

SFU Interim Evaluation

Report following site Visit

bioCEED

The site visit to bioCEED was helpful in gaining a clear sense of the progress of the centre, the challenges that it faces, and to develop clear advice about how the Centre might develop in the second period of funding. Overall, the visit gave the panel the clear impression that bioCEED had achieved a significant amount since its initial inception and should be proud of what it has accomplished. The panel particularly appreciated the open and productive way in which the Centre engaged with the visiting team and were very impressed with the work of the Centre. The panel also recognised the level and nature of support for the work of the Centre from senior institutional leaders.

Progress on stated aims

bioCEED has made excellent progress on its four main areas of focus:

- *Teacher culture.* There is a clear sense that the Centre has helped to develop a scholarly approach to teaching and that students have experienced the benefits of the changes related to this approach. Teaching staff provided persuasive accounts of how the teaching retreats had helped them to develop evidence-informed approaches to teaching. The Centre has also played a pivotal role in the development of a teaching reward system at the University of Bergen, and is often used as an exemplar of good practice.
- *Innovative teaching.* The Centre has provided excellent support to those at Bergen and Svalbard, which has led to a greater variety of teaching approaches being developed. The development of the bioSKILLS platform has a lot of potential to support innovative teaching on a national and international scale. The students and the stakeholders were full of praise for the intern scheme and the ways in which it provided productive links between the students, external stakeholders and wider society.
- *Practical training.* bioCEED has supported the development of work practice courses and a new dissemination project course. Students reported that finding these courses very useful. Whilst these are currently elective courses, they have the potential to be accessed by a greater number of students. The bioSKILLS platform again has the potential to support the Centre's work in this area.
- *Outreach.* bioCEED has had a large impact on its host institutions and has become visible in higher education discussions across Norway. For example, its work was highlighted in the recent Higher Education White Paper. The development of the National Forum for Educational Leadership in Biology with Biofagrådet has the potential to further extend the work of the Centre across Norwegian universities.

Challenges

The main challenge for the Centre is to move from working with those who are interested in developing their teaching within their home institutions to supporting sustained change to teaching practices on a wider scale. It should be recognised that this is predicated on the high quality work that bioCEED has done to date and is, by its nature, both challenging and difficult. The panel's comments should be read as suggestions for how to meet this challenge rather than criticism of the Centre's work to date.

The panel felt that there were a number of aspects to widening the scope of bioCEED. First, they felt that the Centre would benefit from a clearer articulation of its vision of biology education. This should set out the Centre's sense of how biology education and biology graduates contribute to wider society. The panel wondered whether the bioCEED's triangle had led them to focus overly on the relations between content knowledge, societal relevance, and practical skills rather than exploring, in more detail, what their vision is for each of these aspects of their work. Part of this vision could, for instance, include the role of students in developing the curriculum, which seems under-developed in the Centre's work to date.

Second, the panel felt that there was a need to scale-up the work of the Centre so that its positive impact was experienced by more students and teachers. For example, the internships were clearly of enormous value to the students, but the numbers of students who could take advantage of these to date has been limited. Similarly whilst bioCEED had a significant impact on teaching cultures across its host institutions, its impact on teaching cultures across Biology Education in Norway appeared to be more modest. This raised the question of how the Centre might become a Centre **for** Excellence across biology in Norway as well as a Centre **of** Excellence. The panel's view was that this would require a shift to more strategic development of biology education rather than focusing mainly on the development of exemplar projects.

Third, in developing this strategic approach, the panel felt that bioCEED would benefit from developing more specific overall objectives for the work of the Centre and an explicit account of how their progress against these strategic objectives will be evaluated. Currently, the Centre has four areas of focus but does not articulate how it will measure the success of its overall contribution to Biology Education in Norway.

Looking forward

In developing their action plan for the second funding phase, the panel recommends that bioCEED:

1. Develops an explicit vision for its contribution to Biology Education that expands the current triangle. This will involve defining more precisely where it will focus during the next funding period. There is the potential to focus on educating the educators; research skills training; or defining the place of biological science in society. However, it would not be possible to do all of these effectively and the Centre needs to decide where to focus its work.
2. Develops more specific overall objectives for the Centre and a clear sense of how this will be measured and evaluated. As part of this, bioCEED needs to consider how they can draw other disciplines (interdisciplinarity) and other institutions in Norway

and beyond into their work. This will be an important part of becoming a Centre for Excellence.

3. The Centre progresses its work in curriculum development. It could, for example, explore how students can become involved in curriculum development processes as co-creators of knowledge. The Centre should also explore the role that the enhancement research skills may play in framing curriculum development.
4. Overall, given its success to date, the Centre should be both confident and bold in developing its proposals for the second funding period.