Invitasjon til workshops under Energy Camp, 7.-12. august 2016 kl. 9-15.30

Energy Camp 2016 arrangeres for 14-15-åringer den første uken i august. Campen er nesten fullbooket, få plasser igjen for de som deltar på campen for første gang. Se www.energycamp.no for informasjon. Campen ledes av svært erfarne lærere fra University of Alberta (UoA).

I år lager vi **workshops for lærere og skoleledere** på bestilling fra Nes kommune, Drammen kommune og Hvam videregående skole, men den 10. og 12.august er åpen for andre skoler og kommuner også.

Nes kommune er realfagskommune og ønsker seg en dag med REALFAG FOR DE YNGSTE i fokus.

Drammen kommune setter DYBDELÆRING på agendaen.

Hvam videregående vil bygge videre på sin formative vurderingspraksis og ønsker seg en dag med VURDERING FOR LÆRING og FLERFAGLIGHET. NB: Denne dagen er full fordi Hvam videregående har så stort personale.

Pris per dag for de som ikke hører til Nes, Drammen eller Hvam: kr 1500,- inkl. varm lunsj. Påmeldingsfrist: Helst før ferien, men senest 4.august

På vegne av Hvam videregående skole og styringsgruppa, vi er stolte av å kunne invitere dere til flere dager sammen med et av verdens fremste universitet innen skole og skoleutvikling. Send gjerne denne mailen videre til kjente i egne rekker som kan ha glede av å delta.

Vi anbefaler å få tiltaket lagt inn i arbeidsplaner på den måten at man avspaserer undervisning eller kompetansetiltak senere i skoleåret, i og med at disse workshopen foregår i sommerferien.

Her er «menyen»:

DEEPER LEARNING FOR STUDENTS REQUIRES DEEPER LEARNING FOR EDUCATORS			
Drammen – August 10	Kerry: Emerging Themes in Science, Math and Tech Education in Alberta	Garrick: Fusing Digital Science Resources to Curriculum	Aleya: Summative Assessment Blueprinting: Metacognition for Success in Science and Math

Målgruppe: Skoleledere og lærere innen realfag og teknologi
Påmelding: Samlet for hver skole til: Hilde.Schjerven@drmk.no

ASSESSMENT FOR LEARNING AND WORKING ACROSS THE DISCIPLINES			
Hvam – August 11	Kerry: Emerging Themes in Science, Math and Tech Education in Alberta	Kristian: Formative Assessment Tools for the Classroom	Tracey: Competency-focused Learning in science and across the disciplines

Målgruppe: Skoleledere og lærere innen realfag og teknologi
Påmelding: Hvam videregående skoles lærere er påmeldt.

THE HEADING OF THE DAY: "I LOVE MATH"			
Nes – August 12	Kerry: Emerging Themes in Science, Math and Tech Education in Alberta	Adam: Teaching kids/students to be thinkers and doers	Kris Reid: Cognitively Demanding Tasks in Mathematics

Målgruppe: Barnehagelærere og lærere innen realfag
Påmelding: Sendes samlet for hver skole til marius.lier.dahl@nes-ak.kommune.no

PRESENTATION OF THE SESSIONS:

Kerry Rose: Emerging Themes in Science, Mathematics and Technology Education in Alberta

Kerry will introduce participants to some of the ideas and themes that Alberta Science teachers have been working with over the past several years. We will discuss many of the topics that are key to our science education process in Alberta – topics like metacognition, project or problem-based learning, interdisciplinary competencies, Nature of Science (NoS), Science, Technology, Society and the Environment (STSE) and formative assessment. There will be also be brief introduction to what self-direction means for both students and teachers – what forms it can take, and how teachers need to plan their learning to achieve their goals (the Professional Growth Plan).
Kerry will then outline how structured, guided and open inquiry are used in Alberta science classrooms and how, with proper scaffolding, this can increase student engagement and deeper learning. A brief activity will help teachers to understand the differences and uses of each type of inquiry in the classroom and lab. Samples of materials will be supplied and teachers will learn how to easily convert presently-used activities and materials into ones that stimulate self-directed student learning.

Garrick Burron: Fusing Digital Science Resources to Curriculum

Using online resources participants will build curriculum specific activities that allow for constructivist working environments. Garrick will walk the participants through an activity he did with his students at Kitaskinaw High School and demonstrate how a simple experiment found online can be built into an amazing experience for students while still meeting curricular goals. Participants will then build their own lesson plan, based on web resources they discover online, to meet a curricular goal of their choosing. This workshop will be largely interactive and focused on creating a product that teachers can use in the subsequent year. Garrick will

provide participants with a list of useful web resources, YouTube channels to follow, and podcasts to listen to that will help them broaden their science knowledge.

Aleya McKellar: Summative Assessment Blueprinting: Metacognition for Success in Science and Math

Aleya will discuss strategies on how to create a blueprint for summative tests. A test blueprint is a useful tool for a teacher to ensure that all learning objectives have been met, and also that the test is assessing different levels of knowledge. Aleya will review the levels of cognition used by Alberta teachers, and how to identify test questions that cover different depths of curriculum content. Aleya will then demonstrate how to use the test blueprint to increase a student's metacognitive process when receiving test feedback. She will demonstrate the development of lessons that use test blueprints to help students self-evaluate areas of success and improvement. This process gets the student to reflect and improve, and it increases student retention in science and math classes as students learn to use the summative test as a tool for learning and not just for evaluation. Norwegian teachers are invited to bring English translated copies of their summative tests and curriculum if they wish to practice the construction of a test blueprint for their classes.

Kristian Basaraba: Formative Assessment Tools for the Classroom

When incorporated into classroom practice, the formative assessment process provides information needed to adjust teaching and learning while they are still happening. The process serves as practice for the student and a check for understanding during learning and guides teachers in making decisions about future instruction. This session will explore and model two strategies,

whiteboards and peer feedback forms, which may be used in the classroom during the formative assessment process to collect evidence of student learning.

Tracey Stock: Competency-focused Learning in Science and Across the Disciplines

Competencies are combinations of attitudes, skills and knowledge that students develop and apply within and across all subject areas for successful learning, living and working. Alberta's curriculum promotes the development of competencies as a means to help students reach their full potential. In this session, Tracey will share some ways that competencies can be included in the science classroom to facilitate deeper learning of science concepts, create interdisciplinary learning opportunities and develop transferable skills. Teachers will explore formats for designing competency-focused lessons and assessing competencies to encourage ongoing improvement in the science classroom.

Adam Holloway: Teaching Students to Be Thinkers and Doers

How do we help students who struggle when overwhelmed with complex tasks? Numeracy requires students to develop the ability, confidence and willingness to make meaning of a variety of text forms. Teaching students the tools that develop self-monitoring of literacy in a science/math question allows the student to access the meaning of the text and thereby show a higher level of mental

activity, and ultimately experience success in question answering. Resources and classroom practices have been developed for the science and math context by reading and writing literacy specialists in Alberta to enhance student access to complex and subtle concepts in problem-solving questions.

Kris Reid: Cognitively Demanding Tasks in Mathematics

“Obstacles, of course, are developmentally necessary: they teach kids strategy, patience, critical thinking, resilience and resourcefulness.” - Naomi Wolf
Too often, the selection of mathematical tasks for students undermines the very skills that develop numeracy and prepare them to transfer their mathematical understanding to new situations or the world around them. These “textbook” examples can often subtly encourage students to stop thinking or miss out on critical mathematical understandings. However, all is not lost! Many tasks can be modified or rewritten to be more cognitively demanding and promote the types of Basic Skills (Norway) and Core Competencies (Alberta) that are foundational to the mathematics curriculum and student learning.
In this session, Kris will outline this evidence-based approach to mathematics pedagogy, offer several key resources as well as provide practical strategies and hands-on practice adapting our current teaching materials to make them more engaging, differentiated, and cognitively demanding. Feel free to bring a copy of your current resource to the session.

Påmelding for de som ikke hører til Drammen, Nes og Hvam vgs. sendes til:

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Med vennlig hilsen
Energy Camp 2016

Per Corneliussen, Jan Carsten Gjerløw, Erlend Risvik Paulsen, Yngve Rønning og Hilde Schjerven