

October 2015

Leader Report to Management Board meeting 9 October 2015

MatRIC has continued to follow a busy programme since the last management meeting with significant UiA, national and international activities.

Local events and activity at UiA Campus Kristiansand and campus Grimstad

The resource and support centre, 'MatRIC Drop in' (<http://www.matric.no/dropin>) opened on 31 August on both campuses (<http://www.uia.no/nyheter/matric-aapner-drop-in-senter-i-matematikk>). The response from students has been entirely positive, both in comment and attendance. It seems that a small number of students use the centres regularly. We want to reach out to more students, but we do not want to over-stretch the capacity of the tutors.

As part of the Drop in provision MatRIC arranged a late afternoon session 'How to study Mathematics' (<http://www.matric.no/events/16>) presented by Professor John Monaghan and Associate Professor Morten Brekke. The session was presented at both campuses and open to all students. At Kristiansand there were 17 students, at Grimstad 85 (<https://www.facebook.com/matricuia>).

In preparation for the Drop in Professor Tony Croft from Loughborough University came to talk about mathematics support for students, and talk to tutors about working with students in the support setting (<http://www.matric.no/events/12>).

As indicated in the last leader report MatRIC has entered an agreement with Loughborough University to translate some of their mathematics support video material into Norwegian. Morten Brekke is now working on these materials and they will be made available as each short video is ready. Janette Matthews from Loughborough University visited UiA in August to work with Morten on this task and give support with the software used in the production, a further meeting between Morten and Janette took place in Loughborough mid-September.

Håvard Tjora came Friday 11 September and presented an open lecture on each campus, these were live streamed (<http://www.matric.no/events/15>). We estimate the audiences to be about 200 in Grimstad and 250 in Kristiansand. Upper secondary schools in Agder were invited to this event. This is now the second MatRIC 'Open Lecture' and our intention is to make this a regular event in the MatRIC calendar.

MatRIC leaders and coordinators have met to discuss plans for 2016. We know the MatRIC budget will be smaller in 2016 and the programme will not be as rich as 2015. We want to make the Drop in and continued production of student support materials a priority. There will be fewer national events and we will not pursue phase 3 of matric.no during 2016. More detail will be presented with the proposed budget for 2016.

A suggestion to change the title of MatRIC 'workgroups' to 'networks' was put to the Management Board and International Advisory Board. It was felt the title 'network' represented the groups better than 'workgroup' and would lower the threshold for participation. Members of the IAB especially were positive towards this change and accordingly the change is incorporated on the new web-site.

We hope the new web-site will be live in time for the Management Board on 9 October. It is very close to being ready and at the time of writing commissioning activity with a 'beta' version is underway. The new web pages include MatRIC TV, a section for MatRIC Drop in and several new features that we hope will make visiting the page a better experience.

Two new MatRIC PhD fellows began, Helge Fredriksen (1 August 2015) and Ioannis Liakos (1 September 2015). Helge will research the use of video in teaching and learning mathematics and 'flipped' classroom approaches. Ioannis' research will be within the mathematical modeling network. A further PhD fellowship – mathematical subject knowledge for mathematics teacher education, to commence 1 August 2016, is due to be announced.

National events and activities

A production group working for the MatRIC/UHR collaboration to produce mathematics videos to support students' transition from upper secondary to higher education studies has met on two occasions. On the first occasion 27 short videos were produced, a number of issues with this production led to the decision to consider these as draft versions. In the second meeting 15 revised videos were produced and these will be available on matric.no as soon as the new web site is launched. Further rounds of production are planned to take place as the availability of the production group permits.

MatRIC initiated a research proposal that was submitted to the NFR FINNUT programme (deadline 16 September). Professor John Monaghan leads this proposal, which focuses on engineering students learning from mathematics video resources. The proposal includes a network of national collaborators: NTNU (& HiST), HiN, HiB, HiOF, HBV, UiO. This will be a four year project (01.03.2016-29.02.2020), we have applied for 12 mill. NOK from the FINNUT programme. The Faculty will also support with a KD PhD fellowship. The outcome of this application is due in December.

Since the last Management Board we have received two reports from recipients of MatRIC research grants (2014). One of these is available (<http://www.matric.no/articles/35>) and the other will soon be available on the MatRIC web pages. Also two further grants for the 2015 round have been awarded: one of these is to Kjellrun H. Hauge at HiB. The other is a collaborative project with bioCEED the Centre of Excellence for Biology Education. This relates to the production of video resources to support students learning statistics. (MatRIC contributes 50 000NOK, bioCEED 100000NOK; the latter is mainly for the purchase of equipment).

NOKUT commissioned NIFU to inquire into and report on the impact of the Centre for Excellence scheme in Norway. This was published on 9 September 2015. The report points to many positive results from the scheme, UiA and MatRIC are referred to in several places.

International events and activities

Colleagues at Brno University of Technology were successful with an application to the 'Norway Grants programme' to collaborate with UiA/MatRIC in a project "Mathematical education through modeling authentic situations" (METMAS, see <http://www.ceitec.eu/norskefondymetmas/>). This project was launched at UiA, Kristiansand on 14 August 2015.

MatRIC and the Mathematics Education Centre at Loughborough University met in Loughborough 16-18 September 2015. This was the second joint conference and included participants from other centres (e.g. KHDM in Hannover, Brno, U. Amsterdam, University of East Anglia). The conference was in two parts, the first part for Centre leaders (Wednesday) focused on student support, Centre impact, and collaboration between centres (partnership agreements and research proposals). The second part (Thursday and Friday) focused on collaborative writing for a 'thematic issue' of the Nordic mathematics education journal NOMAD. Outcomes from this meeting were: Agreement on the call for papers for NOMAD (see <http://www.matric.no/articles/37>); Agreement to work towards a joint research proposal within the EU H2020 programme). There was no strong feeling about exchanging

letters of intent to collaborate; it was argued that these were merely pieces of paper did not count for much. The reality lies in the extent to which we work together. We hope to have another meeting in September 2016, then we will meet in Agder, and the proposed topic for the 'conference' is the meeting of cultures between mathematicians and mathematics education researchers.

Events planned for the remainder of 2015

- 14-16 October Video Colloquium at UiT. Keynote speaker will be John Jaworski (ex. UK Open University & BBC). The focus of the colloquium will be the MatRIC/UHR video production. (See <http://www.matric.no/events/13>)
- 20 October Seminar at UiA campus Kristiansand by Carl Winsløw Professor of Mathematics Education at Copenhagen University.
- 23-25 November Induction course for mathematics teachers at NTNU. (See <http://www.matric.no/articles/33>)
- 25-27 November MatRIC Annual Conference in Trondheim. (See <http://www.matric.no/events/14>)

NOKUT events

- 4-5 November Seminar om fremragende utdanning. (See <http://www.nokut.no/no/Nyheter/Konferanser-seminarer-og-kurs/Hoyere-utdanning/Seminar-om-fremragende-utdanning/#.VgO3psuqpBc>) MatRIC and UiA will be presented at this event.
- 16-17 November NOKUT institutional visit – the purpose of this visit is to look at what MatRIC is doing and how MatRIC is progressing and to come forward with suggestions for development. We have been invited to propose themes and meetings for this visit:

Themes for the visit:

Impact – within UiA, National and international – pointing towards influence and changes in teaching and learning mathematics. Promoting teaching based on research and development. We know what we are doing, but we collect only anecdotal evidence of the consequences of our actions. MatRIC's proposal was based mainly upon evidence of excellence that was found in NOKUT evaluations. In looking to impact I think we have to look for other sources of excellence. Can we point to changes in teaching and learning at UiA (across subjects) in areas that MatRIC has been active and may have been instrumental?

Sustainability – MatRIC has set out to be a national centre. We can point to the existence of networks of teachers that we think did not exist so well connected before MatRIC came on the scene. How do we work to ensure the sustainability of these networks – which are the foundation of our activity to influence teaching and learning mathematics, and contribute to the research and development base of teaching?

Influence – MatRIC has become well connected with the mathematics teaching community in higher education. We have good links with UHR and individuals within KD and NOKUT. How do we need to develop MatRIC so that MatRIC can represent the ambitions of university level mathematics teachers in Norway to ensure the context and support for learning mathematics at university and university colleges provides a foundation for world class performance?

Interaction – between students, teachers and support services. We see this developing now through the Drop in, but to a large extent the groups remain discrete with channels of communication. How can MatRIC contribute to a greater integration of these groups so that interaction becomes a natural part of students' and teachers' experience? We need to be able to achieve this at UiA so that we can disseminate good practice.

We suggest to spend one day in Grimstad and one day in Kristiansand.

Persons to meet:

- 1) Centre leadership (Simon and Anne Berit Fuglestad, possible Line via skype).
- 2) Visit the drop in centre, both places. Meeting with the Centre coordinators and some students who uses the centre
- 3) Meet with Marit Aamodt Nielsen, Elna Svege, Frank Reichert and possible others from the board?
- 4) PHD students and Post Docs in MatRIC: their research on undergraduate mathematics, teaching and learning.
- 5) The network coordinators.
- 6) Greta Hilding (studiedirektør) og Gunnar Horn (leder av PULS)