§ 6 Enhetsleder**

Enhetslederen er enhetens øverste leder, og leder enhetens virksomhet innenfor rammer satt av universitetsstyret, fakultetets planer og instruksjoner fra dekan og gjennom vedtak fattet i enhetsstyret.

Enhetslederen har overordnet ansvar og myndighet med hensyn til alle oppgaver som ikke eksplisitt er tillagt enhetsstyrets myndighetsområde, og har generell fullmakt til å avgjøre løpende enkeltsaker. Enhetslederen rapporterer til dekanen og senterstyret, jfr. universitetets normalordning.

Enhetslederen har ansvar for at det utarbeides saksframlegg med forslag til vedtak i de saker som ligger inn under myndighetsområdet til enhetsstyret (jf. § 2). Enhetslederen har ansvar for å iverksette de vedtak som fattes av enhetsstyret.

Enhetslederen har ansvar for utadrettet nettverksbygging, informasjon og kontakt med eksterne samarbeidspartnere. Enhetslederen kan av dekanen pålegges oppgaver for fakultetet.

**Yearly budget - Psycometric Unit (2010-2014) all amount in 1000NOK**

**Norwegian research council (NRC) contribution: Overhead (Indirect expenses) is not included as NRC support based on lump sum payments**

Activity	Calculation	Total
Scientific leader -Salary and operational costs	1 person year- Professor level (Salary scale 80)	1 000*
3 academic positions-Salary and operational costs	3 person year - Asso.Professor level (Salary scale 75)	2 400*
senior advisor-Salary cost	1 person year- Asso.Professor level (salary scale 76)	800*
Administrative support- Salary cost	1 person year ( Salary scale 50)	500*
Dissemination (Conferences, seminars and web site etc.)	Travel and stay costs, other direct costs and web pages	1 000
Internationalization	Travel and stay costs and other direct costs	400
Infrastructure	Production and maintenance of web-based learning and communication environment	500
<b>Sub total- direct costs</b>		<b>6 600</b>

**Faculty of Education contribution(Overhead (Indirect expenses)) is partly included**

Activity	Calculation	Total
3 PhD. students per year	Salary scale- 45 and operational costs	2550**
Supervision of PhD.candidates	Salary scale - 76 (hourly salary of 450,-, 70 hours per year 3 PhD candidates)	100
Post.Doc position- Salary and operational costs	Salary scale- 65. One person year / total of 4 years	900**
Prof 2 (Gustafsson)- Salary and operational costs	Salary scale-80. 20% of person year	300
Administrative support-Salary cost	20% of person year ( Salary scale 50)	150
Internationalisation of PhD. and Post.doc	Travel and stay costs and other direct costs	400
PhD. Educational activities	Salary costs, Travel and stay costs and web-based learning etc.	200
Master in methodology - 15 students	Salary costs- teaching and supervising - expenses above study point production income	200
Indirect cost - NRC supported positions	Total of 5 person year- 200,- /person year	1 000***
<b>Sub total- direct and indirect costs Faculty of Education</b>		<b>5 800</b>
<b>Grand total (NRC and Faculty of Education)</b>		<b>12 400</b>

\* Estimated salary costs without overhead

\*\* Estimated salary and operational costs may differ slightly from actual respective costs

\*\*\* Overhead cost for NRC financed positions except Scientific leader

Budget year	NRC contribution	NRC contribution in %	Faculty of Education	Overhead costs	Total- faculty of Education contribution	Faculty of Education contribution in %	Total
2010	6 600	53,2 %	4 800	1 000	5 800	46,8 %	12 400
2011	6 600	53,2 %	4 800	1 000	5 800	46,8 %	12 400
2012	6 600	53,2 %	4 800	1 000	5 800	46,8 %	12 400
2013	6 600	53,2 %	4 800	1 000	5 800	46,8 %	12 400
2014	6 600	53,2 %	4 800	1 000	5 800	46,8 %	12 400

## Formative Evaluation of CEMO: An External Review

Stephen G. Sireci<sup>1</sup>, Torberg Falch<sup>2</sup>, Pamela Sammons<sup>3</sup>, and Sissel Skillinghaug<sup>4</sup>

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<sup>1</sup> Center for Educational Assessment, University of Massachusetts Amherst

<sup>2</sup> Department of Teacher Education, Norwegian University of Science and Technology

<sup>3</sup> University of Oxford, Department of Education

<sup>4</sup> Norwegian Directorate for Education and Training

## Executive Summary

The Centre for Educational Measurement at the University of Oslo (CEMO) was founded in 2013. The Norwegian Ministry of Education and Research, and the Faculty of Education at the University of Oslo, are the two main funding sources for CEMO. These two organizations requested CEMO to conduct a self-evaluation covering the first five years of its work, produce a report summarizing the self-evaluation, and share the report with an external committee, which would provide reflections and recommendations. The External Committee reviewed the self-evaluation report, produced a list of topics and questions based on the evidence submitted (including the report, publications record, seminars schedules and staffing details), and met at CEMO to interview key staff and stakeholders. All interviews took place during a one-day meeting on March 1, 2018. This report is a summary of the external committee's reflections and recommendations of the self-evaluation and the interviews it conducted. To best understand the present success and future needs of CEMO, readers of this report should also read the CEMO self-evaluation report (Blömeke & Olsen, 2017).

The External Committee consisted of four members: Torberg Falch, professor in Economics at the Department of Teacher Education at Norwegian University of Science and Technology, Pamela Sammons from the College of Education at the University of Oxford, Stephen G. Sireci from the Center for Educational Assessment at the College of Education at the University of Massachusetts Amherst, and Sissel Skillinghaug from the Norwegian Directorate for Education and Training. The Committee met and interviewed six professionals. Three were directly associated with CEMO, the others were key stakeholders. Based on the review of CEMO's self-evaluation, and the intensive interviews described in this report, the Committee concluded 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. Key findings from the External Committee are,

- Although it has only been operating for five years, CEMO has made impressive contributions to research (both educational research in general, and psychometrics in particular) and some highly valuable outreach to the wider society (collaborations with other departments and other educators in schools). Some important contributions to teaching are also evident.
- CEMO's leadership is strong, and is widely recognised as one of the key reasons for its success.
- Future success of CEMO is contingent upon sufficient funding for staff and graduate students, and in particular on funding of and recruitment to the new master's program.
- Recruiting and retaining faculty and students for educational measurement has been successful in the last five years, but is a continuous challenging task.
- The CEMO self-evaluation is judged to provide an accurate portrayal of the aims, successes accomplished by CEMO and the challenges it faces.



With respect to forward-looking suggestions, the External Committee recommended the following:

- Continue to prioritize conducting 'cutting-edge' research that contributes to the further development of educational assessment and statistical methodology in education. This is the core of CEMO's mission.
- Continue to conduct research relevant to policy makers and practitioners, and extend the activities in this area.
- Improve outreach to the greater society, in particular:
  - Develop policy briefs to summarize CEMO research on topics of interest to school practitioners, the wider public, and to policy makers, to enhance the impact and practical relevance of the academic contributions.
  - Build incentives for CEMO faculty and staff to encourage contributions to policy briefs and other outreach/public engagement activities
  - Find a way for CEMO to contribute to public debates on educational testing and assessment by providing research-based information (in an accessible format—so lay people can understand)<sup>5</sup>.
  - Strongly consider adding a Norwegian name to the Center, and to making it a “permanent” research center.
- Implement a plan to increase CEMO faculty/staff and to maintain an appropriate balance between recruiting internationally and from within Norway and the Nordic countries.
- Support CEMO's goal of having at least 50% of students from Norway in the new master's program to help build expertise within Norway.
- Continue to search for reliable funding sources in order to ensure the centers longevity.

These findings and suggestions are explained further in the body of this report. The External Committee thanks the Ministry of Education and Research and the Faculty of Education for the invitation to participate in this evaluation. We hope our summary is helpful to CEMO, to the University of Oslo, and to the Ministry as they work together to ensure the future success of CEMO.

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<sup>5</sup> We also believe staff at CEMO should be comfortable in expressing controversial opinions in public debates, when they are based on solid research.

## Formative Evaluation of CEMO: An External Review

The Centre for Educational Measurement at the University of Oslo (CEMO) was founded in 2013. The mission of CEMO 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” (Blömeke & Olsen, 2017, p. 2). The present report is a summary of reflections and recommendations from an external committee convened to provide formative feedback to CEMO regarding the degree to which it is accomplishing its mission, and how it can better position itself to remain successful for the foreseeable future. The external committee consisted four members: Torberg Falch professor in Economics at the Department of Teacher Education at the Norwegian University of Science and Technology, Pamela Sammons from the Department of Education at the University of Oxford, Stephen G. Sireci from the Center for Educational Assessment at the College of Education at the University of Massachusetts, and Sissel Skillinghaug from the Norwegian Directorate for Education and Training. Brief bios for the Committee members can be found in Appendix A.

The External Committee reviewed a self-evaluation report developed by CEMO (Blömeke & Olsen, 2017), and reviewed details of the publication record, staffing, staff and student profiles and the details of events, seminar programs and other documentation on the CEMO website. The Committee met at CEMO for a one-day meeting on March 1, 2018 to discuss the report and interview key staff at CEMO and some key stakeholders (including one PhD student). The CEMO self-evaluation report should be read alongside the present report to best understand CEMO’s current successes and future issues.

In the present report, we summarize the External Committee’s impressions of the CEMO self-evaluation and the interviews conducted. The professionals interviewed by the Committee are listed in Table 1. As can be seen from Table 1, the individuals the Committee interviewed represent a range of CEMO staff as well as those who benefit from CEMO’s work.

**Table 1**

**Individuals Interviewed by the External Committee**

<b>Interviewee</b>	<b>Role</b>
Alette Schreiner	Deputy Director General, Ministry of Education
Sten R. Ludvigsen	Dean, Faculty of Educational Sciences, University of Oslo
Rita Hvistendahl	Head, Department of Teacher Education and School Research, Leader of CEMO board
Stephan Daus	PhD at CEMO
Johan Braeken	Professor of Psychometrics at CEMO
Rolf Vegar Olsen	Professor of Educational Assessment, Interim Director of CEMO
Sigrid Blömeke	Professor of Educational Assessment, Director of CEMO

The task presented to the External Committee was to review the CEMO self-evaluation (Blömeke & Olsen, 2017), derive a protocol for interviewing the staff and stakeholders selected for interviews, and provide a report of their findings. In this report, we describe the interviews conducted, the findings from the interviews, and our impressions of CEMO's contributions and future directions.

### **Interview Method**

To gather information that would be most helpful to CEMO, the Committee developed a semi-structured interview protocol that was based on four questions:

1. What do you see as CEMO's mission from your perspective?
2. How well is CEMO accomplishing its mission?
3. In what areas should improvements be made?
4. In considering the future, is CEMO poised for longevity with respect to financial support and cutting-edge research?

The Committee decided to begin with the first question to acquire a sense of each participant's notion of CEMO's mission. The other three questions were targeted toward gathering general information about the strengths and limitations of CEMO, as well as impressions about improvements that could be made.

Each of the interviewees were asked to respond to these questions and the Committee probed the responses as they saw fit to best understand the impressions of each respondent. In the section that follows, we summarize the results of these interviews, focusing on the major themes that emerged across the respondents. Following the summary, we provide some suggestions for CEMO, the Ministry, and Faculty of Education, to consider to best position CEMO for continued success in the future.

### **Summary of Interview Results**

Given that there were four major questions presented to the interview participants, our summary of the results is organized around each question.

#### **1) What do you see as CEMO's mission from your perspective?**

There was strong consistency across participants with respect to this question. It was mentioned that Norway was previously lacking in psychometric competence and so one goal of CEMO was to address that deficit. Specific aspects of CEMO's mission that were mentioned included developing expertise in test development, psychometric knowledge, statistical expertise in education research, collaborating and sharing that expertise with other departments (e.g., medical faculty, special education), promoting quality research on large scale assessment data and issues such as the quality of teaching. Outreach was also mentioned, with respect to CEMO serving as a center of expertise that could inform the public on educational assessment and research topics. The participants acknowledged that CEMO's mission was extensive.

The Committee's impression was that although there were some differences across participants with respect to their description of CEMO's mission, there was a consensus in that the responses were consistent with the mission stated in the CEMO self-evaluation. Given the broad mission, it was expressed that some narrowing was inevitable, given the limited staff.

## **2) How well is CEMO accomplishing its mission?**

The responses to this question were *overwhelmingly positive*. Numerous specific instances of CEMO's productivity were mentioned including the development of an outstanding group of researchers; building collaboration across departments; providing expertise on educational assessment and educational research to a wide variety of constituents; providing excellent (and new) courses on educational measurement, research, and statistics; establishing a strong record of scholarly accomplishments (e.g., publications); hosting successful conferences, and mentoring students. In particular, the interview evidence accords with the Committee's evaluation of the CEMO's impressive publications record.

The interviewees from the University who were not in leadership positions at CEMO consistently mentioned the strength of the leadership at CEMO and remarked on how much CEMO has accomplished in a relatively short amount of time.

A common theme among participants was that CEMO is seen as a place where professionals from across the University and all of Norway can go for help on educational assessment topics, and on advanced statistical and research topics in education research. Several respondents mentioned it is difficult to recruit and retain high-quality psychometric researchers, but the faculty and staff of CEMO have been consistently excellent from productivity and collaboration perspectives.

It is important to note that although the participants did express some ideas about improving CEMO (see summary of responses to question #3), the Committee noted that *none* of the respondents expressed an opinion that CEMO was falling short of its mission.

## **3) In what areas should improvements be made?**

The responses to this question made it clear the participants cared about the future of CEMO and were engaged in suggesting improvements to secure its continued success. Areas of suggested improvement included,

- Improve the marketing of CEMO to illustrate what it can contribute to the research community and to Norwegian administration.
- Engage more with policy makers (outreach)
- Recruit additional researchers and faculty, particularly from Norway
- Establish a better balance between applied and theoretical research (i.e., more applied research)
- Partner with other researchers and centers (e.g., economics)

- Publish accessible research briefs (on the proper use of tests and other relevant topics on assessment and measurement) in Norwegian language
- Stimulate psychometric research at other Norwegian universities
- Further develop the Centre's reputation for psychometric expertise
- Recruit sufficient domestic students for the master's program
- Engage in discussions on national assessment issues of relevance to policy makers, school and other practitioners and the wider public.

Common themes in response to this question were for CEMO to engage more with other groups (e.g., teachers' unions, schools, policy groups) to illustrate how they can help them through their research and teaching, and even program evaluation. Most of the interviewees, in general, were not concerned that a higher profile on outreach on controversial issues would be negative for the Centre.

There was consistency across respondents in that it is difficult to attract students from Norway into the measurement program, and doing so should be a priority for the master's program. Several participants indicated additional faculty were needed, and it would be best if suitable faculty from Norway were added. A consistent theme was that CEMO should be better known in higher education and other areas related to, but distinct from, educational assessment and psychometrics, building on current contributions (e.g., to the educational effectiveness field, EARLI conference in 2016, etc.).

#### **4. In considering the future, is CEMO poised for longevity with respect to financial support and cutting-edge research?**

Responses to this question echoed many of the points made with respect to improvements that could be made (question 3). However, the participants also mentioned organizational and structural issues that are important for CEMO to consider.

The most common topic mentioned by the interviewees was the importance of building a successful master's program. Building the master's program was seen as an important part of the mission and to maintain sustainable funding of a research environment above a critical mass. However, it is also clear that some increased funding is necessary to achieve both high quality of the master's program and the present contributions to the international research society. It is critically important to enable recruiting future faculty and staff. Several interviewees reiterated the importance of recruiting Norwegian students into the Master's program to connect the Center better to experiences unique to Norway and build capacity in the country. There were many suggestions to strongly market the master's program.

All of the interviewees made suggestions about how CEMO could be organized, but there was more variation and less consistency with respect to these ideas. Some suggested creating smaller research units within CEMO to focus on specific specialty areas, whereas others

suggested maintaining the current structure that has led to the very good current reputation. One interviewee stressed the importance of maintaining CEMO as a center independent of any faculty department, but another expressed optimism that the master's program could be a major factor in making CEMO a regular department at the faculty. These suggestions may not be mutually exclusive. Other responses to this question included building partnerships with constituents outside of educational measurement (e.g., Data Science, Economics, Psychology).

Potential sources of funding were also mentioned by some interviewees. In addition to current funding, and funding through building of the master's program, other sources mentioned were the Norwegian Research Council, the European Union, and Oxfam. CEMO has a good track record in attracting research funding and this is a strength to build on. The need for more student support was also emphasized by several interviewees.

Another area of concern for the future viability of CEMO was the need for more faculty positions. It was expressed, consistent with the CEMO's self-evaluation, that given its relatively small size, CEMO is having trouble covering faculty absences (e.g., through sabbaticals, sick leave or parental cover). Given the various roles they serve (see responses to Mission Statement in question #1), more faculty positions are needed. The new master program requires more administrative capacity, and it is also clearly expressed that additional PhD candidates, are necessary for the continued success of CEMO. Longevity requires predictable future funding of faculty positions and administrative capacity, while at least part of the funding of PhD candidates might come from externally funded projects.

Although there was agreement about the need for CEMO to partner with other groups, at least one interviewee noted CEMO does not have the internal structure to support such collaborations, but added the new "research group initiative" will be used to build two research units, which could help.

There were also some comments about the structure of the CEMO Board. One or two interviewees mentioned the structure of the Board made sense at the beginning, but recommended the composition be changed so that it is more similar to other boards at the university, to be more representative of students, faculty and administration.

### **Summary and Suggestions**

From the interviews, it is clear to us that CEMO is highly valued by stakeholders and is widely regarded by different groups across the University. Faculty, staff, and students at CEMO appear to enjoy their work and feel part of a successful team that makes important contributions. 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.

Through our review of the CEMO self-evaluation, the additional reports sent in advance of the meeting, and the interviews we conducted, we were positively impressed with CEMO. Our major findings are,

- Although it has only been operating for five years, CEMO has made impressive contributions to research (both educational research in general, and psychometrics in particular) and some highly valuable outreach to the wider society (collaborations with other departments and other educators in schools). Some important contributions to teaching are also evident.
- CEMO's leadership is strong, and is widely recognised as one of the key reasons for its success.
- Future success of CEMO is contingent upon sufficient funding for staff and graduate students, and in particular on funding of and recruitment to the new master's program.
- Recruiting and retaining faculty and students for educational measurement has been successful in the last five years, but is a continuous challenging task.
- The CEMO self-evaluation is judged to provide an accurate portrayal of the aims, successes accomplished by CEMO and the challenges it faces.

With respect to the self-evaluation, we unanimously agreed it was informative and accurate, and provided important information to be considered in sustaining the success of CEMO. Based on the interview data we gathered, and on our impressions of the self-evaluation and other evidence of CEMO's activities, we offer the following suggestions.

- Continue to conduct cutting-edge research that contributes to educational assessment and statistical methodology in education.
- Continue to conduct research relevant to policy makers and practitioners, and extend their activities in this area.
- Develop policy briefs to summarize CEMO research on topics of interest to the public and to policy makers.
- Build incentives for CEMO faculty and staff to contribute to policy briefs and other outreach/public engagement activities
- Find a way for CEMO to contribute to public debates on educational testing by providing research-based information (in an accessible format—so lay people can understand).
- Implement a plan to increase CEMO faculty/staff.
- Support CEMO's goal of having at least 50% of students from Norway.
- Continue to search for reliable funding sources.

The External Committee thanks the Ministry and the Faculty of Education for the invitation to participate in this evaluation. We hope our summary is helpful to CEMO, to the University of Oslo, and to the Ministry as they work together to facilitate the future success of CEMO.

## Appendix A

### Brief Bios for CEMO External Evaluation Committee Members

**Torberg Falch**, Norway, is Professor of Economics at the Norwegian University of Science and Technology (NTNU). He is a renowned expert in econometric research related to education. Falch is a member of the European Expert Network on Economics of Education and a leading researcher at the Norwegian Centre for Economic Research (SØF). In addition, he presently serves as the Head of the Department of Teacher Education at NTNU.

**Pamela Sammons**, UK, is Professor of Education at the University of Oxford and a senior research fellow at Jesus College, Oxford. Her research specialization is on educational evaluation, school effectiveness, and equity in education. She was the principal investigator on the landmark longitudinal study of Effective Pre-school Primary and Secondary provision tracking children from age 3 to 16+ years. In addition, she has served as a consultant and expert member of Advisory Groups in many different countries.

**Stephen G. Sireci**, USA, is Distinguished University Professor, and Director of the Center for Educational Assessment at the University of Massachusetts Amherst. The Center conducts research and provides training in psychometrics, research methods, and statistics. Sireci's research specialization includes test development, cross-lingual assessment, standard setting, and computer-based testing. He is currently Vice-President (President-elect) of the National Council on Measurement in Education.

**Sissel Skillinghaug**, Norway, is Director of the Division for Learning and Assessment at the Norwegian Directorate for Education and Training (Udir). The Division has the responsibility for developing the national curricula and implementing tests and exams that are part of the assessment system in Norway.



## Reference

Blömeke, S. & Olsen, R. V. (2017, November). *Self-report as part of the formative evaluation of CEMO*. Oslo: Center for Educational Measurement, Faculty of Education Sciences, University of Oslo.



— 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 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 invaluablely 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 Tijnstra (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.

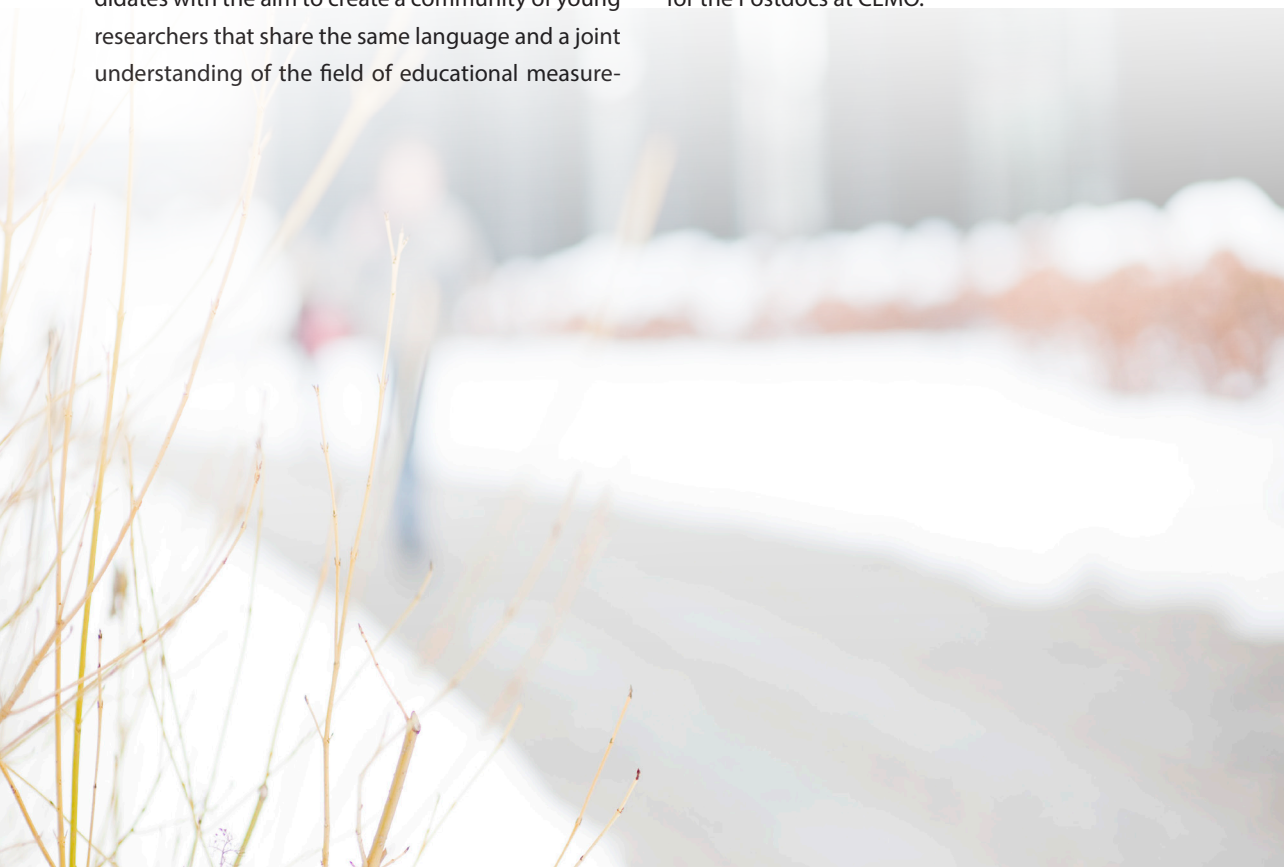
## PhDs at CEMO

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 measure-

ment. 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, school-leaders, 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 Schaubert, 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 & Skrandal 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.

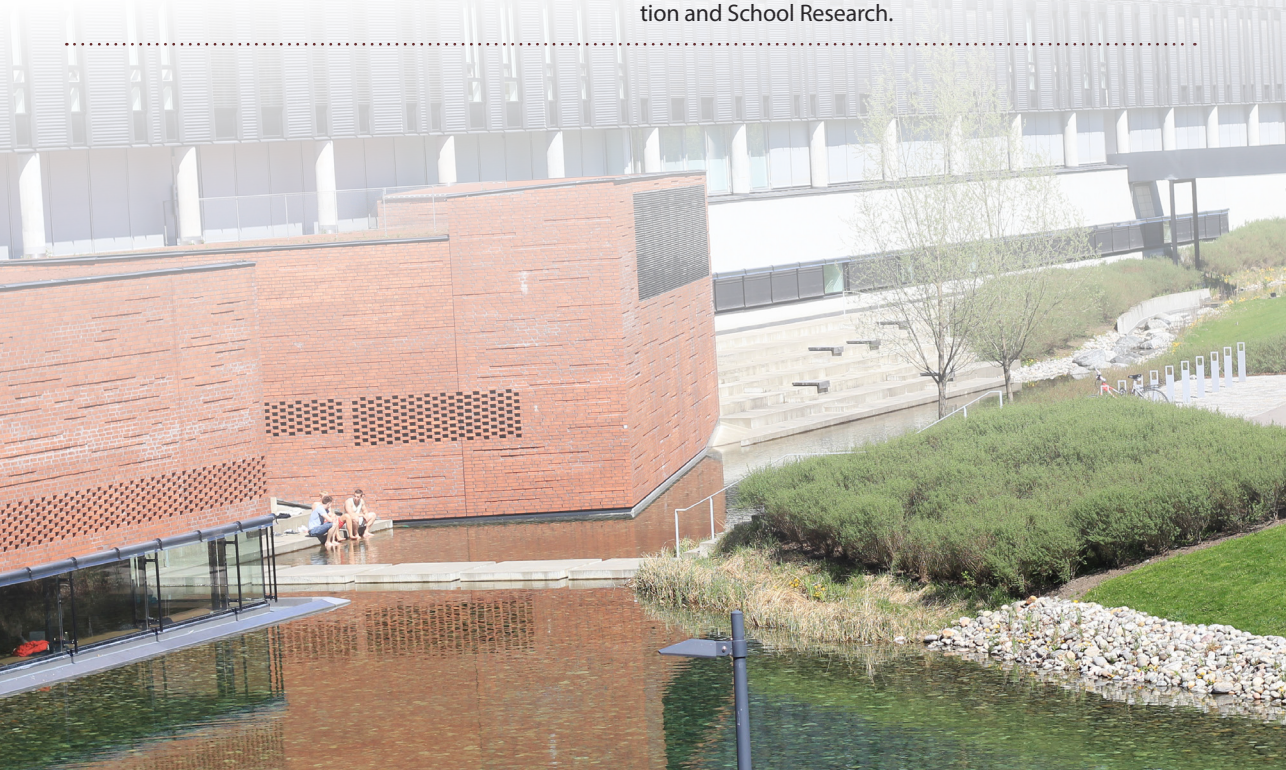
## Administrative structure

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 Feyrer. 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
<b>Total</b>		<b>-14 153 197</b>	<b>-10 623 821</b>

## Budgeted 2019

		<b>Budget</b>
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
<b>Total</b>		<b>-10 728 080</b>

# 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-
Skronnal, 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**

<b>Name</b>	<b>Nationality</b>	<b>Position</b>	<b>Period</b>
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**

<b>Name</b>	<b>Nationality</b>	<b>Period</b>
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**

<b>Name</b>	<b>Nationality</b>	<b>Period</b>
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	<i>Design of National Medical Licensing Examinations</i>	22 Aug 2018

### Book launch

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

### Courses

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

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

<i>UV9918V7: Introduction to Item Response Theory</i> , 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

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2019

**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 and applied research within the field of educational measurement and assessment. Our goal is to solve challenges of educational assessment systems and, thus in the long run, to promote educational quality, equity and student development. 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.





Prototype av nye studentboliger  
Vil du se inn? Kikk rundt hjørnet!

# CEMO 2019 IN BRIEF

The Centre for Educational Measurement at the University of Oslo (CEMO), chaired by Sigrid Blömeke, is now in its seventh year and includes more than 25 team members: four (associate) professors, four professor IIs, three postdoctoral fellows, ten PhD candidates, three administrators and four student assistants.

In 2019, CEMO's first PhD candidate Stephan Daus successfully defended his doctoral dissertation *Profiling and Researching TIMSS by Introducing a Content Lens on Eighth-grade Science (PARTICLES)* at the Faculty of Education. With the Gustafsson-Skrondal visiting scholar Isa Steinmann, CEMO was able to recruit an expert in the field of educational effectiveness research and international comparative research.

2019 has been a successful year for CEMO employees. Our director, Sigrid Blömeke, received the University of Oslo's Research Award for her contributions to the field of educational assessment. Isa Steinmann, our Gustafsson & Skrondal Visiting Scholar, received the Rudolf Chaudoire Award 2019. The award honors her efforts to foster the international relations of Technical University of Dortmund, Germany, through high-quality cooperative research. Our PhD student Kondwani Kajera Mughogho and former PhD student Stephan Daus won the best poster awards at the IEA International Research Conference in Copenhagen.

CEMO (co-) authors published some 30 scientific articles in 2019. The majority of these appeared in journals on the highest quality level (2) according

to the Norwegian publication system. Director Sigrid Blömeke and Professor Ronny Scherer were recognized for being among the 30 researchers publishing the most in Norway.

We could further strengthen our portfolio of external research grants and at the same time expand our good work relations with the other departments at the Faculty of Educational Sciences as part of our success with an application for the evaluation of *Fagfornyelsen*, the large reform of the school curriculum to be implemented in Norway in the fall 2020. The research project is a joint effort of all four units based at the Faculty. Both the CEMO director and deputy director were involved in large evaluation processes of national assessment systems: Rolf Vegar Olsen in Denmark and Sigrid Blömeke in Norway. Such tasks are very informative because they provide new insights into the discourse on assessment. Furthermore, they are crucial parts of our public service work.

In August 2019, CEMO welcomed the second cohort of students to our Master of Science in Assessment, Measurement and Evaluation. As is typical with a new program, we are facing some challenges but so far both 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 2019, CEMO further developed both the Norwegian and English websites. Numbers of followers on social media increased significantly.

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# THE DIRECTOR'S COMMENTS

CEMO is now in its seventh year. As the centre's director, it's a pleasure for me to conclude that we continue to succeed with our mission. Research, teaching and outreach activities are developing dynamically, and we are adjusting our profile and structure to new experiences.

A highlight this year was that we could take in the second cohort for our Master of Science in Assessment, Measurement and Evaluation program. We had a decent number of applications and could fill all study places. With the Master's program, CEMO also contributes strongly to PhD training at the Faculty of Educational Sciences because candidates can take most of our courses as part of their PhD program. It is very rewarding to serve the larger educational research community in this way.

Welcoming new team members and seeing former team members succeed in new positions is one of the most enjoyable tasks of a director throughout the year. We were again very lucky with our recruitments and could welcome several new team members this year. Ronny Scherer is back at CEMO after he'd been recruited as a professor by the Department of Teacher Education and School Research right out of his Postdoc position at CEMO. Ronny is specialized on substantive and methodological research around computer-based assessments with a focus on the assessment of complex skills such as adaptability. In addition, Jarl Kleppe Kristensen and Maoxin Zhang joined CEMO as PhD candidates and

Chia-Wen Chen as Postdoctoral Fellow.

Gunnhild Nedberg Grønliid has taken over the position as Higher Executive Officer after Øystein Andresen, who moved to the Faroe Islands. From the start, Gunnhild has provided excellent administrative support of our CEMO activities. I would like to use this opportunity to thank Øystein for his many years at CEMO and to wish him all the best for his future career.

My personal highlight in 2019 was without a doubt the ceremony in the historic University Aula surrounded by Edvard Munch's paintings. Here I received the University of Oslo's Research Award. It was a very impressive ceremony with Munch's Historien on the left, Alma Mater on the right and Solen straight ahead. I felt that these paintings nicely reflect what CEMO stands for: a community of researchers committed to providing better knowledge about learning and development of children through educational measurement.

I am much looking forward to 2020 and do have great expectations. We will host the FREMO conference for the second time, and we will apply for a Centre of Excellence together with colleagues from the Faculty of Educational Sciences. Our first Master students will graduate and present their works to the public. All these and other activities will pose new challenges and, more importantly, they will be a lot of fun.

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## Comments by the CEMO Board chair: Rita Hvistendahl

The CEMO Board has had three meetings in 2019; on 1 March, 9 April and 27 November. A number of issues were also decided upon in an electronic board meeting on 24 September.

The most important issue for the 2019 meetings has been to announce and fill positions. The Board has had the great pleasure to welcome Ronny Scherer as a full professor at CEMO. Professor Scherer's research focuses on substantive-methodological synergisms in the broad areas of science education, computer-based assessment and problem solving. The CEMO board would like to thank the committee as well as the interview committee for their great efforts.



Furthermore, the CEMO board welcomed Jarl Kleppe Kristensen and Maoxin Zhang as PhD Candidates and Chia-When Chen as Postdoctoral Fellow. 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 also welcomed Isa Steinmann as Gustafsson-Skrondal visiting scholar.

At a meeting with the Secretary of the Ministry of Education and Research on 28 August, CEMO presented the status of the new Master Program in Assessment and Evaluation, and outlined impressive scientific activities for the next few years. During 2019, CEMO also hosted groundbreaking seminars on Fagfornyelsen and the Norwegian exam group report.

The Board highly acknowledges what CEMO has accomplished during 2019. Particularly, the CEMO board congratulates Centre director, Professor Sigrid Blömeke with the University of Oslo Research Award for 2019.







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# 1. Research at CEMO

Basic research is the primary task for CEMO, and team members are specialized in 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 educational outcomes, via large-scale assessments and twenty-first century skills, to examination models with objective structured clinical examinations. 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 quality of publications, successful in competition for external grants, successful in terms of recognition. The Centre has built up its research portfolio around four themes: 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, can promote educational quality. This includes examining the psychometric quality, fairness and effectiveness of assessments and diagnostic tools including the development of new measurement approaches.

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## **A new Nordic network in Educational Measurement**

A special objective of CEMO is to contextualize educational assessments in the societal and cultural characteristics of the Nordic countries. We have therefore established a new network for Educational Measurement and Assessment as part of the Nordic Educational Research Association (NERA): <https://neranetwork1.wordpress.com>. CEMO professor Rolf Vegar Olsen is the network's convener. Jeppe Bundsgaard, Mari-Paoliina Vainikainen, and Christina Wikström are his co-conveners from Denmark, Finland, and Sweden.

The purpose of the network is to create an arena for exchanging research ideas and planning research collaborations across countries. The network is open for researchers working with questions related to educational assessment, for example research targeting innovative assessment formats, comparisons of assessments across the Nordic countries, use of assessment data for accountability and/or school development, issues of validity, fairness and equity in assessment, psychometric theory and practice.

## **The research group FREMO**

FREMO was established in 2018 and became fully active in 2019. The research group 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 Education. FREMO serves to build up an internationally recognizable research profile and to address measurement issues of specific relevance in the national context.

The FREMO leader is Associate Professor Björn Andersson who is a specialist in item response theory and equating/linking in educational as-

essment 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.

The FREMO conference is a milestone activity for CEMO, both as an arena for dissemination, but also for facilitating networking and future collaborations. The FREMO conference was arranged for the first time in 2018 and will be arranged for the second time in 2020. The purpose is to provide a platform for research within educational measurement across the world and particularly in Europe.

## **PhDs and PostDocs at CEMO**

A core task of ensuring sustainable research activities is the training and support of PhD candidates and Postdoctoral fellows. These two groups are therefore our most valuable resources when it comes to long-term effects of CEMO's work.

CEMO's supervision guidelines describe how to initiate, establish, and maintain a PhD project. 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.

To support the career development of PostDocs, CEMO has installed a PostDoc coordinator (Ronny Scherer) and established a mentor program. The coordinator serves as the main contact person at CEMO and helps with selecting both an internal and an external academic mentor. As part of the mentorship, PostDocs are encouraged to complete an individual development plan (IDP), which is a tool designed to serve as a road map for the post-doctoral experience. The external mentor should be selected from another country than Norway where future career opportunities may exist. CEMO covers travel expenses for visits.

## 2. Teaching at CEMO

CEMO is involved in a range of teaching and development activities from the BA through the PhD level to professional development. We regard the relation between research and teaching as a two-way street where both are mutually dependent on the other.

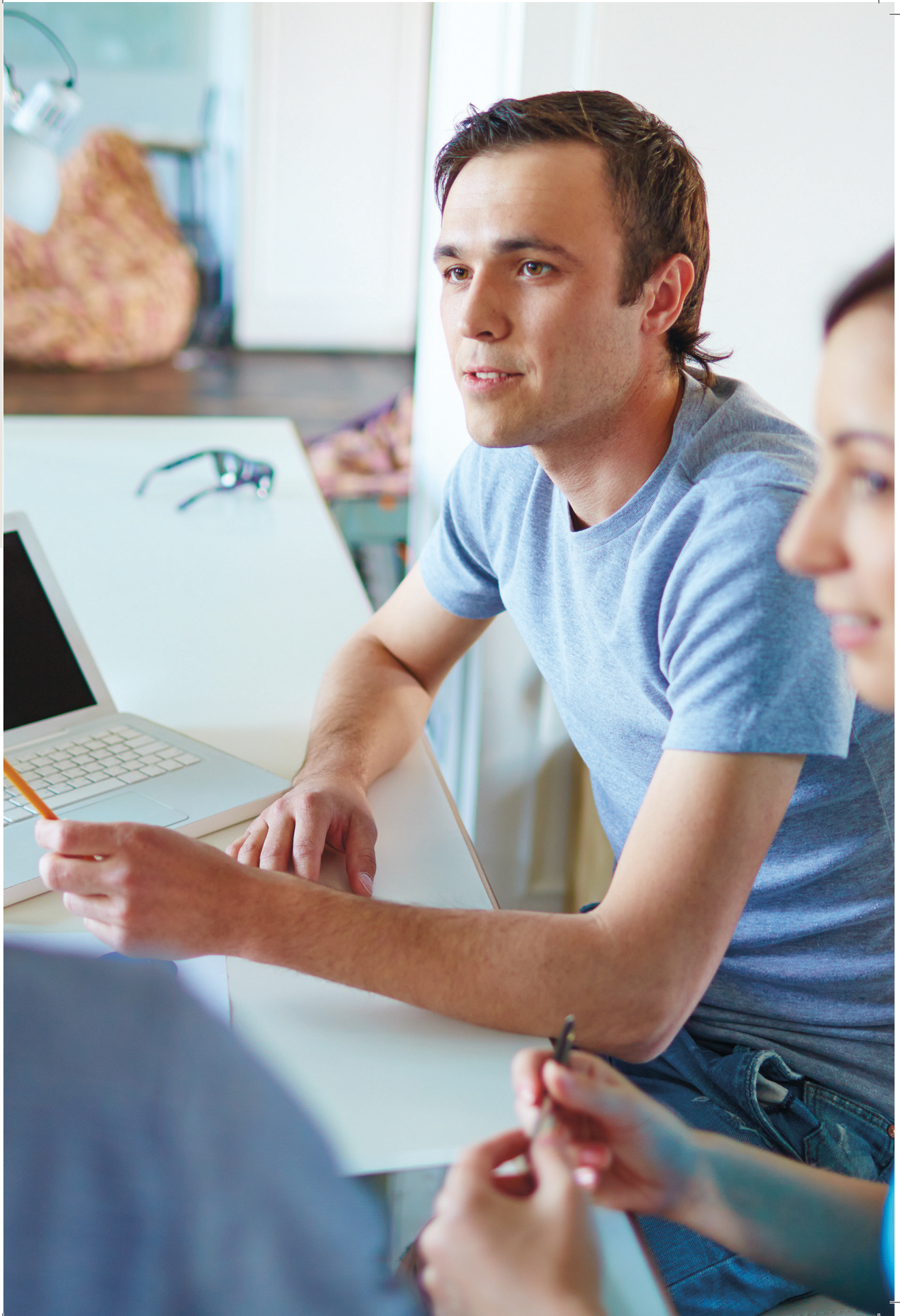
The Master of Science in Assessment, Measurement and Evaluation (MAE) program is our most important long-term contribution to serve sectorial needs. The program, led by Professor Johan Braeken and study coordinator Siri Heslien, provides specialized training in developing and administering measurement instruments, analyzing data, and reporting results from assessments, measurements or evaluations as the first and only program in the Nordic region.

### First cohort 2018 – 2020

The first MAE cohort will finish its program in the spring 2020. They have then received a packed two-year program that has provided students with the interdisciplinary knowledge and skills needed to succeed as assessment professionals. Throughout the program, students had to deliver research reports, work collaboratively, present their findings to multiple audiences, and respond to feedback from peers. They have developed algorithmic skills in statistical computation and are familiar with the open-source software R. CEMO has signed agreements with several Norwegian research institutes to give students the possibility to write their Master thesis in collaboration with practitioners working in the field and potential employers.

### Second cohort since 2019

For the second cohort, CEMO received more than 100 applications out of which 28 full-time students started at the end of August 2019. The program started with a 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 also introduces the students 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 (Ronny Scherer and Denise Reis Costa) in the spring. In parallel to these courses, topics such as Research Seminars and Current Topics and Debates in Assessment and Evaluation have to be taken.



### 3. 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 is often technically complex, generates different information needs on the side of students, parents, teachers, school-leaders, politicians and administrative bodies.

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## Evaluation of the Norwegian system of school exams

In 2020, a large curriculum reform will be implemented in Norwegian schools. As part of this change, the Ministry of Education and Research established a group of experts in 2018 whose task was to evaluate the exam system in place at the end of primary and secondary school education. CEMO director Sigrid Blömeke has been leading this work. The group included a broad range of teacher and student unions as well as researchers. Most of the work has been carried out in 2019.

Firstly, the exam group delivered a summary of the state-of-research on exams in Norway with a particular focus on their validity, reliability and fairness, see [www.udir.no/tall-og-forskning/finn-forskning/rapporter/Kunnskapsgrunnlag-for-evaluering-av-eksamensordningen/](http://www.udir.no/tall-og-forskning/finn-forskning/rapporter/Kunnskapsgrunnlag-for-evaluering-av-eksamensordningen/). This report was published in February 2019 and presented to a large auditorium at the University of Oslo during a seminar organized by CEMO's deputy director Rolf Vegar Olsen.

Secondly, the exam group provided feedback to all subject-specific curriculum groups in March 2019 on their suggestions for learning objectives and how to evaluate these to ensure that subject-specific changes are in line with the overarching suggestions.

Thirdly, the exam group published short-term recommendations in August 2019 that can be implemented from the start of the curriculum reform, see <https://www.udir.no/tall-og-forskning/finn-forskning/rapporter/vurderinger-og-fore->

[lopige-anbefalinger-fra-eksamensgruppa/](#). Several of the suggestions will need a change in the formal regulations of the exams and were therefore sent to a public hearing that will take place spring 2020. Short-term recommendations include, for example, larger variation in exam formats and exam tasks, among others through use of digital technology, stronger quality assurance, abandoning the random draw of students with respect to exam subjects and formats, strengthened involvement of students through the opportunity to select parts of the exams, and changes in the calculation of the final grade point average with a particular focus on pass/fail regulations.

The group's final report is expected to be published in March 2020. In this report, long-term suggestions will be discussed in a 10-year perspective.

## Websites and social media

During 2019, CEMO further developed both the Norwegian and English websites. Numbers of followers on social media increased. Both Twitter (617 followers) and Facebook (1081 followers) were used actively 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 over 65.000 hits in 2019.



## 4. Summary of goal accomplishment in 2019 and outlook to 2020

The CEMO team has developed a 3-year plan with specific short-, mid- and long-term objectives for 2019 to 2021 regarding research, teaching, outreach and organization. The plan is updated regularly. In the following, we look back at our goals in 2019 and provide insight into our plans for 2020-2021.

### Research 2019 – 2021

Our overall objective regarding research over the years 2019 to 2021 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. This means among other objectives to:

- build up our research group FREMO 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 (successfully accomplished in 2019), to collaborate within the four pillars, to have a broad range of activities in each, and to establish the FREMO conference as a brand with a decent number and high quality of presentations and renowned keynote speakers (outlook to 2020-2021)
- publish with high-quality on the national and international level so that we have at least half of our publications in highly renowned journals and at least one article in a leading Q1 journal (successfully accomplished in 2019), to publish articles that have agenda-setting potential and to publish in Norwegian and Nordic outlets (outlook to 2020-2021)
- further develop the robustness of the centre and the quality of its research by expanding our portfolio of external grants (accomplished in 2019) and prepare an application for a Centre of Excellence or an individual ERC grant (outlook to 2020-2021)
- provide extensive support for our Postdoctoral fellows and PhD candidates in terms of good mentoring or supervision practices and frequent opportunities to present their work internally and externally, participation in teaching activities (successfully accomplished in 2019) and encourage PhD candidates to participate in the FREMO research seminar and several courses of the Master program (outlook to 2020-2021)
- strengthen our international network through highly-qualified Gustafsson & Skrondal scholars, establishing a new International Advisory Board (successfully accomplished in 2019), have additional guest researchers with their own funding and collaborate with international research units (outlook to 2020-2021)

## Teaching 2019 – 2021

Our overall objective regarding teaching over the years 2019 to 2021 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. 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 (successfully accomplished in 2019), to have good throughput, and to clarify which resources are available in the long run to contribute to teaching beyond the Master program, namely at the bachelor level or to stakeholders and internationally (outlook to 2020-2021)

## Outreach 2019 – 2021

Our overall objective regarding outreach over the years 2019 to 2021 is to become more visible in the Norwegian and the Nordic context. 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 and publish a textbook or

an article in a popular science outlet such as forskning.no (not yet accomplished)

- create a network in assessment, measurement and evaluation as part of the Nordic Educational Research Association (NERA) and publish at least one article each in a journal with a Nordic focus (successfully accomplished in 2019)

## Administration 2019 – 2021

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. This means among other objectives to

- 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 (successfully accomplished in 2019) and establish CEMO as a level 3 center at the Faculty of Educational Sciences with secure basic funding at the current size and productive relations with ILS, IPED and ISP (outlook to 2020-2021)



## 5. Management & administration

The CEMO team has developed a 3-year plan with specific short-, mid- and long-term objectives for 2019 to 2021 regarding research, teaching, outreach and organization. The plan is updated regularly. In the following, we look back at our goals in 2019 and provide insight into our plans for 2020-2021.

### Administrative structure

Professor Sigrid Blömeke, Director of CEMO, runs the center. In collaboration with Deputy Director Professor Rolf Vegar Olsen and under the supervision of the CEMO Board, the responsibilities include strategic decisions about CEMO's research, teaching and outreach profile, about 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 Higher Executive Officer Gunhild Nedberg Grønliid. 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.

The administration at the Faculty of Educational Sciences operates employments at CEMO as well as budgeting and accounting. The Faculty of Educational Sciences also provides IT support.



## The CEMO 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 Board members provide feedback on CEMO's activities from an internal perspective. The Board includes the heads of the three Departments at the Faculty of Educational Sciences, an employee representative and a student representative.

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

## CEMO's International Scientific Advisory Board

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 first Board served from 2016 to 2019. In the fall of 2019, a new Board started and had its first annual meeting in December. The members discussed the CEMO portfolio including general strategic issues, research and recruitment politics, the new master program, public relation work, the FREMO research group, research on the Norwegian assessment system, research innovations ahead, and external funding applications.

International Scientific Advisory Board	
NAME	AFFILIATION
Cees Glas, Professor	University of Twente, The Netherlands. Chair of the Department of Research Methodology, Measurement and Data Analysis
Stephen Sireci, Professor	University of Massachusetts Amherst, USA. Director of the Center for Educational Assessment.
Petra Stanat, Professor	Humboldt University Berlin, Germany. Head of the Department "Education and Integration"; Director of the Institute for Educational Quality Improvement (IQB) at the Humboldt University of Berlin.
Carolin Strobl, Professor	University of Zürich, Switzerland. Head of the Research unit.

## 6. 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 2019

		Financial statement	Budgeted expenses
Opening balance		-14,153,197	-14,153,197
Total Opening balance		-14,153,197	-14,153,197
Funding	Core funding	-11,607,241	-11,385,000
	External income	-100,000	
	Income from sales	383	
Total funding		-11,706,858	-11,385,000
Staff expenses	Salary cost	8,595,850	9,807,342
	Salary (variable)	-315,414	
	Holiday pay, payroll tax, pension	3,729,192	4,393,803
	Salary expenses	91,317	-60,887
	Other refunds	121,984	125,784
Total staff expenses		12,222,929	14,266,042
Operating expenses	Consultancy service	26,915	0
	Rent	109,588	2,064,362
	Travel costs, courses, conference	646,448	745,275
	Other operating expenses	859,095	779,573
Total Operating expenses		1,642,046	3,589,210
Investments	Investments	152,431	100,000
Total investments		152,431	100,000
Netto contribution	Own funding (UiO)	2,282,121	2,228,493
	Overhead	-3,529,937	-3,728,032
	Salary Reimbursement	-1,302,118	-1,645,596
Total netto contribution		-2,549,934	-3,145,135
Project closing balance	Project closing balance	427,944	0
Total project closing balance		427,944	0
<b>Total</b>		<b>-13,964,639</b>	<b>-10,728,080</b>

## Budgeted 2020

		Budget
Opening balance		-13,964,639
Total Opening balance		-13,964,639
Funding	Core funding	-14,389,910
	External income	
	Rental/sales Income	
Total funding		-14,389,910
Staff expenses	Salary cost	10,678,646
	Salary (variable)	
	Holiday pay, payroll tax, pension	4,795,686
	Salary expenses	0
	Hourly salary	129,650
Total staff expenses		15,603,982
Operating expenses	Consultancy service	0
	Rent	1,968,253
	Travel costs, courses and conference	1,148,000
	Other operating expenses	2,343,044
Total Operating expenses		5,459,297
Investments	Investments	600,000
Total investments		600,000
Net contribution from	Own funding (UiO)	2,207,181
externally funded projects	Overhead	-3,093,434
	Salary Reimbursement	-2,394,266
Total net contribution from externally funded projects		-3,280,519
<b>Total</b>		<b>-9,971,789</b>

## 7. 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-
Scherer, Ronny	Germany	Professor	Aug 2019-
Andersson, Björn	Sweden	Associate Professor	Dec 2017-
Stefan Schaubert	Germany	Associate Professor/affiliated from Faculty of Medicine	Sep 2018-
Costa, Denise Reis	Brazil	Postdoctoral Fellow	Jan 2018-
Niculescu, Alexandra C.	Romania	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	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-
Kristensen, Jarl Kleppe	Norway	PhD Candidate	Mar 2019-
Zhang, Maoxin	China	PhD Candidate	Aug 2019-
Chen, Chia-Wen	Taiwan	PhD Candidate	Mar 2019-
Helland-Riise, Fredrik	Norway	PhD Candidate	Sep 2016-
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-
Heslien, Siri A. P.	Norway	Senior Executive Officer	Jan 2018-
Grønliid, Gunnhild Nedberg	Norway	Higher Executive Officer	Nov 2019-
Jørstad, Oscar Skovdahl	Norway	Research assistant	May 2019-

### CEMO former team members

Name	Nationality	Position	Period
Lehre, Anette	Norway	Research assistant	Aug 2019-Des 2019
O'Neil, Caroline	USA	Research assistant	Jan 2019-Jun 2019
Feyer, Frida K.	Norway	Research assistant	Aug 2017-Jun 2019
Uehara, Dan	Australia	Research assistant	Jan 2019- Des 2019
Andresen, Øystein	Norway	Senior Executive Officer	Aug 2014-Aug 2019

### CEMO Gustafsson-Skrondal visiting scholarship

Name	Nationality	Period
Steinmann, Isa	Germany	Aug 2019-(March 2020)

### CEMO guest researchers

Name	Nationality	Period
Constantinidou, Evropi-Evi	Greece	June 2019-Dec 2019
Dörendahl, Jan	Luxembourg	Aug 2019-Sept 2019
Backfisch, Iris	Germany	Sept 2019

## CEMO events

### High Profile talk

Name	Seminar title	Date
Cheng, Ying	Detection of Inattentiveness in Questionnaire or Survey Data	17 June 2019

### Brown Bag seminars

Name	Seminar title	Date
Henrik Galligani Ræder	<i>Off-grade usage of numeracy items: Investigating item invariance using a step-wise procedure</i>	17 Dec 2019
Niek Frans	<i>Empirical priors in computerized adaptive testing: risk and reward</i>	10 Dec 2019
Isa Steinmann	<i>Item Wording Effects in Mixed-Worded Scales: An Application of Factor-Mixture Analysis</i>	3 Dec 2019
Saskia Van Laar	<i>Decomposing the Comparative Fit Index: Effects of model characteristics on CFI performance</i>	19 Nov 2019
Riikka Mononen	<i>Tracking individual differences in numeracy development – interplay between skills, motivation and well-being</i>	5 Nov 2019
Haakon Thorbergesen Haakstad	<i>Examining the Reliability and Pass/Fail Classification Accuracy of Objective-Structured Clinical Examinations</i>	8 Oct 2019
Chia-Wen Chen	<i>Structural Equation Mixture Model for identification of Misconception with Certainty of Response Indices</i>	24 Sept 2019
Kondwani Kajera Mughogho	<i>The interaction between item parameter bias and subscore value</i>	10 Sept 2019
Jan Dörendahl	<i>Approaching the domain specificity of achievement goal orientation</i>	27 Aug 2019
Shaobo Jin	<i>A Marginal Maximum Likelihood Approach for Extended Quadratic Structural Equation Modeling</i>	20 Aug 2019
Henrik Galligani Ræder	<i>Exploring the unidimensionality of the Norwegian National Numeracy tests</i>	11 June 2019
Waldir Leoncio	<i>Using the git system to organize your research</i>	28 May 2019
Denise Reis Costa	<i>Log-file analyses: opportunities and challenges</i>	15 May 2019
Haakon Thorbergesen Haakstad	<i>Working With the Standard Beta Distribution</i>	16 Apr 2019
Chia-Wen Chen	<i>Item response theory models for multidimensional forced-choice items</i>	2 Apr 2019
Johan Braeken & Saskia van Laar	<i>Self-reported Personality of Parents and Perceived Temperament of their Infant</i>	19 Mar 2019
Björn Andersson	<i>Notes on reliability with item response theory models</i>	5 Mar 2019
Alexandra Niculescu	<i>Adapt 21, an assessment framework for adaptation in the 21st century</i>	19 Feb 2019
Rolf Vegar Olsen	<i>Oaxaca-Blinder Decomposition (OBD): An introduction and some challenges</i>	22 Jan 2019



## Courses

UV9292: *Measurement Models*, Denise Reis Costa, spring 2019

The course introduced the fundamental theories and application of measurement models.

UV9293: *Item Response Theory*, Björn Andersson, spring 2019

The course introduced the core concepts and techniques of item response theory (IRT) which underlie current test design strategies, psychometric analyses, and evaluation of assessment instruments

UV9294: *Analysis of Large-Scale Assessment Data*, Andreas Frey, autumn 2019

The focus of the course was on the methodological aspects of International Large-Scale Assessments

UV9295: *Program Evaluation*, David Rutkowski, autumn 2019

This introductory course presented and discussed the modern field of formal program evaluation.

UV9253: *Multilevel Models*, Ronny Scherer, autumn 2019

The course introduced the fundamental theories and application of multilevel models.

UV9290: *Data Science*, Johan Braeken, autumn 2019

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, autumn 2019

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 level 2 journals or level 1 journals with impact factor > 1)

Liu, Yanlou; Xin, Tao; **Andersson, Björn** & Tian, Wei (2019). Information matrix estimation procedures for cognitive diagnostic models. *British Journal of Mathematical & Statistical Psychology*. ISSN 0007-1102. 72(1), s 18- 37 . doi: [10.1111/bmsp.12134](https://doi.org/10.1111/bmsp.12134)

Jin, Shaobo & **Andersson, Björn** (2019). A note on the accuracy of adaptive Gauss-Hermite quadrature. *Biometrika*. ISSN 0006-3444. . doi: [10.1093/biomet/asz080](https://doi.org/10.1093/biomet/asz080)

Luo, Hao; **Andersson, Björn Håkan**; Tang, Jennifer & Wong, Gloria (2019). Applying Item Response Theory Analysis to the Montreal Cognitive Assessment in a Low-Education Older Population. *Assessment (Odessa, Fla.)*. ISSN 1073-1911. s 1- 13 . doi: [10.1177/1073191118821733](https://doi.org/10.1177/1073191118821733)

**Blömeke, Sigrid** & **Olsen, Rolf Vegar** (2019). Consistency of results regarding teacher effects across subjects, school levels, outcomes and countries. *Teaching and Teacher Education*

: [An International Journal of Research and Studies](#). ISSN 0742-051X. 77, s 170- 182 . doi: [10.1016/j.tate.2018.09.018](#)

**Blömeke, Sigrid**; Thiel, Oliver & Jenssen, Lars (2019). Before, During, and After Examination: Development of Prospective Preschool Teachers' Mathematics-Related Enjoyment and Self-Efficacy. [Scandinavian Journal of Educational Research](#). ISSN 0031-3831. 63(4), s 506- 519 . doi: [10.1080/00313831.2017.1402368](#) Full text in [Research Archive](#).

Nehls, Caroline; König, Johannes; Kaiser, Gabriele & **Blömeke, Sigrid** (2019). Profiles of teachers' general pedagogical knowledge: Nature, causes and effects on beliefs and instructional quality. [ZDM: Mathematics Education](#). ISSN 1863-9690. . doi: [10.1007/s11858-019-01102-3](#)

Jenssen, Lars; Thiel, Oliver; Dunekacke, Simone & **Blömeke, Sigrid** (2019). [Mathematikangst bei angehenden frühpädagogischen Fachkräften: Bedeutsam für professionelles Wissen und Wahrnehmung von mathematischen Inhalten im Kita-Alltag?](#). [Journal für Mathematik-Didaktik](#). ISSN 0173-5322. s 1- 27 . doi: [10.1007/s13138-019-00151-1](#) Show summary

Trapp, Stefanie; **Blömeke, Sigrid** & Ziegler, Matthias (2019). The openness-fluid-crystallized-intelligence (OFCI) model and the environmental enrichment hypothesis. [Intelligence](#). ISSN 0160-2896. 73, s 30- 40 . doi: [10.1016/j.intell.2019.01.009](#)

Pettersen, Andreas & **Braeken, Johan** (2019). Mathematical Competency Demands of Assessment Items: a Search for Empirical Evidence. [International Journal of Science and Mathematics Education](#). ISSN 1571-0068. 17(2), s 405- 425 . doi: [10.1007/s10763-017-9870-y](#) Full text in [Research Archive](#).

Paap, Muirne C. S.; Born, Sebastian & **Braeken, Johan** (2019). Measurement Efficiency for Fixed-Precision Multidimensional Computerized Adaptive Tests: Comparing Health Measurement and Educational Testing Using Example Banks. [Applied Psychological Measurement](#). ISSN 0146-6216. 43(1), s 68- 83 . doi: [10.1177/0146621618765719](#)

**Chen, Chia-Wen**; Wang, Wen-Chung; Ming Ming, Chiu & Ro, Sage (2019). Item Selection and Exposure Control Methods for Computerized Adaptive Testing with Multidimensional Ranking Items. [Journal of Educational Measurement](#). ISSN 0022-0655. . doi: [10.1111/jedm.12252](#)

Born, Sebastian; Fink, Aron; Spoden, Christian & **Frey, Andreas** (2019). Evaluating Different Equating Setups in the Continuous Item Pool Calibration for Computerized Adaptive Testing. [Frontiers in Psychology](#). ISSN 1664-1078. 10 . doi: [10.3389/fpsyg.2019.01277](#)

Rose, Norman; Nagy, Gabriel; Nagengast, Benjamin; **Frey, Andreas** & Becker, Michael (2019). Modeling multiple item context effects with generalized linear mixed models. [Frontiers in Psychology](#). ISSN 1664-1078. 10 . doi: [10.3389/fpsyg.2019.00248](#)

**Frey, Andreas** & Hartig, Johannes (2019). Kompetenzdiagnostik, I: *Handbuch Schulpädagogik*. Waxmann Verlag. ISBN 978-3-8252-8698-9. Chapter 75. s 849 - 858

König, Christoph; Spoden, Christian & **Frey, Andreas** (2019). An optimized Bayesian hierarchical two-parameter logistic model for small-sample item calibration. [Applied Psychological Measurement](#). ISSN 0146-6216. . doi: [10.1177/0146621619893786](#)

Engelhardt, Lena; Naumann, Johannes; Goldhammer, Frank; **Frey, Andreas**; Wenzel, Franziska; Hartig, Katja & Horz, Holger (2019). Convergent Evidence for the Validity of a Performance-Based ICT Skills Test. [European Journal of Psychological Assessment](#). ISSN 1015-5759. . doi: [10.1027/1015-5759/a000507](#)

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## Conference contributions

**Andersson, B.**, (2019, April) Estimation of multidimensional item response theory models using higher-order asymptotic expansions, National Council on Measurement in Education Annual Meeting, Toronto, Canada.

**Blömeke, S.**, (2019, January) Eksamen i fagfornyelsen. KDs referansegruppemøte med partene for fagfornyelsen. Oslo, Norway.

**Blömeke, S.**, (2019, June) Forslag til endringer i eksamensordningen pga. fagfornyelsen og den teknologiske utviklingen KDs referansegruppemøte med partene for fagfornyelsen. Oslo, Norway.

**Blömeke, S.**, (2019, June) Teacher competence and instructional quality – conceptualization and empirical relation QUINT conference. Oslo, Norway.

**Blömeke, S.**, (2019, September) Teacher Competence and Instructional Quality: Conceptualization, Assessment and Results OCCAM conference. Gothenburg, Sweden,

**Blömeke, S.**, (2019, October) Comment on "Assessment Paradigms" by Jo-Anne Baird University of Bergen. Bergen, Norway.

**Blömeke, S.**, (2019, October) Exams in Norway: Main features and the need of a quality assurance framework International workshop Udir. Oslo, Norway.

**Blömeke, S.**, (2019, October) Ny eksamensordning etter fagfornyelsen. Skolenes landsforbund landsstyremøte. Sørmarka, Norway.

**Frey, A.**, Fink, A., Born, S., & Spoden, C. (2019, February). *Computerisiertes adaptives Testen bei wiederkehrenden Erhebungen mit kleinen Stichproben* [Computerized adaptive testing for recurring tests with small samples]. Paper presented at the 7. Tagung der Gesellschaft für Empirische Bildungsforschung (GEBF), Köln, Germany.

**Frey, A.** (2019, March). *Hochschulklausuren besser machen: Das Projekt KAT-HS* [Making written University exams better: The project KAT-HS]. Paper presented at the Kolloquium Methoden der empirischen Bildungsforschung, Hirschegg, Austria.

**Frey, A.**, Fink, A., & Spoden, C. (2019, June). *Consideration of item position effects in CAT with the continuous calibration strategy*. Paper presented at the Conference of the International Association for Computerized Adaptive Testing (IACAT), Minneapolis, USA.

**Frey, A.**, Fink, A., & Spoden, C. (2019, September). *Berücksichtigung von Itempositionseffekten beim computerisierten adaptiven Testen mit der kontinuierlichen Kalibrierungsstrategie* [Consideration of itemposition effects in computerized adaptive testing with the continuous calibration strategy]. Paper presented at the 14. Tagung der Fachgruppe Methoden und Evaluation der Deutschen Gesellschaft für Psychologie (DGPs), Kiel, Germany.

**Frey, A.**, & Hartig, J. (2019, September). *Methodenentwicklungen zu Anwendungen der Item-Response-Theorie in verschiedenen diagnostischen Kontexten* [New methods for applications of item-response theory in different diagnostic contexts]. Symposium organized at the 14. Tagung der Fachgruppe Methoden und Evaluation der Deutschen Gesellschaft für Psychologie (DGPs), Kiel, Germany.

**Frey, A.**, Fink, A., & Spoden, C. (2019, October). *Kriteriumsorientiertes adaptives Testen an der Hochschule (KAT-HS)* [Criterion-referenced adaptive testing in higher education]. Poster presented at the Conference of the Hochschulforum Digitalisierung (HFDcon), Bonn, Germany.

Kroll, P., Born, S., & **Frey, A.** (2019, September). *Itemparameter-Drift in kleinen Stichproben* [Itemparameter drift in small samples]. Paper presented at the 14. Tagung der Fachgruppe Methoden und Evaluation der Deutschen Gesellschaft für Psychologie (DGPs), Kiel, Germany.

Spoden, C., & **Frey, A.** (2019, September). *Adaptive, partiell-adaptive und multistage Messung individueller Veränderung* [Adaptive, partially-adaptive and multistage testing of individual change]. Paper presented at the 14. Tagung der Fachgruppe Methoden und Evaluation der Deutschen Gesellschaft für Psychologie (DGPs), Kiel, Germany.

Engelhardt, L., Naumann, J., Goldhammer, F., **Frey, A.**, Horz, H., Hartig, K., & Wenzel, S. F. C. (2019, September). *Performance-based testing of ICT skills. Development and evaluation of an ICT skills framework*. Paper presented at the conference of the research initiative Positive Learning in the Age of Information (PLATO), Mainz, Germany.

Fink, A., Spoden, C., Born, S., & **Frey, A.** (2019, August). *Testing an explanatory model for the intention to use e-exams by the university teaching staff*. Paper presented at the 18th Biennial EARLI Conference for Research on Learning and Instruction (EARLI), Aachen, Germany.

Koenig, C., Khorramdel, L., Yamamoto, K., & Frey, A. (2019, August). *Increasing the flexibility of large-scale assessments with fixed item parameter calibration*. Paper presented at the 18th Biennial EARLI Conference for Research on Learning and Instruction (EARLI), Aachen, Germany.

Born, S., Spoden, C., Fink, A., & Frey, A. (2019, February). *Psychometrische Optimierungen bei kontinuierlich kalibrierten Hochschulklausuren* [Psychometric optimization of continuously calibrated university exams]. Paper presented at the 7. Tagung der Gesellschaft für Empirische Bildungsforschung (GEBF), Köln, Germany.

Esmaeili Bijarsari, S., Frey, A., Spoden, C., Born, S., & Fink, A. (2019, February). *Emotionale Effekte von Itemreview in Hochschulklausuren* [Emotional effects of item review in written university exams]. Paper presented at the 7. Tagung der Gesellschaft für Empirische Bildungsforschung (GEBF), Köln, Germany.

Fink, A., Spoden, C., Born, S., & Frey, A. (2019, August). *Testing an explanatory model for the intention to use e-exams by the university teaching staff* [Factors influencing the intention of university teachers to use (adaptive) e-exams]. Paper presented at the 18th Biennial EARLI Conference for Research on Learning and Instruction (EARLI), Aachen, Germany.

Reis Costa, D., (2019, July) Application of Kaplan-Meier Curves for Analysis of Process Data-Symposium Process data in international large-scale assessments: Methods and applications. Presentation at the International Meeting of the Psychometric Society (IMPS), Santiago, Chile.

Steinmann, I., (2019, September). Achievement Effects of Extracurricular Homework Support and Remedial Education for Non-Native Speakers in Germany. Presentation at the WERA-IRN Extended Education Conference, Stockholm, Sweden.

Strello, A., Strietholt, R., Siepmann, C., & Steinmann, I. (2019, June). Effects of Early Tracking on Performance and Inequalities in Achievement: Combined Evidence from PIRLS, TIMSS, and PISA. Presentation at the IEA International Research Conference (IEA IRC), Copenhagen, Denmark.

Steinmann, I., Strietholt, R., & Rosén, M. (2019, April). International Reading Gaps between Boys and Girls from 1970-2011. Presentation at the American Educational Research Association (AERA) Annual Meeting, Toronto, Canada.

Gustafsson, J.-E., Rosén, M., Steinmann, I. & Strietholt, R. (2019, August). Outcomes and Their Determinants in International Comparative Assessments Part I. Symposium at the European Conference on Educational Research (ECER), Hamburg, Germany.

Gustafsson, J.-E., Rosén, M., Steinmann, I. & Strietholt, R. (2019, August). Outcomes and Their Determinants in International Comparative Assessments Part II. Symposium at the European Conference on Educational Research (ECER), Hamburg, Germany.

Gustafsson, J.-E., Rosén, M., Steinmann, I. & Strietholt, R. (2019, August). Outcomes and Their Determinants in International Comparative Assessments Part III. Symposium at the European Conference on Educational Research (ECER), Hamburg, Germany.

Veletić, J., & Olsen, R.V. (2019, September). Instructional Leadership as a predictor of Teacher Job Satisfaction. Presentation at the European Conference on Educational Research (ECER), Hamburg, Germany.

## Awards

CEMO director **Sigrid Blömeke** received the University of Oslo's Research Award 2019.

Gustafsson-Skrondal visiting scholar **Isa Steinmann** received Technical University of Dortmund's Rudolf Chaudoire Awards 2019.

CEMO PhD candidates **Kondwani Kajera Mughogho** and **Stephan Daus** won the best poster awards at the IEA International Research Conference in Copenhagen.

**Stephan Daus** received in addition the IEA Bruce H. Choppin Memorial Award for an 'outstanding PhD research thesis based on IEA study data'.









# CEMO

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CEMO 180700

Rapportert av:  
Sigrid Blömeke/  
Trine Labahå

Periode:  
T1 – 2020

## Mal for økonomirapport

### Basisvirksomhet

Beløp i mill. kr	Regnskap T1 2019	Regnskap T1 2020	Års- regnskap 2019	Års- budsjett 2020	Prognose 2020	Prognose 2021	Prognose 2022	Prognose 2023	Prognose 2024
Inntekter	-1,79	-2,44	-11,71	-14,39	-14,39	-15,11	-15,91	-16,15	-16,12
Personalkostnader	3,99	5,19	12,22	15,60	14,78	17,34	15,34	13,18	12,66
Driftskostnader	0,45	1,46	1,64	5,46	6,04	4,76	5,01	4,66	4,92
Investeringer	0,00	0,04	0,15	0,60	0,83	0,10	0,17	0,10	0,10
<b>Isolert mer-/mindreforbruk uten nettobidrag og prosjektavslutning</b>	<b>2,66</b>	<b>4,26</b>	<b>2,31</b>	<b>7,27</b>	<b>7,25</b>	<b>7,09</b>	<b>4,59</b>	<b>1,79</b>	<b>1,55</b>
Nettobidrag	-0,82	-0,66	-2,55	-3,28	-2,34	-1,77	-1,07	-1,45	-1,50
Prosjektavslutning	0,00	0,00	0,43	0,00	0,00	0,00	0,00	0,00	0,00
<b>Isolert mer-/mindreforbruk</b>	<b>1,84</b>	<b>3,60</b>	<b>0,19</b>	<b>3,99</b>	<b>4,92</b>	<b>5,33</b>	<b>3,52</b>	<b>0,34</b>	<b>0,06</b>
Overført fra i fjor	-14,15	-13,96	-14,15	-13,96	-13,96	-9,05	-3,72	-0,20	0,13
<b>Akkumulert mer-/mindreforbruk</b>	<b>-12,31</b>	<b>-10,37</b>	<b>-13,96</b>	<b>-9,97</b>	<b>-9,05</b>	<b>-3,72</b>	<b>-0,20</b>	<b>0,13</b>	<b>0,19</b>

### Årsprognose mot årsbudsjett for år 2020

Prognose for 2020 viser ett mindreforbruk på 9,049 millioner mot årsbudsjett på 9,971 millioner i mindreforbruk. Endringen gjelder i hovedsak at budsjett for fremtidige prosjekter for år 2020 er fjernet (nettobidraget) da enheten ikke fikk tilslag på noen av prosjektsøknader hos NFR i denne runden. Ellers er det gjort mindre endringer i både lønns- og driftsbudsjettet.

### Langtidsprognosen

CEMO leverer en langtidsprognose med ett akkumulert resultat tilnærmet i balanse pr 2024 (0,19 millioner). For 3.tertial 2019 leverte enheten en prognose som viste ett akkumulert mindreforbruk på 2,1 millioner pr 2024.

Endringen skyldes i hovedsak at resultatet for 2019 endte opp med 1,2 millioner lavere enn prognosen. Den øvrige endringen gjelder justeringer som er lagt inn i prognosen i løpet av 1 tertial 2020.

Prognosen viser ett merforbruk isolert hvert år. Merforbruket reduseres utover i perioden. Det skyldes avganger av flere rekrutteringsstillinger som ikke blir erstattet.

Alle kjente inntekter og kostnader er lagt inn i prognosen.

**Eksternt finansiert virksomhet**

Beløp i mill. kr	Regnskap T1 2019	Regnskap T1 2020	Års- regnskap 2019	Års- budsjett 2020	Prognose 2020	Prognose 2021	Prognose 2022	Prognose 2023	Prognose 2024
Inntekter	-2,04	-1,55	-3,19	-4,36	-4,36	-2,57	-1,70	-1,70	-1,70
Personalkostnader	1,63	1,01	4,04	3,21	2,60	1,48	0,62	0,62	0,62
Driftskostnader	0,14	0,06	0,53	1,28	1,40	0,23	0,20	0,00	0,00
Investeringer	0,01	0,00	0,02	0,00	0,00	0,00	0,00	0,00	0,00
<b>Isolert mer-/mindreforbruk uten nettobidrag og prosjektavslutning</b>	<b>-0,25</b>	<b>-0,48</b>	<b>1,40</b>	<b>0,13</b>	<b>-0,36</b>	<b>-0,86</b>	<b>-0,88</b>	<b>-1,08</b>	<b>-1,08</b>
Nettobidrag	0,82	0,55	2,83	3,06	2,00	1,53	1,19	1,19	1,19
Prosjektavslutning	0,00	0,00	-0,43	0,00	0,00	0,00	0,00	0,00	0,00
<b>Isolert mer-/mindreforbruk</b>	<b>0,57</b>	<b>0,07</b>	<b>3,80</b>	<b>3,19</b>	<b>1,64</b>	<b>0,68</b>	<b>0,32</b>	<b>0,11</b>	<b>0,11</b>
Overført fra i fjor	-5,60	-1,80	-5,60	-1,80	-1,80	-0,16	0,52	0,84	0,95
<b>Saldo</b>	<b>-5,03</b>	<b>-1,72</b>	<b>-1,80</b>	<b>1,39</b>	<b>-0,16</b>	<b>0,52</b>	<b>0,84</b>	<b>0,95</b>	<b>1,06</b>

**Langtidsprognosen**

Prognosen viser ett akkumulert overforbruk på ca 1 million pr 2024. Dette gjelder i hovedsak ett budsjettert overforbruk på prosjekt 139999 – Fremtidige prosjekter (justeres ila 2T 2020).

I tillegg til dette så er prosjektinntektene for år 2020 underbudsjettert med drøye kr.900,000 (inntekter budsjettert i 2019 men som ble overført i 2020).

## Økonomi - Senter for psykometri/CEMO

Tiltak	Beløp (1000 kr)		Kommentarer
	Budsjett 2012	Esimat avvikling	
Senterleder	1 000	1500	
3 vit. stillinger à 800	2 400	3200	4 vit. Stillinger (+1 pga. MAE)
1 admin leder	800	800	
1 saksbehandler	500	1200	2 saksbehandlere à 600' (+1 pga. MAE)
Formidling	1 000		
Internasjonalisering	400		
Infrastruktur	500		
<b>Sum KD-finansiering</b>	<b>6 600</b>	<b>6 700</b>	
3 stip. à 850 (lønn + drift)	2 550	2550	
Veiledning PhD	100		
Post doc. (lønn + drift)	900	900	
Prof. II	300		
Admin støtte (20 % ressurs)	150		
Opplæringsprogram, PhD	400		
Internasjonalisering, PhD	200		
Metodemaster (tilleggs-kost)	200		
Overhead, 5 faste vit. stillinger	1 000	2 250	Fakultær overhead, 10 stillinger à 225'
<b>Sum UV-finansiering</b>	<b>5 800</b>	<b>5 700</b>	
<b>Total senterfinansiering</b>	<b>12 400</b>	<b>12 400</b>	