



UIB LÆRINGSKONFERANSE 2023

Book of Abstracts

UNIVERSITETET I BERGEN



TRANSFORMATIVE LEARNING AND TEACHING

Keynotes

Cathy Bovill

The transformational potential of co-creation

The co-creation of learning and teaching is a powerful movement in higher education where students and staff collaborate to design curricula, which creates meaningful learner engagement and builds positive relationships between university teachers and students. In this keynote, Cathy Bovill will highlight the wide range of co-creation practice taking place across higher education internationally and present a range of evidence demonstrating the benefits of co-creation. For staff and students who experience co-creation, some of these benefits are transformational. She will explore experiences of transformation and suggest that they provide evidence and impetus for universities to maximise co-creation opportunities for all staff and students.

Crina Damşa

Understanding and teaching collaborative learning

Collaboration and dialogue are known means to address major challenges we often face in education or the workplace. Knowing how to collaborate and how to solve problems together are, therefore, important skills students should learn during their study career. Yet, meaningful and productive collaboration remains difficult to accomplish and to guide. In this presentation, I will reflect on how we understand learning in collaboration, and in small group especially, and what research knowledge about this way of learning implies for teaching students how (to learn) to collaborate. I will raise and address questions on how productive interaction and how collaboration dynamics are being shaped or hindered, and the role of the learning design and guidance in supporting collaborative learning. Further, I will elaborate on how digital technologies offer new opportunities to examine and support some of the 'black-boxed' aspects of collaborative learning. I will conclude by reflecting on how collaboration should be a more fundamental part of the way in which we frame education to prepare a young generation to jointly engage with present and future hardships.

Papers

Mirey Alfarah, Reidun Kjome, Lone Holst & Aase Raddum

Mentimeter: Empowering students' participation for course evaluation and redesign.

Whole-class co-creation in learning and teaching involves inviting a group of students, who are studying together, to collaborate actively. That also includes negotiating elements of the learning process with the teacher and each other¹. Students are empowered to take a more active role in shaping their learning when they are treated as equal partners in the course evaluation process². Technological tools and especially student response systems (SRS), such as Mentimeter, can play a great role in increasing student participation in the classroom. However, few practices on utilizing SRS for course evaluation have been documented. By combining Mentimeter and the Student Assessment of their Learning Gains (SALG) instrument we increased student response rates to 100%. Students' feedback was used actively to review and redesign different courses at the Centre for Pharmacy. This novel practice empowered students to voice their opinion and aided the course leaders' efforts to empathize with students, redesign parts of their courses, and reflect on their broader teaching and student support practices. We believe that this practice could be easily replicable and serve as an inspiration for peers that aspire to activate students' voice and increase their motivation to provide feedback on their learning.

1. Bovill, C. (2020). Co-creation in learning and teaching: the case for a whole-class approach in higher education. *Higher education*, 79(6), 1023-1037.
2. Blau, I., & Shamir-Inbal, T. (2018). Digital technologies for promoting "student voice" and co-creating learning experience in an academic course. *Instructional Science*, 46, 315-336.

Dario Blumenschein

Implementing changes in higher education: a social network perspective

Globalization, digitalization, and massification of higher education have vastly altered the landscape of teaching and learning, which has called for empirical contributions towards understanding how to achieve and maintain successful change processes. By employing Social Network Analysis and combining it with the theory of Diffusion of innovation, we aim to answer the following questions: 1) What is the relationship between higher education teachers' social networks and their readiness to implement changes in higher education?; 2) What are the structural and positional characteristics of teachers' social networks?; 3) What is the relationship between teachers' teaching and research networks? The results show the most innovative members in a network also tend to be the most central ones. They also demonstrate higher interconnectedness compared to other individuals, as well as play a crucial role in promoting frequent conversations (i.e. strong ties). Furthermore, there is a strong correlation between teaching and research networks that is offering additional implications for the teaching-research nexus. Network data shows that PhD candidates tend to be the most peripheral members of a network, which opens new questions of the role of PhD candidates in higher education. This presentation is aimed at those who are interested in exploring the higher education landscape from a different analytical perspective and for those who are curious to think how it is possible to implement changes on larger scale. By encouraging audience to reflect on their teaching (or learning practices) and using interactive presentation methods we hope to keep the audience engaged and interested.

Wasserman, S., & Faust, K. (1994). *Social network analysis: Methods and applications*. Cambridge University Press. <https://doi.org/10.1017/CBO9780511815478>

Rogers, E.M. (2003). *Diffusion of innovations* (5th ed.). New York: Free Press

Cecilie Boge, Tane Holm Høisæter & Kari Bjørge Johnsen

UiB læringslab – olje eller sand i maskineriet?

UiB læringslab har vært medansvarlig for kvalitetsarbeid i emner og studieprogram siden 2017. I denne presentasjonen får du arbeidet, folkene og feltet formidlet fra innsiden. Sentralt i transformativ læring er kritisk refleksjon rundt egne synspunkt og vanemessige måter å tenke på (Hatlevik 2018). Dette har vært en av læringslabens ledetråder gjennom de fem årene vi har eksistert som støttemiljø for UiBs undervisere. Hvilke metoder bruker vi i samarbeid med fagmiljøene, og hvor vanskelig er det for fagmiljøene å gjennomføre endringsprosesser? Vi vil presentere eksempler og refleksjoner rundt samarbeid med fagmiljø, som vi håper har resultert i transformativ læring for alle involverte.

Det første eksemplet viser hvordan vi jobber med utviklingen av nettbasert videreutdanning ved hjelp av sandkasseemner i Mitt UiB. Selve strukturen er basert på Gilly Salmons «Five Stage Model» som er mye brukt i høyere utdanning (Salmon 2013). Hvilke refleksjonsprosesser settes i gang når lærerne utformer emner for studenter som ikke møtes fysisk i studiet? Og hvordan kan bruken av sandkasseemner i Mitt UiB understøtte slikt utviklingsarbeid? I det andre eksemplet skal vi dykke ned i kvalitetsarbeidet som handler om utvikling og redesign av studieprogram. Dette er komplekse prosesser som krever kollegialt samarbeid i et fagmiljø, med vekt på tillit mellom kollegaene, delt ansvar og felles ambisjoner for undervisningen (Roxå og Mårtensson 2015). Hvordan får vi med oss hele fagmiljøet i utviklingsprosessen? Hvordan jobber læringslaben med å få i gang refleksjon over undervisningspraksiser i fagmiljøet?

Sondre Bolland & Torstein Strømme

Mandatory vs Voluntary Course Work in Introductory Programming Courses

What is best for student learning, having weekly lab assignments be mandatory or voluntary? [1] argues that the quality of learning is low under extrinsic conditions, e.g. when being forced to do the work. While [2] found that in a university mathematics service course, students perform 6% better on tests when they had mandatory assignments compared to if they had voluntary assignments and extra office hours. For further insight we conducted an experiment in a bachelor level programming course. The course has followed the same structure, content and staff for the last two iterations, but with one key difference: the weekly lab assignments were made mandatory in 2022 (n=265), as opposed to voluntary in 2021 (n=311). We compared the differences in student performance, attrition and stress. In the semester with mandatory lab assignments, we found a decrease in attrition with 5.4% more students participating in the final exam. However, this difference was not statistically significant. On performance we compared the results of a larger programming assignment towards the end of the term, where the mandatory semester outperformed the voluntary with a significant 3.7% score increase. Qualitative and quantitative responses to a workload survey suggest that there is a fear of being overworked by having weekly assignments be mandatory, but when faced with this work the common impression is that it is manageable, positive for the course learning experience and enjoyable. We aim to engage with educators in the field of IT and generate a discussion on the assignment practices in their courses and what effect has been observed.

References:

1. Biggs, J.B.: Student Approaches to Learning and Studying. Research Monograph. ERIC (1987)
2. Holden, T., Burazin, A.: Mandatory assignments and learning achievement in a mathematics service class. PRIMUS 0(0), 1–15 (2022).

Gunnar Tschudi Bondevik & Monika Kvernenes

What did you learn in school today? Endret fokus i studentevalueringer – fra undervisning til læring

Bakgrunn: Tradisjonelt evalueres undervisning ved å spørre studentene om hva de syntes fungerte bra og hva som kunne fungert bedre, uten å be dem rette fokus på eget læringsutbytte - noe vi dermed har begrenset kunnskap om. Medisinstudenter ved UiB har et 4 dagers kommunikasjonskurs i 3. studieår og et 2 dagers konsultasjonskurs i 6. studieår. Dette er kurs der læringsutbyttene inkluderer kunnskap om modeller for pasientsentrert kommunikasjon, ferdigheter om hvordan studentene kan bruke konsultasjonsteknikker, generell kompetanse med innblikk i pasientperspektivet, hvordan studentene kan involvere pasientene, samt potensielle kommunikasjonsutfordringer. Forskningsspørsmål: Vi vil undersøke hvordan medisinstudentene velger å beskrive og begrunne eget læringsutbytte. Dernest vil vi kartlegge om studentenes måter å

evaluere eget læringsutbytte på er annerledes i 3. sammenlignet med 6. studieår, med vekt på hvordan de resonnerer og hva de oppgir å ha lært. Vi vil også undersøke hva slags informasjon undervisere får gjennom denne måten å evaluere kursene på. Studien er viktig for å undersøke om evaluering av undervisning på medisinstudiet bør justeres. Metode: 6. års medisinstudenter (n=80) som deltar på konsultasjonskurset 30-31. januar 2023 og 3. års studenter (n=100) som deltar på kommunikasjonskurset 6.-9. februar 2023 vil bli invitert til å delta. Via Skjemaker.app.uib.no vil studentene siste kursdag anonymt levere en tekst på 250-300 ord på oppgaven «Hva har du lært på konsultasjonskurset/kommunikasjonskurset?». Fire undervisere vil svare på «Hvilken informasjon får du som underviser ved å evaluere kurset på denne måten?» Materialet vil bli analysert med systematisk tekstkondensering. Resultat: Vil bli presentert på Læringskonferansen.

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Roxå, T. et al. Reconceptualizing student ratings of teaching to support quality discourse on student learning: a systems perspective. *High Educ* 83,35–55(2022).

Jens Breivik, Kristine Ludvigsen & Ingjald Pilskog

«Jeg har fått økt bevissthet rundt hva som er kvalitet i diskusjoner – det er ikke bare prat mellom studentene» Hvordan kan en universitetspedagogisk modul om å legge til rette for, og undersøke kvalitet i faglige diskusjoner bidra til utvikling av deltakernes undervisnings- og læringskompetanse?

Å diskutere faglige spørsmål styrker både kritisk tenking og studenters læringsprosesser. Hvordan kan undervisere stimulere gode faglige diskusjoner? Og hvordan kan vi vurdere hva som er gode faglige diskusjoner? I presentasjonen beskriver vi funn fra en studie om deltakeres og underviseres erfaringer fra en universitetspedagogisk modul om å legge rette for faglige diskusjoner. Modulen tilbys ansatte på HVL, og vil tilbys nasjonalt fra høsten 2023, og er utviklet av universitetspedagoger fra HVL og UiT. Et sentralt tema i modulen har vært å vise hvorfor det er viktig for undervisere å undersøke kvalitet i studenters faglige diskusjoner. Ved å delta i modulen gjennomfører deltakerne et «mini- forskningsprosjekt» der de evaluerer kvalitet i egne studenters faglige diskusjoner. Forskningsspørsmålet er: Hvordan kan et universitetspedagogisk kurs med fokus på å undersøke kvalitet i studentdiskusjoner bidra til å stimulere et forskende blikk på utvikling av egen undervisning og studentenes faglige arbeid? Metoden er en fokusgruppe mellom tidligere deltakere og undervisere. I presentasjonen diskuterer vi hva som er kvalitet i faglige diskusjoner, hvorfor det er viktig å undersøke kvaliteten i disse, og hvordan undersøkelse av kvalitet i diskusjoner kan styrke underviseres SoTL-kompetanse. Presentasjonen er en dialog mellom undervisere og tidligere deltakere i modulen.

Referanser:

Andriessen, J. & Baker, M. (2014) *Arguing to Learn* In R. K. Sawyer (Ed.) *The Cambridge Handbook of the Learning Sciences* (2 ed., pp. 439-460). Cambridge: Cambridge University Press.

Hennessy, S., Rojas-Drummond, S., Higham, R., Márquez, A. M., Maine, F., Ríos, R. M., . . . Barrera, M. J. (2016). Developing a coding scheme for analysing classroom dialogue across educational contexts. *Learning, Culture and Social Interaction*, 9, 16-44

Christian Bull, Pål Steiner & Håkan Rydving

Inn i faget på egen hånd: Studentaktiv utforskning av primærkilder før forelesninger

Emnet i Religionsvitenskap «Midtaustens og Middelhavsområdets eldste religionshistorie, og norrøn og samisk religion» (Relv105), er del av UiB pilot-satsningen «Fram», hvor det tas sikte på å frigjøre helhetlige bolker av forskningstid for undervisere. Dette gjøres ved å legge rekken av seminarundervisning før oppstart av ordinære forelesninger. Etersom studentene møter til seminarene uten forkunnskaper har vi tenkt nytt rundt seminarundervisningens rolle for studentenes læring. Omrokkingen begrenser muligheter for å skape pensumbaserte diskusjoner, men åpner for muligheter å aktivisere studentenes faglige nysgjerrighet gjennom selvstendig utforskning.

Forskning på eldre kulturer har lenge vært i fronten av utviklingen av digital humaniora. Over de siste årene har feltet også utviklet undervisningsmetoder som knytter faglæring til praktiske ferdigheter innen kulturarvsforvaltning og digitale verktøy. Slike utforskende undervisningsmetoder skaper engasjement og dypere læring, og gir samtidig studentene praktiske ferdigheter som er etterspurt i arbeidsmarked og forskning (Feuser et al., 2021; Young et al., 2020). Seminarundervisningen legger til rette for at studentene skal fordype seg i gjenstander knyttet til oldtidsreligioner gjennom ulike tilnærminger, fra lokalt museumsbesøk til utforskning av virtuelle templer. Slik blir studentene kjent med fagets kilder, samtidig som de får et første møte med et spekter av ulike formidlingsformer. De introduseres dermed for betydningen museumsfeltet og digital humaniora har for studier og forskning. I innlegget viser vi eksempler på hvordan vi engasjerer studentene til å samarbeide om å selv oppdage oldtidens primærkilder, og hvordan vi følger opp seminararbeidet gjennom semesteret.

Anders Bærheim, Ingunn Johanne Ness, Sissel J. Brenna & Ane Johannessen

Are attained interprofessional capabilities transferable from one training to the other?

The aim of this study was to elucidate whether repeated exposure for IP courses is beneficial for development of IP capabilities. Design: A retrospect, natural two-group experiment. Material: Data from four interprofessional (IP) courses at two educational sites. Both sites have a common IP course for final year health and social care students. This is the first IP course for the students of the one site, while students from the other site started each of their three academic years with an IP course. Instrument The Interprofessional Collaborative Capabilities Attainment Survey (ICCAS), scored by the students immediately after ended course. Score on the ICCAS survey may be used to evaluate and compare IP course outcomes. ICCAS is validated in Norwegian. Ethics Students sign their informed consent. The survey is approved by The Norwegian Centre for Research Data (reference# number 587758). 743 students attended, 83 % were females, mean age was 24.5 years. The learning effect of an IP course was assessed by Cohen's d. The four courses scored d = 0.5-1.2, median 1.0. The students' pre-course scores were however about the same level for each course, varying maximum 4% from course to course. As for the learning effect of the common course, students from both sites scored similar (1.2, 1.2). We cannot demonstrate any transfer of IP capabilities scored as attained at one course over to the next course. Consequences are substantial, and possible remedies will be discussed.

Sehoya Cotner, Sondre Bolland, Robin Costello & Mirjam Glessmer

Understanding Student Sense of Belonging in Introductory STEM Courses

Some STEM fields are characterized by different levels of attrition, based on student gender and generation in college. Evidence suggests that these patterns can be attributed in part to student affect, including a student's Sense of Belonging. Doubts about belonging in the classroom are often shouldered disproportionately by students from marginalized groups, which can lead to underperformance and may explain the attrition of, for example, women or first-generation college students in science (Cohen and Garcia 2008). However, to our knowledge, there is little empirical evidence linking Sense of Belonging to, for example, performance or retention in Norwegian STEM higher education. We focus here on results of a survey-based study of students in four introductory-level science courses (n=249) at the University of Bergen in Spring 2022. As part of a survey, students were asked to rate their level of agreement with several Sense of Belonging items, such as "How comfortable do you feel in this course?" and "To what extent do you feel accepted in this course?" (Muenks et al. 2020). We found that Male students have a higher sense of belonging than their Female counterparts ($p = 0.0155$). We also found that students with a higher sense of belonging perform better in their courses ($p = 0.003$). Combining student scaled responses with open-ended questions about challenges they faced in the course can shed some light on the underpinnings of these differences and a possible mechanistic explanation for differential attrition in science disciplines in Norwegian higher education. We will encourage participant discussion of some possible pedagogical remedies for low Sense of Belonging in introductory STEM courses.

Kjersti Daae, Elin Dareljus, Anne Årvik & Mirjam Glessmer

Student guides: supporting learning from laboratory experiments through across-course collaboration

We have observed that students often struggle with laboratory experiments. There is a high threshold to getting involved hands-on for fear of ruining an experiment, losing time, or breaking the equipment. More importantly, students have difficulty connecting the theory they learn in lectures and exercises with observations they make in the laboratory. As a result, it is difficult to formulate hypotheses, figure out what observations are needed, and make and interpret observations. We address this challenge by creating across-course collaboration between a basic- and an advanced-level ocean and atmosphere dynamics course, which run during the same study periods and are typically taken in subsequent years. We train students from the advanced-level course to act as "guides" and to support groups of basic-level students doing laboratory experiments with the practicalities of running the experiments, making observations, and facilitating discussions about interpretations by asking open-ended questions. This benefits students from both levels: Basic-level students appreciate the help with new lab equipment and the supporting questions that help them make sense of observations. Advanced-level students understand the importance of questions in the learning process and realize how far they have come in understanding the topic in just one year. They report they would like to act as a guide again. We reflect on which design criteria help make this across-course collaboration successful and where we still see room for improvement. Based on our experience and evaluation, we present recommendations for other teachers that might want to try a similar approach.

Knut Eirik Eliassen, Trygve Skonnord, Julie S. Knutsen & Edvin Schei

Pasienters møte med medisinstudenter i fastlegerollen

Problemstilling: Å øve seg på å møte ekte pasienter i legerollen er helt nødvendig for å integrere teoretisk viten og praktiske ferdigheter. Nå øker antallet legestudenter samtidig som varigheten av praksis for hver enkelt student forlenges. Dermed vil flere pasienter møte en student i legens stol fremover. Hvordan opplever de det? Flere studier har fokusert på studenten og veilederen i praksis, og noen har utforsket pasientperspektivet: Pasientene kan oppleve at studenter har mer tid og er mer grundig i undersøkelsen, og de opplever at de bidrar til studentenes læring ved å dele sin egen historie og erfaring. De er samtidig tilbakeholdne ved psykiske lidelser eller intime undersøkelser. For å tilrettelegge praksislæring best mulig, trenger vi å vite mer om hvordan pasientene tenker og føler omkring møtene med studentene våre. Metode: Medisinstudenter i siste del av studiet i Oslo

og Bergen inviterer pasienter på venterommene der de er i allmenntillegpraksis til å svare på spørreskjema om holdninger til å møte studenter på fastlegekontoret. Undersøkelsen er anonym og besvares digitalt på egen smarttelefon eller tilgjengelig nettbrett. Svarene stratifiseres på om de har egen erfaring med studentmøte eller ikke. Pasienter som har en studentkonsultasjon friskt i minne, får detaljerte spørsmål om opplevelsen. Resultater: Undersøkelsen er pilotert på to legekontor i Bergen og datainnsamlingen starter i februar 2023. Preliminære resultater presenteres.

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Mol, S. S. L., J. H. Peelen, and M. M. Kuyvenhoven. "Patients' views on student participation in general practice consultations: a comprehensive review." *Medical teacher* 33.7 (2011): e397-e400.

Tatiana Ershova

Doctoral students' feedback on their feedback experiences: a study at a Danish university

Over the past decade, there has been a shift in the research literature on assessment in higher education from understanding feedback as information to students about their performance towards conceptualising it as "a process through which learners make sense of information from various sources and use it to enhance their work or learning strategies" (Carless and Boud, 2018, p. 1). Such a student-centered view of feedback emphasises the importance of investigating students' perceptions of what makes feedback effective across different disciplines, levels of education, and cultural contexts. A lot of recent research into higher education students' experiences with and perceptions of feedback has been carried out in such countries as Australia, the UK, and China, while much less is known about the Scandinavian context. In this presentation, we will share interim results of the study which explores what doctoral students at a large university in Denmark perceive as the purpose of teacher and peer feedback; what they believe makes feedback practices effective; and how, from their point of view, universities can support more effective feedback processes. The data was collected with a survey, which is a modified version of the 'Feedback for learning' instrument (Henderson et al., 2016). The data mainly consists of students' elaborate answers to open-ended questions and has been analysed qualitatively using NVIVO. The results of this study may be of interest to educators and course designers working with postgraduate students, as well as everyone interested in research into student feedback literacy.

Carless, D., & Boud, D. (2018). The development of student feedback literacy: enabling uptake of feedback. *Assessment & Evaluation in Higher Education*, 43(8).

Henderson, M., Boud, D., Molloy, E., Dawson, P., Phillips, M., Ryan, T. (2016). Feedback for Learning Survey [Measurement instrument]. Retrieved from www.feedbackforlearning.org/publicationsresources.

Jan-Ove Førstad & Kjetil Egeland

Studentaktive forelesninger på Masterstudiet i rettsvitenskap

Paperpresentasjonen setter søkelys på hvordan førsteårsstudenter på Masterstudiet i rettsvitenskap opplever at ulike former for studentinvolvering i forelesninger støtter opp om deres læring, og sammenligner studentenes opplevelse av heldigitale og fysiske forelesninger på campus. Som et ledd i prosjektet «Bedre læring, bedre jurister»(1), testet vi ut både heldigitale og analoge (campusbaserte) forelesninger gjennom studieåret 2021-2022. Vi testet også ut flere ulike forelesningsformat: Tradisjonelle forelesninger uten studentinvolvering, forelesninger der studentene besvarte flervalgs spørsmål med og uten studentdiskusjoner, forelesninger med åpne spørsmål med og uten studentdiskusjoner, samt forelesninger som inkluderte gruppearbeid. Digitale responsverktøy ble brukt for å samle inn studentsvarene i undervisningsaktivitetene. Data ble samlet inn gjennom en spørreundersøkelse (N: 261) og semi-strukturerte intervjuer (N: 6). Undersøkelsen viser at 66 % prosent av studentene foretrekker campusbaserte forelesninger, mens 23 % foretrekker heldigitale forelesninger. Presentasjonen vil adressere hvorfor. Når det gjelder studentinvolvering i campusbaserte forelesninger, opplever 80 % av studentene at dette bidro til å

støtte opp om deres læring. Omtrent 50% av studentene opplevde flervalgs spørsmål som mest nyttig, mens omtrent 30% opplevde åpne spørsmål som mest nyttig. Flesteparten av studentene opplever at bruken av digitale spørsmål har en positiv innvirkning på deres forståelse av faginnholdet, oppmerksomheten underveis i forelesningen, motivasjon for læring, og egenvurdering. Funnene stemmer i hovedsak overens med tidligere studier(2), med noen unntak som vil bli løftet fram i presentasjonen. Presentasjonen vil involvere publikum gjennom responsverktøyet Mentimeter. Målgruppen er undervisere og forskere med interesse for studentaktive storforelesninger.

(1) Prosjektet er finansiert av HK-dir. gjennom Program for studentaktiv læring.

(2) Chien, Y.-T., Chang, Y.-H., & Chang, C.-Y. (2016). Do we click in the right way? A meta-analytic review of clicker-integrated instruction. *Educational Research Review*, 17, 1-18. doi:<http://dx.doi.org/10.1016/j.edurev.2015.10.003>

Egelandsdal, K. (2020). Universitetsforelesningen og responsteknologi. *UNIPED*, 43(2), 117–133. <https://doi.org/10.18261/issn.1893-8981-2020-02-04>

Simon Gilbertson & Eirik Sæle

Reading/Writing/Playing

Whilst devising the conceptual framework for our study, titled Reading/Writing/Playing, we asked ourselves, “How do first-year integrated Master in Music Therapy students experience their education and training in academic reading and writing and do they have music-related capabilities that could be of use to them in the process of developing their reading and writing capabilities their early years of higher education that have not been considered to date?” We hypothesize that young musicians have capabilities that are never addressed (such as composition, thematic analysis, narrative form, polyphony, voicing) that could improve their success of academic work and address potentially latent mental-health issues caused by traumatic experiences related to reading/writing. Before moving on to an analysis of the students’ music-related capabilities in 2023-2024, we also decided to include a collection and review of digital resources related to reading and writing skills that are offered at UiB either at our program or university-wide. The study is informed by an anti-oppressive true storytelling ethos (Larsen, Boje and Bruun, 2021) and transversal politics (Yuval-Davis, 1999). The insights generated in this study will be integrated in the periodic 5-year program review which is currently underway. In this presentation we will share the methods and initial results from focus group conversations with last year’s first-year students about their experiences of education and training in reading and writing assignments. We will engage the audience through PPT-hypnosis-release (!) and an active participatory analysis of selected data excerpts whilst sharing selected aspects of our own analysis.

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Vegard Gjerde & Kristine Mæland

A thematic analysis of the content and learning processes of peer discussions during Peer Instruction in physics

There is consensus that peer discussions are essential in making Peer Instruction an effective teaching strategy (Turpen & Finkelstein, 2009; Vickrey, Rosploch, Rahmanian, Pilarz, & Stains, 2015). However, more research needs to be done on peer discussions’ content and learning processes (Schell & Butler, 2018). Further, we need to learn more about how to improve the content and learning processes of these discussions. To improve the content and learning processes of peer discussions in an introductory physics course, we provided ground rules for discussions during Peer Instruction. We recorded these discussions and analyzed them using thematic analysis. We found that the ground rules seem to have some effect, but that changes are needed to improve the students’ discussions further. We provide suggestions for improving student adoption of the practices encouraged by the rules. Our study’s novelty is analyzing peer discussions through the lens of cognitive learning processes and learning strategies. The target audience for this presentation is lecturers who use student-active teaching methods with peer discussions. At the end of the

presentation, the attendees will be asked to rank the suggested ground rules for peer discussions and suggest new rules for improving student discussions.

Bjarte Hannisdal, Dario Blumenschein, Kristian Haaga & Kari Bjørgo Johnsen

Towards a visible, connected and flexible higher education

Higher education curriculum development raises a fundamental tension between the managerial notion of accountability and the educational concept of curriculum as an active and emergent process. Caught in this tension, existing models of curriculum design require a level of abstraction that fails to capture the salient features of a real curriculum in motion. Here we introduce a new framework for curriculum development that can help realise the intentions of quality assurance systems without shying away from the complexity of teaching and learning. Our digital framework operationalises the concept of curriculum as an evolving network and enables all those involved to access, create, visualise, and analyse the curriculum as it evolves. A multi-scale approach allows for seamless integration of learning design and curriculum mapping, as well as complexity reduction for administrative purposes. Fine-grained visibility and explicit connectivity permit greater flexibility for students and teachers to explore new spaces. To help inform an educational change process, we leverage organisational learning and cultural change theories, which underpin the ongoing development of our framework. Feedback on an early prototype suggests that our framework can enhance curriculum visibility and counteract disciplinary fragmentation, capture the complexity of teaching and learning, and support different educational beliefs and practices.

David Herbert

Challenges and Opportunities for COIL Approaches in Doctoral Education

This presentation will offer reflections on what has been learned from nearly 20 years of collaborative online international learning (COIL) in doctoral programs, based on a review of studies concerning doctoral supervision and internationalization of doctoral education. The author taught for the first online music doctoral program, established in 2005 at Boston University,(1) but this discussion will emphasize recent experiences from (1) the CABUTE project, which has funding from Norad to develop a PhD program in Uganda (2021-2026), and (2) Global Competence and Research-Based Practice in a Doctoral and Postgraduate Partnership, a project funded by a grant from Diku for collaboration with The Education University of Hong Kong (2023-2026). The presentation will also incorporate anecdotes from the presenter's experience of having served on doctoral committees for universities in 13 countries, including during the recent pandemic. Several studies have identified the characteristic behaviors of successful doctoral students and mentors as well as the factors necessary for dissertations to attain significant discoveries. While some progress has been made across recent decades, there are also indications that doctoral programs could do more to align with what research suggests are the most effective ways of ensuring quality, including through international collaboration,(2) and that the profession continuously struggles to meet the ideals of inclusion and intellectual diversity. The presentation concludes with identification of specific technology-enhanced strategies for reinvigorating doctoral programs to meet world-class standards.

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Lone Holst, Mirey Alfarah & Reidun Kjome

Du vet ikke om det passer før du prøver - Suksesser og fiaskoer ved innføring av nye læringsformer

Bakgrunn: Innføring av aktive læringsformer i universitetsfag er ønskelig da det er veldokumentert at det leder til bedre læring for studenter (1). Vi er to kolleger som i flere år har arbeidet sammen om

å introdusere nye og mer studentaktive lærings- og vurderingsformer i samfunnsfarmasiemner under den femårige profesjonsutdanningen i farmasi. Dette har gitt oss mange gode opplevelser i klasserommet og har etter vår mening ført til bedre læring og mer tilfredse studenter. Imidlertid har vi også erfart at ikke alle nyvinninger fungerer like godt for oss begge. Formål: Å dele suksess- og fiaskohistorier rundt innføring av studentaktive læringsformer i samfunnsfarmasi, og stimulere til en felles refleksjon rundt hvordan vi kan ta høyde for undervisernes preferanser når vi innfører pedagogiske nyvinninger. Hvordan: Vi vil dele eksempler på læringsformer som slo forskjellig ut med våre individuelle preferanser som undervisere. Er refleksjons-audio-notat fantastisk og lett å rette eller et tidkrevende mareritt? Er skriftlige innleveringsoppgaver nødvendig og informative eller deprimerende kjedelig? Og er virkelig team based learning (2) så fantastisk som man skal ha det til? Videre vil vi ha 5 minutters grupperefleksjon fulgt av 5 min felles diskusjon om hvordan man kan lette overgangen til mer studentaktive læringsformer gjennom å tilpasse til egne preferanser, og jobbe sammen i team. Og hvordan kan vi overføre egne erfaringer med dette til studentene?

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2) Home - Team-Based Learning Collaborative (teambasedlearning.org)

Henk Keers, Björn Nyberg, Karen Mair & Elise Stordahl

The Impact of the COVID-19 Pandemic on University Education

The lockdown related to the COVID-19 pandemic caused many university courses to go online. In order to investigate the pandemic's impact on university geoscience education we conducted two worldwide surveys. While surveys among geoscience educators have been held in the U.S. before the lockdown (e.g. Manduca et al., 2017) and various effects of the lockdown on teaching and learning have also been published (e.g. Pokhrel and Chhetri, 2021), so far there have been no studies on the impact of the pandemic on university geoscience education. Our surveys were conducted in 2017, before the pandemic and in 2021, during the pandemic. They consisted of a general part and a more specific part related to active learning, field courses and the use of technology in geoscience teaching. The pandemic resulted in significant changes in the teaching. For example, while most of the teaching (70%) was in the classroom before the pandemic, 80% of the courses went online during the pandemic. The overall effect of the teaching going online was quite negative, for example in terms of learning outcomes. Most (96%) of the field trips were changed in one or more ways and 16% of the field trips were cancelled. A more in-depth analysis of the results will be presented at the conference. We also would like to take this opportunity to ask the conference participants, teachers as well as students, before and/or during our presentation about their opinion on the effects of the pandemic on university education in general.

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Guri Lindblad & Synne Sæther Mæhle

Bruk av yrkesnære oppgaver for å trene studentene i fagspesifikke ferdigheter – Masterstudiet i rettsvitenskap

Studentenes arbeid med ulike oppgaver utgjør en viktig del av læringsdesignet for Masterstudiet i rettsvitenskap. Oppgavene presenterer studentene for strukturerte situasjoner, der relevante faktiske forhold er beskrevet. Oppgavene skiller seg fra det praktiske rettsliv, der man selv må identifisere de faktiske forholdene. De har derfor begrenset verdi for å oppøve fagspesifikke ferdigheter. Forskning viser at slike ferdigheter bedre øves opp gjennom yrkesnære oppgaver.[1] Som et ledd i prosjektet «Bedre læring, bedre jurister» [2] har vi utviklet en trinnvis læringsaktivitet, for emnet Forvaltningsrett våren 2023. Læringsaktiviteten gjennomføres etter følgende plan: 1. Forelesning – begrunnelse av forvaltningsvedtak 2. Forelesning – presentasjon av sjangeren forvaltningsvedtak 3. Studentene får i oppgave å skrive et forvaltningsvedtak, basert på ulike reelle

dokumenter, som søknad, legeerklæringer, attester osv., og diskuterer oppgaven i grupper 4. Hver student skriver et begrunnet vedtak 5. Studentene foretar en selvstendig og begrunnet sammenligning av 6 vedtak med varierende materiell, metodisk og språklig kvalitet 6. Reflektere over de 6 vedtakene i større grupper, ledet av vitenskapelig ansatte 7. Studentene får skriftlig tilbakemelding på eget vedtak. Læringsaktiviteten bidrar til en rekke av målene i emnets læringsutbyttebeskrivelse, og i kombinasjon med vurderingen vil den bidra til at emnet utgjør en meningsskapende helhet.[3] Vi vil undersøke hvordan studentene opplevde at læringsaktiviteten bidro til deres læring, og om sensorene opplever at læringsaktiviteten påvirket studentenes prestasjoner i vurderingen. Presentasjonen vil beskrive metoden nærmere.

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Bente E. Moen, Tane Høisæter, Gro Tjalvin & Magne Bråtveit

Experiences with running a Massive Open Online Course (MOOC)

The University of Bergen has run the Massive Open Online Course (MOOC) Occupational Health in Developing Countries 14 times in the period 2016-2022, with altogether 22 863 students registered. The course was created because many low- and medium income countries (LMIC) in the world do not have any education in occupational health, despite increasing industrialism. Research question: We want to describe the MOOC, the course participants and discuss how to evaluate learning. Methods: Data about the participants has been collected from a database made by Futurelearn who runs the platform we use for the MOOC. Results: The MOOC is run twice a year, 6 weeks each time. Six mentors follow the course, and the MOOC has been revised biannually. Elements like discussion points, polls and quizzes have been used, and show high activity by students. A few students have taken an official exam at UiB, but this has been technically difficult. Out of 5866 registrants in the first year, 72.4% attended from a LMIC, and 71.9% of the 768 course completers were LMIC residents. Forty-six percent of the students were females, most of them participants were in the age group 26-45 years, half of them had a university degree. Most were employed within the health and social sector. We are pleased with the participation of the students and their background. We would like to have exams for these students also in the future, to be able to evaluate if they learn occupational health.

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Kaisa Pietikäinen & Miya Komori-Glatz

Utilizing online international collaboration to create meaningful learning experiences at a business communication course

Globalization has changed the nature of language teaching, particularly concerning the teaching of global lingua francas (e.g., English). As language teachers, we can no longer rely on teaching linguistic knowledge only. Instead, we need to equip our students with pragmatic skills which they can adapt globally to complex and ambiguous environments (Kramsch, 2021; Rose et al., 2021). This presentation reports on an ongoing collaborative effort between two bachelor-level business English courses at NHH and WU Vienna. In this project, we explore the feasibility and value of bringing our respective student groups together for an authentic intercultural business negotiation simulation on Zoom. The goal is to allow them to practise their newly-acquired knowledge on English as a business lingua franca (Kankaanranta et al., 2015, 2018; Komori-Glatz, 2018). Our presentation

reports on an action research (Burns, 2010; Coghlan & Brydon-Miller, 2014; McAteer, 2013) project implementing such a pedagogical tool to create a low-threshold opportunity for “internationalization at home” and to offer a realistic simulation for the students to practice theory-based skills. We discuss briefly how we have developed the assignment since its initiation in spring 2022 and the overwhelmingly positive feedback it has received via student reflections and questionnaires. We conclude with best practices for introducing such a learning activity to other courses. As a means to engage with the audience (particularly language/communication teachers), we plan to invite the participants to a virtual environment we are testing for future use in our collaborative project.

Aase Raddum, Quynh Le, Wei Wang & Lars Herfindal

Changing the lab as a learning arena

How can laboratory courses contribute to meaningful learning that bridges the gap between theory and practice? Pharmacists are expected to demonstrate comprehensive knowledge on all aspects of a medicine, from drug design, delivery, and manufacturing in addition to clinical effects in patients. The pharmaceuticals laboratory course on the manufacture of non-sterile medicines taught at the University of Bergen, demonstrates both theoretical concepts on various dosage forms and introduces skills training. The importance of precision in the manufacture of medicines is emphasized. Recent course evaluations demonstrated that students were increasingly concerned about practical aspects in the laboratory course. The feedback specifically pointed to the emphasis on product quality and yield that is required to pass the experimental part. This end-result focus was perceived as overwhelming and shifted student attention from learning to concern about outcomes, thus inhibiting significant learning (1). A new learning activity was designed, together with a pedagogical researcher. The aim was to achieve meaningful learning in the laboratory (2) and increase student confidence, critical thinking- and problem-solving skills. The learning activity, consisting of a pre-lab workshop, practical work in the lab and a post lab workshop, encompassed methods such as teamwork and problem-based learning. Data collection aimed to investigate whether the re-design of the lab led to the desired outcomes and included pre- and post questionnaire (2), observation, reflective audionotes (3) and focus group interview. We will present our findings and invite a discussion on how including different forms of learning activities in laboratory courses can lead to more significant learning.

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Erika Scheibe & Bærekraftskollegiet

Student perceptions on Sustainable Development at the outset of a higher education course: Implications for course design

Understanding students' views of Sustainable Development (SD) can increase multi-directional learning (Kelly et al., 2022) and communication between students and lecturers. However, a lack of understanding of students' schemas and perceptions on SD limits this process. This paper seeks to evaluate students' perceptions of SD in a sustainability course to further lecturers' tools for understanding and thus teaching students in future courses. Students' motivation, interest, and perceived opportunities and challenges towards the SD are influenced by their values and experiences. Because the course Sustainable Development Goal 15: Life on Land is relatively new, having begun in 2019, there are few developed schemas to base course content on. Recent research has sought to investigate youth's views on SD; however foundational challenges such as in-depth understanding of students' schemas, which are often based on a wide variety of past courses they took, the media, and personal experiences, still remain. Fundamental shifts in how lecturers understand student perceptions, beyond those currently under consideration, are needed to address students' perceptions of SD in Norway and worldwide. Therefore, four years of student reflection papers -- more than 140 essays -- are coded and synthesized to investigate this issue.

Eivind Valestrand, Beth Whelan, Knut Eirik Eliassen & Edvind Schei

Hello? How physicians' non-greeting behaviour impacts medical students during clinical placements

Introduction: To be able to learn from clinical placements, students need to feel psychologically safe, and welcomed in the community of practice by their supervising physicians. A previous study of shame in medical education indicated that not being welcomed by supervisors may cause student disengagement and demotivation, thwarting learning, and professional identity development. Here, we explore the nature and educational effects of non-greeting behaviour during clinical workplace learning. Method: In this explorative study, authors interviewed Norwegian senior medical students in three focus groups. Data were analysed using reflexive thematic analysis. Results: Participants recalled an array of non-greeting experiences from different clinical settings. Non-greetings consisted of breaches of conventional introductory behaviour, e.g., not establishing eye contact, not saying hello to a student or patient, not shaking the students' hand when meeting them for the first time, not using the students' name, not initiating contact with the student despite supervisory responsibilities, and not introducing students to patients during clinical examinations. Non-greeting behaviour caused loss of confidence, motivation, and agency as learners, made the students feel alien to the physician role, and the practice community, and triggered worries about their professional competence and future career. Discussion and conclusion: There is an absence of medical education studies investigating greeting behaviour in clinical workplaces, and how it may impact learning and professional identity formation. This study shows that seemingly trivial breaches of typical interaction rituals, can cause emotional reactions and defence mechanisms that impede students' learning and professional identity formation.

Julien-Pooya Weihs, Konrad Tywoniuk, João Paulo Horta Bettencourt & Juan Manuel Valero Rodriguez

"I will survive": Enhancing the sense of belonging in academic communities

The sense of belonging is an important factor associated with positive aspects of higher education and work-related experiences (Williams, Hutchins & Kelloway, 2016). A strong connection to the institution or workplace is linked positively with productivity and good mental health in several levels of academia, and contributes to a fruitful educational dialogue between teachers and learners (Tinto, 1997). Nevertheless, several factors affecting at a personal and/or collective level can heavily impact how university members view themselves within their respective working/studying groups and academic communities. Our study investigates the sense of belonging across various groups of the natural sciences faculty of a Norwegian university. A round of pilot interviews motivated the creation of a survey based on an adapted sense of belonging scale (Good, Rattan & Dweck, 2012), and including questions about personal experiences, feeling of acceptance and belonging within the academic environment. The data collected from the survey was analysed using both parametric and multivariate non-parametric techniques. Preliminary results show a change in the perception of belonging throughout different stages of the academic career, and as a function of several demographic factors. The patterns revealed in this variation provide valuable insights into the experiences and needs during the academic career. Our findings contribute to a deeper understanding of potential disparities in representation within academia, and provide insights on how to develop strategies for enhancing the experiences in the academic career, leading to an increase in the sense of belonging within the natural science community.

Posters

Mostafa Bakhoday Paskyabi

Towards Active Learning for Energy Courses at UiB

While there is a strong strategic tendency at UiB toward active learning in teaching and learning, we have initiated a move towards this educational goal since 2021 by implementing few techniques to a compulsory bachelor course given at the first semester of the 5-year integrated energy program at UiB. This course, i.e. ENERGI101, is given mostly by the means of traditional teaching methods including a couple of active learning techniques such as flipped classroom and “think-pair-share”). This research aims to explain the particular teaching techniques and environment on how to enhance the students engagement and interaction with their peers in the classroom environment. Several of class activities are not, however, felt into the range of techniques/styles within the active learning spectrum (e.g. lecturing component is still given traditionally by the instructor). We therefore reflect on the general characteristics and quality of the classroom environment for supporting students learning. The first change in the lectures is to use an active learning seminar room (for about 50 students). Although the active learning room could significantly facilitate the interaction and collaboration among students, students addressed some concerns on the performance of technologies incorporated in the classroom. Secondly, we modified the course content so that the group assignment is included in the course content, and it is graded as 30% of total grade (along with contributions from other weekly individual assignments). Few surveys have been conducted showing that this is a great mechanism to promote development of different skills in students for assisting them to dig deeply into the course content if the assessment form/procedure, a report template, and sample projects’ reports could be provided for students. Consequently, more details on project-based assessment and improvement in teaching methods based on received students’ feedbacks will be included for the fall 2023.

Cathrine Ebbing & Elham Baghestan

Hvordan øke følelsen av tilhørighet, introduksjon av mentorordning for 9.semester medisinerstudenter

Introduksjon: Profesjonsstudiet i medisin er et seksårig integrert studieløp. Kandidaten skal kunne utføre kliniske undersøkelser og skal ha praktiske ferdigheter nødvendige for å fungere som lege. I 9.semester, som er utvekslingsemester, undervises fødselshjelp og kvinnesykdommer og pediatri. Utvekslingsstudentene (n=16) og UiB studenter med særplass i Bergen har sin 6 ukers praksis ved universitetssykehuset, de andre har praksis ved andre sykehus. Evaluering av praksisen ved universitetssykehuset har vært dårlig. Vi vurderte tiltak som kan bedre studentenes trivsel, følelse av tilhørighet og læringsmiljø, og besluttet å teste om en mentorordning kunne ha positiv virkning. Metode: Mentorordningen ble gjennomført ved KK høst 2022, og prosjektet var forankret i Klinikkledelsen. Studentene deltok i par der en var utvekslingsstudent og en var UiB student, og hvert par fikk tildelt en LIS som mentor. Lite instruksjon ble gitt om mentorordningens innhold annet enn anbefalt møtefrekvens, og å dele kontaktinformasjon. Ordningen ble evaluert gjennom et selvkomponert spørreskjema (i Skjemaker) med 10 spørsmål som ble sendt til studentene og mentorene etter praksisperioden (n=39, og n=13, henholdsvis). Spørreskjemaene var på engelsk, inneholdt spørsmål med score, multiple choice, og felt for kommentarer. Resultater: Av 13 kliniske mentorer fikk vi 9 svar (69%) og 14 svar fra studentene (36%). Deltakerne var positive til ordningen og anbefalte videreføring og utvikling av denne. LIS mente at oppgaven ikke var belastende og bidro til å bevisstgjøre dem om rollen som kliniske lærere. Respondentene hadde forslag til utvikling av ordningen. Konklusjon Mentorordningen har potensiale til å bedre studentenes følelse av tilhørighet, og dermed læring. Mentorordningen skal utvikles og evalueres. Våren 2023 innføres den i praksisen i pediatri.

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2. 'Waiting in the wings'; Lived experience at the threshold of clinical practice. Coakley N.

Knut Eirik Eliassen, Julia S. Knutsen & Steinar Hunskår

Flere praksisplasser og bedre veiledning for medisinstudenter på fastlegekontorene – FRONESIS

Problemstilling: Praksisperioder i legestudiet er nødvendig for å integrere teoretisk viten og praktiske ferdigheter. Praksis skal nå økes samtidig med økte krav til veilederkompetansen hos praksislærerne. Studenttallet øker, og det er et politisk ønske at Norge utdanner flere av sine leger selv. Samtidig opplever universitetene rekrutteringssvikt blant praksisveilederne – fastlegene - da mange velger bort det som er mulig uten at det går ut over pasientene. Kabalen går ikke opp. Hvordan skal legeutdanningene møte denne utfordringen? Hva skal til for å gjøre det tilstrekkelig attraktivt for fastlegene å tilby praksisplasser? Fra en omfattende spørreundersøkelse blant fastlegene vet vi hvilke faktorer som er viktige for å fungere som praksislærere. Vi vet også at mindre enn 1/5 av landets ca. 1600 legekantor deltar i legeutdanningen. Metode: Setting: I «Kunnskapskommunen Helse og omsorg Vest» er det ca. 300 fastleger fordelt på 90 legekantor. Intervensjon: Prosjektet skal møte hvert av disse legekantorene for å motivere til å ta imot (flere) studenter i praksis, basert på resultatene fra spørreundersøkelsen. Vi kan tilby alternative kontraktsformer og driftstilskudd samt hjelp til tilrettelegging av legekantoret. Vi kan tilby kompetanseheving som veileder, mens vi ikke har muligheten til å forhandle lønn/honorar. De resterende legekantorene i UiBs område for studenter i praksis i Vestland og Rogaland fungerer som kontroller. Resultater: Vi har først kartlagt praksisplasser på både kontroll- og intervensjonskontorene for 2021-2022 som baseline. Intervensjonen starter våren 2023.

Referanser:

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Flere praksisplasser og bedre veiledning for medisinstudenter på fastlegekontorene (FRONESIS). Tilgjengelig fra: <https://alrekhelseklynge.no/prosjekter/fronesis/>

David Grellscheid

Use Inspera data to improve your exams (demo)

UiB's exam system Inspera provides a data dump in /json/ format which contains useful information about students' exam performance beyond what is shown in the web interface. In this presentation, I'll take you through a series of visualizations that can be generated from those data dumps, using INF100 as an example, and we can discuss how they can help us improve our exam design.

Andrea Grytten & Julie Lundin

Introduksjonskurs for jusstudenter - "Lær å lære"

«Bedre læring, bedre jurister» har som formål å gjennomføre endring i retning av mer studentaktive lærings- og vurderingsformer, for å legge til rette for en kultur for selvstendig juridisk refleksjon. “[...] mange jusstudenter legger ned en stor arbeidsinnsats uten å oppnå den læringen og de resultatene de ønsker. I mange tilfeller skyldes dette at man ikke bruker studietiden på de mest nyttige læringsaktivitetene.” «Lær å lære»-kurset er et av virkemidlene som blir utviklet i tråd med prosjektet, rettet mot studentene på første semester. Kurset skal bidra til refleksjoner omkring studieatferd, studentaktive læringsformer og læringsopplegget på jusstudiet. For å sikre nærhet til studentene ble kurset utviklet av viderekomne studenter, og holdt av fakultetets vitenskapelige ansatte, sammen

med de viderekomne studentene. Problemstillingen knyttet til kurset er hvorvidt studentene opplever at «lær å lære»-kurset bidrar til bedre læring i studieløpet. Kurset inneholdt tre forelesninger med temaene «fra videregående til universitetet», «problemorientert læring» og «språk og kommentering». Viktigheten av kritisk og selvstendig tenking ble særlig løftet frem, og bruk av ordsky og spørsmålsstilling i mentimeter aktiviserte studentene. I referansegruppemøte var tilbakemeldingene at konkrete tips til kommentering av medstudenters oppgaver var svært nyttig. Studentene var fornøyde med bruk av viderekomne studenter under kurset. Utfordringen var hovedsakelig kursets plassering, ettersom kurset går parallelt med andre emner. Vi ønsker å diskutere hvordan man best kan forberede studentene på de læringsaktivitetene de møter i universitetsstudiet, og hvordan vi kan bidra til å synliggjøre behovet for å øve opp evnen til selvstendig og kritisk tenkning.

Anja Møgelvang & Ståle Ellingsen

Digital samarbeidslæring i høyere biologutdanning

En plakatpresentasjon av Anja Møgelvang, Ph.d.-stipendiat ved bioCEED og Ståle Ellingsen, Professor ved Institutt for biovitenskap. I denne intervensjonsstudien har vi testet effekten av digital samarbeidslæring sammenlignet med digitale forelesninger på selv-rapporterte generiske ferdigheter i et utvalg av norske bachelorstudenter i biologi (n=71). I intervensjonen innførte vi en rekke kjente elementer fra samarbeidslæring slik som faste og heterogene grupper, gruppekontrakter og puslespillmetoden (Millis & Cottell, 1998). Studien ble designet som en såkalt pretest-posttest studie uten kontrollgruppe, men med bruk av dobbel pretest og posttest, der studentenes rapportering av egne generiske ferdigheter ble målt ved bruk av subskalaen «Generic Skills» fra Course Experience Questionnaire av Ramsden (1991). Etter fem uker med digital samarbeidslæring sammenlignet med fem uker med digitale forelesninger økte studentenes selv-rapporterte generiske ferdigheter signifikant. Sammenlignet med tidligere forskning, kan våre funn indikere at effekten av samarbeidslæring er minst like betydningsfull i digitale som i fysiske arenaer – og at generiske ferdigheter kan være særskilt sårbare i digitale arenaer og dermed også avhengige av hvilken undervisnings- og læringsstrategi vi som lærere velger. Plakaten ble presentert på den internasjonale konferansen ICED 2022 og studien i sin helhet er publisert i International Journal of Educational Research (Møgelvang et al., 2023). Plakatpresentasjonen vil i tillegg være av interesse for undervisere som deltar på Læringskonferansen ved UiB 2023, som i løpet av sesjonen vil bli invitert til å delta i en dialog om studien.

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Pål Ringkjøb Nielsen, Jostein Bakke & Kristian Vasskog

Redesign to student-active learning for Field and Laboratory Course in Quaternary Geology/Physical Geography

Through a series of modules, the students get an introduction to different methods for studying surface processes and sedimentary deposits (Quaternary geological mapping, drone photogrammetry, georadar, LiDAR, CHIRP, sonar, etc.), and how to collect geological samples from the Earth's surface (sediment cores, soil samples etc.). Traditional this has been a course with lectures in the classroom, field and laboratory mixed with practical work. Based on the student evaluation, it was evident that there was a need for alternative approaches to engaging the students.

We based our renewal on team-based learning (TBL) techniques, as TBL is an instructional strategy that utilises small groups of students to learn and apply course material. The approach enhances critical thinking, collaboration, and accountability among students. The goal is to create an engaging and active learning environment where students can work together to deepen their understanding of the course content. The first five modules introduce important theoretical background topics and lead up to the first assessment in the form of a multiple-choice test. Following this, a 3-day fieldwork campaign is planned together and carried out the week after. The last part of the course focuses on practical laboratory methods and data analysis. Towards the end of the course, there is a poster session based on results from the fieldwork. The final assessment is an individual term paper based on material produced during the field- and laboratory work. We will summarise our and the student's evaluation before and after the transition into a module-based and student-active course format.

Jorun Nyléhn, Cecilie Boge & Jonathan Soulé

Critical Thinking - Core Themes and Perspectives from Students and Teachers

There is a broad consensus that university studies should facilitate students' critical thinking skills, as asked for in a multitude of policy documents and from work life. There is, however, a lack of consensus of what critical thinking is (Moore 2013). In this poster session we will present a small qualitative study exploring students' and teachers' understanding of critical thinking, and what barriers they perceive prevent critical thinking. The study is based on a short questionnaire sent to the teachers of the Department of biological sciences, UiB, and a slightly modified version of the questionnaire sent to a group for 4th year students at the same department. Data was analyzed by conventional content analysis. Three main dimensions were found in the concept of critical thinking: 1) skills (e.g., interpretation, hypothesis testing, evaluation of validity, discussion); 2) dispositions (e.g., predispositions and biases, openness for multiple viewpoints, willingness to reconsider established truths, belief in authority); and 3) knowledge (e.g., lack of knowledge and experience, lack of time, unclear concept). Our results are in accordance with the model of Thomas and Lok (2015). Teachers estimated a higher amount of critical thinking in their courses compared to the students, and the teachers also mentioned more diverse examples of critical thinking, especially in relation to research skills. Both students and teachers reported time to be the main barrier for critical thinking. Other barriers were lack of adequate knowledge, experience, exposure to a multitude of perspectives and biases.

Eoghan Reeves

Improving formative assessment in a quantitative Earth Science course: Lessons learned from using both in-class Socratic polling versus TBL problem set work

Quantitative environmental chemistry concepts involving linear algebra and the development of 'chemical intuition' [1] are rarely introduced in upper undergraduate/masters Earth Science courses. The level of critical thinking and the core concepts are generally considered inaccessible, often resulting in this topic being taught purely as qualitative 'soft' courses lacking quantitative work. The deep focus work required for these concepts takes time for students to master, and traditional end-of-semester summative assessment formats (i.e. 3-4hr exams) are hugely problematic in evaluating student progress. In GEOV243 Environmental Geochemistry, I have adapted lessons learned from MIT's graduate level Course 1.76 in the design of this course to implement better formative assessment [2], both for monitoring student progress, but also to gauge the level of material taught. Continuous assessment in GEOV243 involves 4 take-home, deep focus problem sets, each run over several weeks, an approach that results in sizeable (grading) delays in both student engagement and feedback through a given semester. In an effort to accelerate formative assessment further, as part of a UPED620 term project I implemented the use of the educational quiz app 'Socratic', designed to provide immediate feedback through anonymous student engagement in polls that probe development of quantitative skills. Socratic was integrated over 4 course semesters, but while engagement with the app polls was extremely high (essentially the entire classroom), the formative

assessment benefits of Socratic were fairly mixed. During the most recent year, group-based work concepts borrowed from Team-Based Learning were additionally implemented and found to have inadvertent formative assessment benefits. In this presentation, these various efforts will be presented with insights and lessons learned.

[1] Morel, F.M.M. (1993) Principles and Applications of Aquatic Chemistry. Wiley.

[2] Bennett, R.E. (2011) Formative assessment: a critical review, Assessment in Education: Principles, Policy & Practice, 18:1, 5-25.

Ingunn Rødland, Pål Steiner & Henry Langseth

UiB Skriv: en verktøykasse for skrivestøtte i fagundervisning

UiB Skriv er en digital plattform for råd og erfaringsutveksling om det å undervise med skriving som læringsverktøy. Målgruppen er faglærere i høyere utdanning. Prosjektet ligger foreløpig på Mitt UiB. Det inneholder lenker til nyttige ressurser, samt korte videofilmer og lydinnspillinger hvor undervisere i ulike disipliner forteller om sine erfaringer knyttet til metoder og opplegg for å utvikle studentenes skriveferdigheter, eller for læring av fagstoff med hjelp av skriveøvelser. På konferansen vil UiB Skriv bli presentert, fulgt av en diskusjon om hvilke støttefunksjoner bibliotek og skriveressurser kan eller bør tilby undervisere. UiB Skriv: <https://mitt.uib.no/courses/14168>

Jan Henrik Rosland, Margrethe Schaufel & Dagny Faksvåh Haugen

Evaluating medical students' learning outcomes from an elective course in palliative medicine

Introduction: Palliative care is an interdisciplinary field comprising care and symptom relief for patients with incurable, life-limiting disease. Based on a literature review in a previous SoTL-project, a two-week elective in-depth course in palliative medicine for 6th year medical students was developed. Aim: We wanted to assess learning outcomes especially about the doctor's role and specific tasks when caring for palliative care patients. Methods: Reflection notes from 47 medical students from the first four courses were analysed using Systematic Text Condensation, a cross-case thematic analysis proceeding through four steps. Lave & Wenger's theory about situated learning was used to support interpretations. Results: The participants described the doctor's role linked to an overarching task of creating safety for the patients and their relatives in their last period of life, by gaining competence in the following domains: 1) Patient-centred communication about the disease, expected trajectory and needs, establishing common ground and a supportive relationship; 2) Being the medical expert in symptom relief and decision-making, providing guidance and calmness in difficult situations; 3) Professionalism rooted in a palliative, holistic and relational approach; and 4) Being a good team player, aware of their function and limitations. Conclusions: Our findings suggest that medical students obtained a comprehensive understanding of the doctor's role and skills required in palliative medicine by participating in this elective course. Practical learning like patient interactions or role play was most valued by the students and should be emphasized when planning new courses.

Jonathan Soule & Kristin Holtermann

Poster sessions as constructive alignment in BIO course

Beyond constituting a standard way to communicate scientific results in conferences, posters are also a great pedagogical tool to help students learn the course content, while practicing dissemination as a skill. At the Department of Biological Sciences, several biology courses now include poster assignments that are part of course assessment. Intended learning outcomes include

science communication, oral presentation and dissemination. Our poster will describe how the Centre for Excellence in Biology Education - bioCEED in collaboration with course teachers have developed the biannual student poster symposium at Department of Biological Sciences, UiB. A total of 10 courses are currently involved in this student poster symposium, which includes student flash oral presentations, on-campus poster session, peer-review, and digital publication on a dedicated website (biopitch.w.uib.no). We will also present the questionnaires that we have used to collect student peer feedback at the symposium and data from a survey we conducted among the participants in 2022. Our survey questions include topics such as constructive alignment, student learning and student experience. Our poster will include a link to our digital platform bioPITCH showcasing the student posters. This poster aims to be relevant for teachers and administrators. The audience will have access to digital material and will be invited to engage in dialogue with the poster presenters.

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Marino et al. "Using poster sessions as an alternative to written examination—the poster exam." *Journal of Chemical Education* 77.9 (2000): 1158.

Christian Bianchi Strømme

Open Undergraduate Research Systems (OURS) – Integrating learning and research in an Open Science framework for students

Undergraduate research and inquiry comprises a set of approaches to teaching and learning where students are given the opportunities to engage in learning activities that are strongly associated with research. More specifically, a set of procedural learning activities can be integrated as a small-scale research project, or be embedded in larger ongoing research projects. Meanwhile, Open Science (OS) is gaining traction as a set of practices and principles aimed at improving research. Facing this transition, including OS in teaching and learning has the potential to strengthen the relevance of higher education for a range of disciplines through collaborative approach to science. By integrating field-based and computational learning activities, the objective of Open Undergraduate Research Systems (OURS) is to facilitate student learning by scaffolding a range of course based projects where students develop and apply OS-related procedural knowledge. Those projects differ in key aspects that can be described using the framework Constructivist Learning Environments conceptualised by David Jonassen. The application of essential metadata practices ensures the rightful acknowledgement of student contribution in data generation. By storing data in appropriate repositories, students can access shared data in learning activities aimed at data exploration, visualisation and analysis. In summary, OURS is conceptualised as a holistic approach to learning and research where students as main participants help close the gap between these essential scholarly activities.

Indrė Trečiokienė, Janne Sorrensen, Lourdes Cantarero-Arevalo & Ramune Jacobsen

Developing intercultural competencies in Pharmacy study program at Vilnius University

One of the ways to introduce the internationalisation of the curriculum is to enhance intercultural competence. The internationalisation of studies is one of the strategic directions of Vilnius University that enables the intercultural dimension of the study programmes to be strengthened. Aim. The aim was to prepare a pedagogical scenario and to design a theory-based and research-based course about intercultural aspects that should be part of the pharmacy programme. Method. Analysis of scientific literature and similar programmes and courses run by universities abroad was carried out. In the process of designing the course, discussions were held with academic staff on the content of the course. Students also provided feedback on the content of the course. Results. Only a few

pharmacy programmes, mostly at universities in Australia and New Zealand, offer intercultural competences course as a separate and compulsory course for undergraduate students. Based on research findings, a course covering knowledge, awareness and ability was built on the framework of cultural competencies. A variety of methods were used to achieve the learning objectives: lectures, cases and discussions, self-learning, role-playing, etc. The course, attended by 15 students, was piloted in May 2022. Sessions on professional ethics, minorities and diversity were held to deepen knowledge. Diversity terminology and assignments visualising the students' cultural backgrounds were used to raise self-awareness. Feedback of students on the course was positive. Conclusion. The course was a success. The learning of the Pharmacy students was research-based, interactive and interdisciplinary. The development of generic competences was strengthened.

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Endre Tvinnereim

How does writing contribute to learning? A quasi-experimental study involving peer feedback and variation in summative assessments.

What is the effect of writing on students' learning? How can peer feedback help students learn better? Students in the social sciences are typically educated for employment that involves writing as a central skill and task, yet large classes and limited staff resources mean less time for writing practice and feedback than would be desirable. This poster reports ongoing results of a quasi-experiment comparing two versions of a class – one with traditional lectures and school exam and the other with the same lectures but adding extensive writing, peer feedback, and a midterm and final essay for summative assessment. The reading list is the same for the two versions, except that the writing-intensive version adds a set of articles on which students will base their two essays. I hypothesize that students in the writing-intensive class version will display greater engagement with the course material and better-quality texts in their final exam. Conversely, students in the traditional version may have a broader overview of class topics based on reading for the final exam. To measure learning outcomes and engagement I plan to employ periodic multiple-choice tests on course material, a midterm and final course evaluation by students, quantitative text analysis of submitted essays and exams, and separate student panels drawn from each course version. Factors that need to be controlled for in the analysis include the fact that students will not be randomly assigned to each class and that the two courses give different amounts of course credit.

Workshops

Mirey Alfarah, Aase Raddum, Lone Holst & Reidun Kjome

Debate in the classroom: A practical tool to boost students' active learning

Background: Studies show improved learning when students are encouraged to be actively involved in their own learning. Engaging students in discussions and debates increases their communication skills, capacity of critical thinking, and argumentation skills. In addition, it provides a space for student empowerment and agency^{1,2}. Learning activity: We implemented debate as a learning activity in several courses in the pharmacy curriculum. Main findings: Students showed a high level of enthusiasm and interest in the new learning activity. Most students agreed that the debate helped them to structure their thinking and simplify their language when communicating complex concepts. Students also expressed that preparing for the debate helped them organize thoughts, spurred them to gather and connect information learned in previous courses, and draw connections to other fields to prepare arguments. Some students reported transformation in their learning and change of their position and perspective after the debate. Presentation: We will showcase our format of the debate that we have applied across different courses at the Centre for Pharmacy. We will run a mini-debate session with the participants applying our model followed by reflection and discussion. The participants will get the chance to experience a glimpse of the debate activity as it was designed and implemented in our courses. Interested peers will be provided with concrete tools and instruments to implement and evaluate the activity in their own courses.

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Pernille Eyde Nerlie & Oddfrid Førland

Studentpartnerskap – erfaringer fra en SFU

Da bioCEED ble Senter for fremragende utdanning i 2014 var studentinvolvering en viktig del av senterplanen og begrunnelsen for tildeling av SFU-status. Den fra starten noe naive forestillingen om hva studentinvolvering skulle være og bety, endret og utviklet seg over tid til en systematisk praksis med studentpartnerskap. Studentpartnerskap skiller seg fra studentinvolvering ved at studenter ikke bare skal «høres» og «være representert», men er inkludert i et gjensidig samarbeid der alle deltakere kan bidra på ulike måter til utvikling, implementering, analyse og beslutningstaking innen undervisning og læring (Cook-Sather et al., 2014). Kjernen i studentpartnerskap er at studentene, i samarbeid med ansatte, på en meningsfull måte skal kunne bidra til å utvikle og forbedre undervisning og læringsopplevelsen (Mercer-Mapstone et al., 2017). I et workshop-format med stor grad av deltakelse fra publikum vil vi presentere ulike modeller for studentpartnerskap testet i SFU bioCEED - fra utviklings-prosjekter, studentdrevne prosjekter og forskning, utfordre deltakerne til å se muligheter for studentpartnerskap i egen undervisning, undervisningsutvikling og forskning, diskutere utfordringer. Vår erfaring er at det fins stort potensiale i studentpartnerskap, og at studentene utgjør en (stort sett uutnyttet) ressurs i undervisningsutvikling (bioCEED 2022). Suksesskriterier for partnerskapet er at det er gjensidig meningsfullt, arbeidsinnsats gir uttelling for studentene, gir reelt handlingsrom og autonomi for involverte studenter, gir rom for ulike grader av ansvar, innsats og utbytte for alle involverte.

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