



Review of the Partnership Programme in Higher Education with North America

Rachel Sweetman, Agnete Vabø & Martin J Finkelstein

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Preface

This report has been prepared by NIFU in response to an invitation from The Norwegian Centre for International Cooperation in Higher Education. The evaluation was performed by the researchers Rachel Sweetman and Agnete Vabø and supported by Professor Martin Finkelstein at Seton Hall University who also helped shape the recommendations. In his internship period at NIFU, Master's student Abdulai Abdul Karim also assisted on the evaluation.

We express our gratitude to the staff at SIU as well as the students and staff at visited institutions that took the time to share their experiences with us.

Oslo, December 2011

Sveinung Skule
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Sammendrag

Partnerskapsprogrammet for Nord-Amerika (PPNA) er et ledd i en mer omfattende satsning fra sentrale myndigheter for å styrke samarbeid om forskning og høyere utdanning mellom Norge og Nord-Amerika inkludert Canada. Kunnskapsdepartementet besluttet høsten 2011 å videreføre programmet for en ny fire års periode (2012-2015).

Denne evalueringen omfatter første periode av partnerskapsprogrammet, 2008-2011.

Evalueringen konkluderer at PPNA lykkes svært godt med å stimulere og utvikle nettverk og mobilitet mellom institusjoner og fagmiljøer i norsk og nord-amerikansk høyere utdanning. Første utlysning var kjennetegnet ved mange gode søknader. Mange av prosjektene drives av internasjonalt profilerte fagmiljø, de fleste innen naturvitenskap og teknologi, gjerne med fokus på miljørelaterte spørsmål.

I tillegg til de finansielle årsakene synes høy faglig kvalitet å være en viktig forklaring på at PPNA er interessant også på nord-amerikansk side. At samarbeidet organiseres rundt miljøer med komplementære aktiviteter eller felles interesser i innsamling og deling av datamateriale, utstyr og fasiliteter synes ellers å være viktige motiver for deltakelse.

Mange av de utvalgte prosjektene organiseres innenfor internasjonalt fremragende forskningsmiljøer- og nettverk. De er for det meste tverrfaglig og organisert rundt sentrale tema som miljøendringer. De akademiske aktivitetene er ofte preget av innovasjon i teknikker for datainnsamling, analyse og formidling. Sentrale aktiviteter i programmet omfatter mobilitet av ansatte og studenter, sommerskoler, konferanser, kurs, workshops og møter, feltarbeid og datainnsamling, utvikling av felles pensum, gjesteforelesninger, veiledning av studenter, online undervisning, praksisplasser, vitenskapelige publikasjoner og web-sider.

Årsrapportene viser at mange resultater er oppnådd. Noen rapporteres å være i gang, slik som vitenskapelige publikasjoner, bøker eller planer for forskningsprosjekter. Rapporten inneholder også en tabell som oppsummerer mobilitetstallene i programmet så langt.

Forskningsdrevet samarbeid, kopling mellom forskning og høyere utdanning er selve kjernen i NAPP, som også kjennetegnes ved en relativt fleksibel tilnærming til hva som skal utgjøre ingrediensene i det samarbeidet som finner sted i regi av programmet. Evalueringen understreker betydningen av å holde fast ved en slik tilnærming. Prosjektene har ulike behov, og behovene er ikke nødvendigvis det samme på norsk og nord-amerikansk side. En tilpassning av programmet til særegne strukturer og behov i nord-amerikansk høyere utdanning synes påkrevd for ytterligere resultatoppnåelse. Det er vanskelig å få amerikanske høyere gradsstudenter til lengre forsknings- og studieopphold i Norge. Organisering av kortere studiereiser og sommerskoler har imidlertid vært svært velfungerende innenfor rammen av programmet.

Det gjenstår likevel å se hvor viktig nettverkene vil være for fremtidig samarbeid, og rapporten foreslår ulike tiltak for å sikre en bedre institusjonell og langsiktig forankring av samarbeidet som initieres gjennom PPNA.

Summary

The Partnership Program for North America (PPNA) is part of a broader effort by the central authorities to strengthen cooperation in research and higher education between Norway and North America, including Canada. In the autumn of 2011 the Ministry of Education decided to continue the programme for a further new four-year period (from 2012 to 2015).

This evaluation covers the first period of partnership program activity, from 2008-2011.

The evaluation concludes that the PPNA has succeeded and functioned well in stimulating and developing networking and mobility between institutions and communities in the Norwegian and North American higher education systems. The first call for potential partnerships received many good applications. Many of the projects selected and run have involved, or been headed up, by internationally distinguished experts, mostly working in the science and technology areas, often with a focus on environmental issues.

In addition to the financial incentive of funding offered under the programme, the high professional quality of the Norwegian teams involved seems to have been an important explanation for interest in taking part in the PPNA from the North American side. Further motivations relate to cooperation being organised around environments with complementary activities or common interests in collecting and sharing data, equipment and facilities.

Many of the selected projects stem from prestigious and internationally distinguished research and education groups. These environments are mostly interdisciplinary and organized around their work on key topics such as environmental change. The partners' activities are also often characterized by innovation in the techniques for data collection, analysis and dissemination they employ. The programmes' central activities include mobility of staff and students, summer schools, conferences, graduate courses, workshops and meetings, fieldwork and data gathering, curricula development; joint curricula, guest lectures, supervision of student theses, online teaching, internships, scientific publications and web-sites.

While the annual reports show that many results have been achieved, some are reported as being underway, such as scientific publications, books or plans for research projects. The report also contains a table that summarizes the mobility figures in the programme reported so far.

Research-based collaboration and links between research and higher education are the core of the PPNA model, which is also characterized by a relatively flexible approach to what should be included as 'raw ingredients' for the kinds of cooperation taking place under the auspices of the program. The evaluation emphasizes the importance of maintaining this relatively flexible, bottom-up approach. The projects have different needs and the expectations and motivations are not necessarily the same on the Norwegian and North American sides. Some adaptation of the program to take account of the unique structures and needs

of North American higher education may be necessary to support greater achievement and success. It is difficult to engage North American graduate students to take part in research and study in Norway for a range of reasons. Due to this in part, partnerships that organised short study tours and summer schools have found them to be a very efficient approach to implementing the programme, and building networks for students and academics.

It remains, however, to see how important the networks established will be for future cooperation, and the report proposes various measures to ensure better institutional and long-term organization and follow up of such cooperation.

1 Introduction

1.1 Introducing the North America Partnership Programme

The Partnership Programme for higher education collaboration with North America 2008-2011 is one element of the broader North American Strategy for Higher Education Cooperation 2008-2011. This is a strategy of the Ministry of Education and Research, and is overseen by the Norwegian Centre for International Cooperation in Higher Education (SIU). The Ministry's cooperation strategies with North America build on historical ties between the countries (Norway, the United States and Canada), and seek to strengthen existing links and offer support and opportunities for new or emerging partnerships.

Norwegian universities and university colleges had the opportunity to apply for funding in 2008, to develop existing collaborations into thriving partnerships. Twelve projects were selected (from a total of 44 applications). The approved projects were awarded 250 000 NOK in the first year and 500 000 for each of the following three years.

Each partnership's approach to collaboration was left fairly open, and involved a wide range of approaches, such as: student/faculty exchange, joint curricula, intensive programmes, summer schools and common modules or programmes as well as other approaches.

Projects were chosen based on the following parameters:

- The quality of the project proposed
- Applicants' competence, both (main) partners
- The project's contribution to renew and strengthen existing contacts
- The project's perceived potential for creating sustainable academic relationships
- The North-American partner's commitment and contribution to the project
- Synergies between research and education and/or the project's relevance for innovation and entrepreneurship.

The Partnership Programme model

The Partnership Programme with North America (or PPNA as it will be referred to in this report) model for Higher Education-based cooperation explicitly aimed to span research and education roles in HE, and complement work in the Cooperation strategy for Science and Technology between Norway and North America. The PPNA also is intended to work alongside the existing national exchange scheme, which includes particular earmarked funds to encourage links and exchange with HEIs in Northern Norway and North American institutions. It was expected to bring a range of benefits, including: the opportunity to share excellent research facilities; increased access for students to high quality

educational opportunities in North American institutions; improvements in the quality of HE and research in Norway; and overall an impetus for creativity and new knowledge.

The aims of the Partnership Programme with North America 2008-2011¹

The programme should contribute to strengthening quality academic relations with partner institutions in the US and Canada, through:

- Academic collaboration rooted in groups of faculty at involved institutions and linked to the management of HE institutions.
- These collaborations should lead to greater commitment and durability.
- The partnerships should develop their cooperation into a sustainable bilateral or multilateral collaboration during the lifetime of the project.
- Build sustainable academic networks and strengthening exchanges between countries
- The need for durable and sustainable collaborations is key as funding for this strategy is intended to be time-limited
- Work in synergy with the instruments for scientific and technical cooperation (including perspectives linked to research schools/PhD programmes from the science and technology cooperation strategy) and can combine elements from both strategies.
- Partnership projects should be innovative: the Programme should stimulate educational collaboration that promotes innovation and entrepreneurship.
- The Partnership Programme was open to all fields but projects concerning climate change, new forms of energy and multi-cultural societies are especially encouraged.

1.2 Aims and scope of this evaluation

The first wave of this programme ended in November 2011, and this evaluation has been conducted to assess its success and help focus and fine-tune future, similar programmes via a broad evaluation process. The evaluation assesses the PPNA's achievements so far, for its entire period of activity from 2008 – 2011 (to the time of review). The findings describe progress and activity so far, but are also presented so as to provide clear recommendations and guidance for future efforts and a revised partnership programme. The particular aims that focused the evaluation and will be used to structure this report were to:

- 1) Assess the programmes' effectiveness and sustainability: In terms of actual results achieved in the programme and whether the project activities have been carried out according to plan. In doing so it establishes how far this first wave of projects served the objectives of the Partnership Programme
- 2) Consider Success Factors: PPNA achievements are assessed in terms of key success factors and obstacles to mobility of faculty and students; development of common curricula, study modules, and common educational programmes; and, development of sustainable relations
- 3) Assess the programme model: Establish the efficacy of the programme model, based on researcher initiated projects, endorsed by the leadership of the institutions, and in so doing identify strengths and weaknesses of the programme model
- 4) Assess the administration and selection processes conducted by SIU: Have the administrative, follow up, selection and reporting processes been adequate?
- 5) Identify recommendations, based on the evaluation findings, as to how the programme can be further developed, including adjustments to the model.

¹ The PPNA is set out as one part of the Kunnskapsdepartement wider North American strategy, in the document 'North America Strategy for Higher Education Cooperation 2008 – 2011 of the Norwegian Ministry of Education and Research'.

This set of issues will provide the focus and structure for the main discussion of findings. **Points one to four are covered in the next chapter, and recommendations close the report in their own section.**

1.3 Methodological approach

The evaluation process took place after the partnerships had been underway for four years, with the aim of establishing partnerships of a longer duration and leading to long-term collaborations. It was also only possible to investigate a sub-set of the programmes in detail. For both for these reasons, the evaluation was approached in a formative not summative fashion: the aim being to establish how on-going activities can be monitored and assessed in more detail in the future, as much as to assess clear outputs or impacts so far. Analysis of the results from such partnerships should, however, be a key goal in the future. In this respect, it is important to consider methodological possibilities and limitations typical of most evaluations. Firstly, to try to distinguish between processes and outcomes: an important Process objective of the programme is to initiate activities that form and develop networks where knowledge can be shared and co-developed. However, this process can also be thought of as leading to targets and outcomes which can be quantified and measured, such as student and faculty mobility, courses established, various types of scientific publications and popular dissemination activities. However, it will always be difficult to distinguish the effects PPNA has had, for example in scientific publishing, from other forms of support and activities that participants' may have taken part in. Such methodological challenges require longer-term follow up, for example via surveys to compare the career paths of all those PPNA applicants who were granted funding and those who were not.

Several sources of data and information were drawn upon:

- Background documents provided by SIU: Initial partnership plans and annual reports, along with internal reports and annual reports on SIU's broader activities, provided by SIU. These were reviewed to establish the frame of reference for interviews and the overall evaluation project.
- Attending the meeting of project coordinators at Gardemoen in September 2011
- Field Visits and Interviews: A set of key informant interviews were conducted with people with detailed insight into the programme and partnerships. A selection was made to include a range of perspectives, considering subject/disciplinary area and the planned approach to the partnership programme. One of the originally selected projects was replaced with an alternative, but all projects were willing to participate when contacted. Four partnerships were considered in detail via interviews, with site visits conducted to two 'pairs' of collaborating institutions.

Table 1: Summary of sites

	Norway	N.America	Subjects	
1	University of Oslo	University of Ottawa	Ecology, natural sciences, environmental sciences.	Field visits and interviews with a range of actors
2	University of Bergen	MIT	Environmental technology, ecology, environmental sciences.	
3	University of Agder	University of Nebraska	Information, computer and communication technology, communication sciences	Telephone and face-to-face interviews with coordinators
4	University of Nordland (Bodø)	University of Alberta	Economics, environmental technology, engineering, business.	

Table 2: Summary of interviews

Groups	Interviews
Project coordinators	8
Institutional/Departmental leaders	3
Masters students/ PhD candidates	4 (group or paired interviews)
Researchers/academics	6
SIU contacts	3
Min. of Education contacts	1
Other key contacts	2 (international office coordinators and officers)
Total no. interviews	27

2 Findings

This section describes the findings of the evaluation, based on document review and the interviews. It addresses the main successes and challenges. The next chapter draws these observations and findings together to provide an overview of the key recommendations to support future programmes.

The PPNA was intended to be a relatively bottom-up and researcher-led process. This is a key consideration; as might be expected, while a number of common experiences, challenges and success factors emerge; there are also great variations in the way partnerships worked and developed over time. In many cases, aspects of original approaches were amended, while additional synergies, collaborations or new models were often discovered over time. The nature of such findings confirms the need for this review to provide foundations for further, appropriately open and on-going monitoring and evaluation of such partnerships in the future.

2.1 The programme model

Overall the PPNA appears to have proved a successful model in terms of its primary aim of stimulating and deepening collaboration and networks between Norway and North America. It is enthusiastically supported by the various actor groups involved, and the model's core idea of being researcher-led, and linking academic collaboration with educational aspects is seen as a real success. The actual collaborations covered a wide range of subject areas within different disciplines, although a concentration on Earth Sciences and Energy is apparent, as originally intended. The disciplines and subject areas covered ranged across the following:

- Biology /marine monitoring and ocean observation
- Geophysics/Climate research
- Geoscience/terrestrial cryosphere exchange
- Engineering/power electronics
- Physics/Computational Quantum mechanics for Nuclear Physics
- Micro- and Nano Systems technology
- Mathematics/Carbon storage
- Informatics(Distributed systems)
- Public Administration/Information systems
- Education/special needs education
- Indigenous Studies
- Business administration

Many of the selected projects stem from prestigious and internationally distinguished research and education groups. These environments are mostly interdisciplinary and organized around their work on key topics such as environmental change. The partners' activities are also often characterized by innovation in the techniques for data collection, analysis and dissemination they employ. For instance by the use of sea gliders in ocean monitoring, remote sensing for environmental change, or web-based educational platforms. The programmes' central activities include:

- Mobility of staff and students
- Summer schools
- Conferences
- Graduate courses
- Workshops and meetings
- Fieldwork and data gathering
- Curricula development; joint curricula
- Guest lectures
- Supervision of student theses
- Online teaching
- Internships
- Scientific publications
- Web-sites

While the annual reports show that some of these kinds of results have been achieved, many are reported as being underway, such as scientific publications, books or plans for research projects. Within the framework of this project, it is not possible to give a complete account of the results achieved. In addition to the results described in various parts of the report, we have created a table that summarizes the mobility figures in the programme reported so far.

However, some kinds of activities and aims have been more fully realized than others. In particular it seems the more formal elements of institutional collaboration (such as joint courses and formal co-supervision) have proved much harder to establish, and also less sustainable, than informal relationship and network building. Similarly, the financial sustainability of the partnerships appears to be mixed and generally weak, in terms of projects having identified and secured funding for activities or exchanges beyond the period of the grant. However, there are signs that the PPNA has accelerated and deepened linkages effectively, and that collaboration will continue: both in the expressed desire of those involved in partnerships to maintain close relationships and seek opportunities for further collaboration, but also in cases where publications or books are underway, where further collaboration projects are being designed or, in a couple of cases, where North American institutions have provided some funding to support further collaboration (such as summer schools or events in the coming year). Another lasting feature in a couple of cases is that staff or students have taken up long-term or permanent positions (as post-docs or researchers) at their partner institutions, providing a durable link (the University of Bergen has recruited postdocs from collaborating institutions in the US). The kinds of impacts and approaches used are discussed in more detail in the next section.

Support for researcher driven partnerships

The point was underscored by participants that successful international networks and collaboration requires researcher and academic enthusiasm; in this way the PPNA model provides a welcome contrast to internationalisation efforts that emphasise only institutional linkages and formal agreements, or student exchange. Overall, participants express very strong support for a programme of this sort - that focuses on building networks, linking educational offerings and research (seen as highly complementary elements) and fostering institutional links within specific subject areas.

There is a widespread sense that a great deal has been achieved with reasonably modest levels of funding. Suggestions were made that this can offer one efficient way to build international networks and develop a more international outlook within Norwegian HE that really complements and ‘fills the gaps’ left by larger international research efforts and standard student exchanges.

Complementary nature of research and education activities

Indeed the overlap of academic/researcher collaboration and student exchange is clear: the presence of concurrent links or nodes at many levels in a department or research group (with a number of individual academics/researchers and with PhD students, and undergraduate students). This is thought to both lead to stronger partnerships, but also offers potential for more lasting partnerships. In terms of strengthening the partnership, having a web of links or nodes clearly helped develop momentum in the partnership, and motivated a wider and wider circle to take part. For example, in several departments an initially narrow collaboration in one subject area now has drawn in academics working on similar topics (climate modelling) but from a range of different subjects and using different techniques. The presence of links at the student level can also help build lasting links:

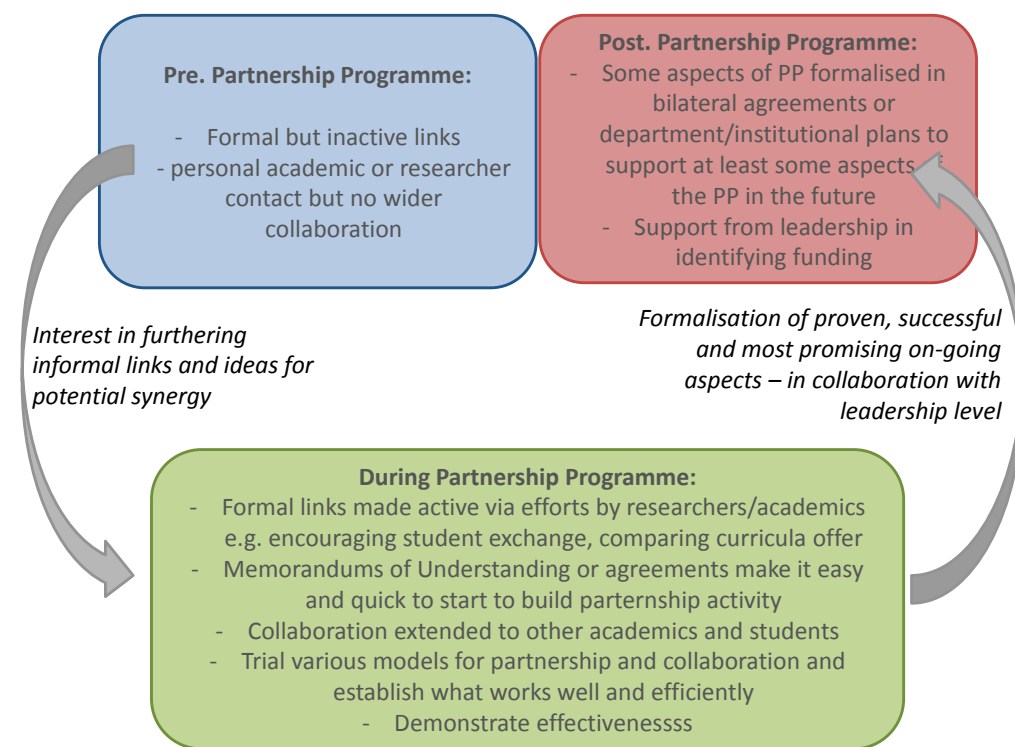
- where students move between institutions for full courses (masters/PhDs/post-doc positions) they create a link for the duration of their stay (staying in close contact with those at their previous base); and
- Where they have co supervision, this forces academics involved to have regular, on-going contact.

The need for some institutional support for bottom-up initiatives

While participants underscored that the academic/researcher led feature of the model is vital, this was seen to work well alongside some element of institutional or leadership input and facilitation. Academic enthusiasm and engagement with international departments and colleague is a vital complement to any formal agreements such as Memoranda of Understanding (MoUs), agreements on institutional recognition of overseas courses insofar as these formal links don’t necessarily result in activity without researchers who are motivated to collaborate. Formal agreements can be thought of as vital channels facilitating collaboration – but ones where no activity will flow in the absence of academics/researchers who want to collaborate. Once researchers identify potential synergies, the presence of such channels and leadership-level input in resolving issues as needed, becomes very important in making partnerships run smoothly and allowing them to develop rapidly.

In the ideal scenario, the partnerships might work in a way that ‘closes the loop’ between informal and formal collaboration (see figure 1). As this figure suggests, partnerships with existing formal agreements might find it easier to build up exchanges and collaboration quickly, but having done so, a process of formalising or embedding new, and more specific activities would ideally take place. In a few cases this does appear to have happened, for example with new joint programmes being established, or with plans to maintain annual summer schools now that the institutional leaders have seen their success in action. However, in many cases the future of such efforts is uncertain. It appears that the more formal educational components, supported by institutional participants, are key to spurring the more formal and lasting organizational arrangements.

Model 1: Closing the loop between institutionalised and researcher-driven collaboration



The flexibility of the PPNA model is an asset

It seems that the flexibility and relative openness of the PPNA has underpinned success in many cases. Flexibility in budgeting and the approaches developed over the duration of each partnership were mentioned as important, for example in projects where student demand was limited in the first year, organisers were able to 'roll over' some of their budget to the later years when they had had more time to promote the exchange possibilities, and more students wished to take part.

Indeed, the evaluation makes it clear that the best approaches for each partnership vary greatly, and that identifying the best ways for the institutions to offer advantages to one another often emerges as they become more familiar with each other – in the course of initial partnership activities. For example if it becomes clear that access to certain field sites or facilities is the crucial area of synergy, a field-work trip or summer school might work well, while in cases where it is a matter of sharing departmental expertise, academic exchange and lecture visits may be better.

It also seems likely that the most effective models for student involvement will vary depending on the level of students: the opportunities and challenges for bachelors, masters and PhD students differ considerably (see section 2.7.3).

Duration of the partnerships

The four year period appears to be about right for projects that were able to get established quickly, and by the fourth year most have broadened the networks in place to include a number of academics on both sides, and established fairly durable, if fairly informal, relationships. Many of the more concrete activities of exchange, such as joint courses proved challenging, especially in a four year period, which was felt to be only just long enough, or too limited, as these had only really started to function as hoped in the last year or two in some cases.

A model that is in line with broader trends in HE and research

It also seems that the PPNA is stimulating approaches to research and education in line with broader trends and shifts. On a small scale, it stimulates sharing of knowledge, expertise and data on issues that are of shared interest to the North American and Norwegian areas. It also seems to put into practice the idea of science and research having to become more international and collaborative to effectively address common, or indeed global, challenges.

There is an increased educational and HE trend to focus on relevance and applied knowledge in programmes and structures for students, which is illustrated by work placements/work experience increasingly being built into degrees and higher courses. The PPNA seems to offer students experiences involving more of a hands-on approach to research, fieldwork and also to networks of highly relevant professional contacts.

2.2 The Partnerships' effectiveness

The overall objectives of the Partnership Programme focused on building sustainable networks between Norway and North America, but also on the more specific aims of developing mobility of faculty and students; common curricula, study modules, and common educational programmes; and, development of sustainable relations. The programme does seem to have added value in terms of research and education, and these benefits and positive outcomes are discussed here, along with examples of good practice identified during the evaluation.

Access to facilities and sites

On a very practical level, the presence of a partnership between institutions can allow access to physical sites that are of value. This might include access to specialised equipment to gather data, or access to field sites in other countries.

It can also – include access to fieldwork sites, to allow for data collection and training of students in the field. Several academics stressed the value of field-work and applied experience of research, and how these kinds of experiences had been supported via access to facilities in partner countries.

Good practice: Short term exchanges for fieldwork and workshops

Several examples emerged during the evaluation of highly successful activities which involved short-term exchange or international meetings (based in North America, Norway or third countries) which brought together students and academics for intensive 10 day to 4 week periods. Examples included workshops, summer schools and field visits. All shared a number of qualities that were seen extremely positively by participants and are thought to provide substantial benefits and impacts, for relatively modest planning and resources.

- These short-term, highly structured visits provided intensive learning experiences, with in-depth training and study alongside more active aspects of planning research or conducting fieldwork/site visits. In this way they were seen as rich educational experiences by students. Academics also found them stimulating in terms of new potential projects, collaborations and learning.
- They were seen as highly effective for building relationships and networks: being in the same place, often in remote locations, working on shared interests made it easy for people to get to know one another, discuss their interests and work in detail and build relationships that they have maintained. For students, these forums made it easy to get to know professors and academics – who they could then contact for advice and guidance, and who have gone on to act as valuable contacts in several cases (as referees or advisors on academic careers).
- Indeed the nature of these activities seemed to break down divisions between students and academics, and so between research and educational efforts - particularly when they involved post-graduate students and were focused on quite specific, advanced topics. Students found the experience of feeling part of an international, research community extremely inspiring. Several credited this with their subsequent decision to go on to further academic studies.

Sharing approaches and data

Some partnerships grew in areas of research where departments' approaches and methods in both the North American and Norwegian sites were very similar, but where they could gain a great deal by combining data sources or regional knowledge, to clarify international or global issues or to build more sophisticated, large scale models.

It was noted by several North American participants that Norway has unusually high quality, long-running data sets in many areas of the earth and social sciences, and this provides a real draw for international collaboration. For instance Norway has a strong tradition of ocean monitoring, a feature which is important in the Partnership in Climate Research between University of Bergen, University of Washington and Massachusetts Institute of Technology (MIT). MIT has developed mathematical models for paleoclimate modelling, and this model is used by the Bergen milieu/Geophysical Institute.

Strategic alliances

In some of the projects, the North American partners' interest was partly related to a broader interest in building stronger European and international links. In one particular case, the Norwegian partners were seen as well-networked, with established European and Russian partners, and this was thought to be a motivating factor in the American partner's interest - offering a 'bridge' into these broader relationships. Furthermore, it was noted that North American institutions are not always used to collaborating with one another, tending to view each other more as competitors than potential partners. In some cases, the PPNA has supported new or deepened links between north American institutions, with the Norwegian partner providing an initial 'gateway' or link into more collaborative relationships. While this has particularly been the case in partnerships where two North American institutions were involved from the start, several partnerships have also developed such strong ties with third institutions during the partnership period. In these ways, it seems the partnerships foster spill-over links, and networks.

Improving the range and quality of educational offerings

Links with other institutions have also allowed participants in PPNA to offer students training (through semester long or shorter courses) in subject areas they would not otherwise have been able to provide. In some departments this involved access to crucial methodological expertise, allowing students to learn data gathering or analysis techniques. In others, it was a matter of linking up with departments that had a broader range of academic resources available. In this way, partnerships supported curricula development, development of networks in general and collaboration on course development or design. However, this use of partner institutions to broaden offerings to students was often conducted along informal lines, with students visiting for the duration of a course, or some training, rather than through formalised joint programmes built into new curricula. Lecturers visiting to provide training also allowed for extra educational offerings, but again, in most cases this has not been formalised as an on-going part of departments' curricula.

Students who took part in these courses mentioned that, beyond the course itself, they gained links to professorial experts in the topics – whom they could contact subsequently for advice when putting the approaches into practice in their own projects.

Students felt that access to foreign academics, and the experience of being taught by them, was very rewarding. Both North American and Norwegian students felt they had experienced a different style of teaching. In some cases this related to a different perspective on familiar topics, in others it related to pedagogical differences in how active a role students were expected to take in class (with American professors expecting more discussion) or the level of technical challenge provided by courses (with some Norwegian professors expecting high levels of technical application from students).

In one case in particular, students had been involved quite actively in identifying the topics and issues from which they felt they would benefit most from, in addition to their 'home' courses. These student inputs directly shaped planning for annual Summer Schools, in selection of speakers, research topics and training provided.

Example of good practice in student engagement and input:

This project used exchange courses, academic visits and Summer Schools to bring together students and academics each year. The academic area involved was focused on a specific subject, but a broad range of disciplines, theories and techniques were relevant. Students (at the masters and PhD level) were involved by the coordinators in identifying the specific topics and training that would support their own projects, and that were crucial for their development as academics in the area. Some of the most successful aspects of the partnership had been informed by such active student involvement in planning – meeting students interests closely and also drawing on their enthusiasm and help to organize and promote the programme. The coordinators would then use their own networks, and those of the wider group of academics involved as the partnership progressed, to identify very high-caliber participants for the summer schools.

The project also built in a process for student feedback, which helped coordinators to decide how to improve their efforts year-on-year, and clarified the kinds of benefits students felt they were receiving.

Use of new technologies and innovative approaches

While most projects relied on meeting face-to-face via exchanges and visits, there were cases where ICT was used to provide a broader international platform for the partnership, and widen access to the teaching materials and educational resources developed during the programme.

Several PPNA's used (or attempted) streaming or filming lectures, which could then be made available on-line to students directly participating in PPNA departments and those outside of them. Web-based seminars and course-support sites were also used to allow groups of academics and students to stay in contact. For instance, the collaborative project between University of Agder and University of Nebraska- Omaha "learning together" developed an online PhD seminar on Technologies and Techniques for Virtual learning and Training.

Such technologies were not used very extensively, however, and many participants still feel that visits and exchanges are the best way to build durable contacts and networks.

2.3 Funding and sustainability

While participants feel a considerable amount has been achieved, there is less evidence of long-term or sustainable financial support having been secured from partnership institutions or elsewhere, to maintain more formal and concrete activities after the four year period. In some cases, activities can be absorbed into broader student exchange schemes (for example using existing funds for semesters abroad, but encouraging students to choose courses or stay at the partnership site), and informal links and relationships look very likely to be maintained irrespective of funding, but the idea the model leads on to other, long-term funding does not seem to have worked in practice.

From the perspectives of the beneficiaries, it is widely perceived to be very challenging to find funding for such networking or exchange activity – indeed the efforts supported by the PPNA seem to fall between standard funding focused either on student exchange or on funding research projects. Indeed, even where project-based funding is an option for partnerships, this is often difficult to secure as national funding bodies, such as the National Science foundation in the U.S. are thought to be wary of international collaborations in many cases.

More work is also needed to develop systems to address exchange students fee payments: institutions wish to avoid financial losses when their students travel overseas and most North American institutions maintained their semester fees for students travelling to Norway. Ideally it would be possible to establish an even balance of exchange between countries and so institutions could 'write off' fees through a reciprocal process.

The limited success in finding additional funding may, in some cases, relate to the weak institutional anchoring outlined above: however, coordinators were sceptical that appropriate funds would be

available even if they were to pursue institutional financial support. In some cases, American partners did offer some co-funding for partnership programme activities, having seen the effectiveness in initial years, but this may well be the exception, and this funding was limited to extending certain activities for a year or two after the PPNA funding.

2.4 Success Factors

Strong relationships between coordinators

The success factor stressed repeatedly during the evaluation process is the existence of a prior relationship and desire for collaboration between partner institutions. Starting partnership programmes with coordinators with some established link or relationship, and ideally with some additional links between other members of the department or research groups, makes the whole process run smoothly.

Synergy and what PPNA participants gain

While a vital minimum requirement is a pair of motivated researchers – more is needed: an established sense of the potential for synergy between the departments is also felt to underpin successful partnerships. The natures of the benefits that are anticipated from the partnership programmes vary, and can involve:

- Complementary expertise, theoretical approach or methods/techniques
- Access to facilities or links to locations with particular advantages in terms of fieldwork or local industrial bases
- Complementary wider HEI networks –with other key countries or institutions.
- Departments or researchers working in niche or emerging fields that lack critical mass at the national level – making international networks a source of a range of approaches, broadened curricula offerings for students and chances to pool and exchange knowledge.

This range of rationales stresses the appropriateness of maintaining flexibility in the approaches to be used by different partnerships, and of allowing approaches to develop and change during the course of partnerships, as areas for collaboration and synergy are clarified or broadened from initial expectations.

Commitment and balance in benefits for the American partners

While it is clearly important that Norwegian groups have North American partners who are committed, the level of support for activities from North American participants seems to vary. Comments from coordinators stressed how important it was that the North American partners have a clear sense (among those directly participating in the programme and among leadership in their respective departments) of what they are getting back. Ideally, the partnerships should be based on an equal sense of input and benefit, and mutual advantage generated. Even where a Norwegian institution is partnered with a more prestigious institution in North America, this can still be the case, where a strong department or set of individuals is involved who are seen as valuable partners by their American colleagues.

Focus on educational outcomes and student experience

The benefits for academics and researchers seem to emerge fairly naturally: partnerships have been established in cases where they actively wish to collaborate. While the educational level is seen as complementary, there is a varying level of focus on developing the educational aspects of partnerships in a creative, effective way. Where students have been actively included in planning activities, programmes seem to have been particularly successful, not least in that students were more aware of and engaged in the partnership. In the future monitoring of the programme, we suggest it would be useful to discuss the educational programming element to the model more fully. While implementing the educational component through more formal models – such as joint curricula or new courses is the most difficult element to achieve, the potential for institutionalization and lasting collaboration in such

cases would be high; a new educational program, in effect, commits the partner institution to future support. However, as noted earlier, several partnerships who had hoped to develop joint courses were unable to fulfil this step, and used semester exchanges or shorter visits to engage students instead.

2.5 Key challenges

Overcoming the 'North American Bubble'

One Norwegian coordinator referred to the difficulty of getting people to "look beyond the North American Bubble" and when this idea was presented to other coordinators in Norway, and America, they agreed this summed up a key challenge from programmes such as the PPNA. Participants described the perception, thought to be widespread among students, researchers and supervisors, that leaving the U.S. system is a risky move; this is an issue which is particularly important for students and faculty at the most prestigious institutions. For North American students, particularly those in the U.S., the choice of college is typically carefully planned and needs heavy investment over many years for families. For faculty in the tenure track, the need to secure their reputation and have their students support their work and produce high quality work of their own is also strong. This can lead to reluctance among students and supervisors to take the risk of spending time abroad, particularly during Masters or PhD level study (for students) or pre-award of tenure (for faculty).

Given its size and the large number of prestigious institutions in North America, international activities are not seen as critical for American students and faculty, as they often are in many European countries, particularly smaller countries like Norway. Furthermore mobility between North American institutions is part of the traditional career dynamics for American faculty: it is generally accepted one should not apply for a first position at the same institution where one has earned a PhD. The tenure track system has been argued to be a feature that hinders international mobility among U.S. academic staff (Cummings and Finkelstein, in press). This suggests PPNA might benefit from focusing on certain fields or subfields where the U.S. or Canada does not lead in global research activity and where Norway's research base is particularly strong. This could represent a powerful incentive for North American collaboration. One example is in subjects related to climate change; American academics and students commented that the North American environment is often less supportive of such research than they found in Norway.

Against this background, there appear to be a range of features U.S. Universities might find attractive about the PPNA, which should be taken into account in planning and selecting future partnerships:

- The prospect of incoming "tuition paying" foreign students (both undergraduate and graduate);
- Giving their students "special" or "unique" access to highly specialized resources (scholars, equipment, laboratories, internships, research networks) outside the U.S., e.g. Arctic sites –at no cost to themselves;
- Bringing noted international scholars to their campus for lectures, courses for free/low costs;
- Providing unique access for North American academics to highly specialized resources abroad, in areas in which the Nordic countries may be world leaders;
- Developing joint graduate degree programs in specialized areas that North American institutions might not be able to mount alone;
- Developing and sustaining research and publication networks in highly specialized fields or in fields in which the U.S. is not the world leader;
- Providing cache or prestige associated with an international profile or presence; and,
- Gaining access via Norway to resources, networks and infrastructure in hard to access countries such as Russia.

In terms of students' concerns which may be barriers to student mobility into Norway; bachelor- and masters programmes are characterised by "tight" structures which makes it a challenge to study a

semester abroad. That's why summer is a relatively convenient channel for mobility activities. During the academic year it can be much harder. Indeed, this is one reason given for MIT's main programme for students' internships abroad, MISTY, working during summer semester.

The whole issue of a North American bubble is related to issues of uncertainty and trust. When little is known about European or Norwegian institutions, in terms of research quality, academic supervisory approach or broader issues of institutional reputation and the lifestyle involved in studying in a certain place, it is hard to motivate participation. The easiest step to initiate mobility seems to be summer visits or in January terms. As well as being less busy times in the year these student 'pioneers' can be useful in promoting exchange opportunities to their colleagues. Indeed, peer recommendations are likely the most effective way of promoting wider student involvement.

Practical issues related to funding also make it harder for North American students to spend time overseas: these may be major factors in imbalanced patterns of exchange seen in some partnerships. While Norwegian students may in fact be better off studying overseas, North American students often find they have to supplement the financial support received for exchange, to cover all aspects of a semester-long stay in Norway. There are also issues around lost earnings from teaching or research assistant roles that may be jeopardized by a stay overseas, certainly when it is a longer stay during term time.

Addressing the North American bubble probably requires identifying strategies at multiple levels that take account of the North American situation:

- Recognising that extended time abroad during the academic year may be difficult for graduate students, and in these cases shorter stays should be actively encouraged (especially as feedback from this evaluation suggests that they are seen as effective in promoting the international 'habit') and normal vacation periods such as the January term and summers ought to be targeted for activity.
- Focusing on early, short-term mobility in programmes provides a chance to identify and develop a cadre of "student advocates" who can effectively communicate the benefits to other students when they return. These students may well also be more open to more substantial, long-term mobility in the following year/years.
- At the faculty end, senior and junior faculty face very different situations. For junior faculty, research or study abroad is a genuine risk in terms of tenure and promotion. Junior faculty need to see both how such a foreign sojourn can strengthen their career prospects as well as how any negative effects can be neutralised. This might be achieved by emphasising the dissemination (publication opportunity) potential of Partnerships and clarifying the strategic importance of Partnerships as a long-term departmental initiative (rather than simply an individual one). A focus on summer and shorter term stays would likely neutralize some of the perceived disadvantages or risks for junior faculty as well.

Internationalisation as an individual and long-term process

Many of the important outcomes from the PPNA activities seem likely to emerge over the medium to long-term. Building networks and collaboration is a gradual process, but an individual's networks and experiences of internationalisation do seem to 'snowball' to some extent: those who have taken part in shorter-term exchanges, or international projects, say they are more enthusiastic (or indeed have already taken part) in other, similar activities. Students who took part in short terms activities report being much more open to the idea of semesters or whole courses (Masters, PhDs) abroad. For academics, the experience of taking part in the partnership programme was described by several as having demonstrated that international collaboration of this sort can work well. It had thereby given them the confidence and motivation to support or lead other initiatives.

This suggests that this kind of international networking, collaboration and mobility is habit-forming. In this case, it seems likely that further outcomes after the formal programme period will build up over time, as individuals involved follow a more international path than they would have otherwise. This is a topic which might be worth following up via further studies.

Indeed, a few of those interviewed put a similar long-term idea forward in seeing the partnership as fostering a new generation of internationally-oriented researchers/academics in their particular specialist area, who will benefit from a unusually rich network of international contacts in their own work and teaching.

Finding the right approach for each PPNA partnership

In general, some of the more formal collaboration approaches to which the PPNAs were expected to lead, such as a new unified curricula and joint courses, have proved difficult to establish. Setting up full Masters Degrees or taught courses for a semester's worth of credits requires a high level of institutional linkage and formal accreditation. However, when attempts were made to establish full semester courses and joint courses, problems emerged with student demand in some cases (in both directions). Indeed, across projects there were contrasting imbalances in student mobility: some projects found it hard to motivate Norwegian students to spend time in North America, and some North American institutions struggled to get students to take part in Norwegian activities. Interestingly, there was often substantial interest from other international students based in Norway or North America, to take part, compared to 'local' students.

As elaborated above, it shouldn't be taken for granted that students will take up international opportunities, even if funding is provided. In Nebraska for instance students' dependency upon part-time work was believed to hinder international mobility. However, curricular cooperation is a key element of the PPNA and should also be subject to more comprehensive investigation in the future monitoring of the programme.

Results and grade equivalence

Problems in terms of students' grades being accredited and transferred from Norway to North American institutions were not widely commented on but are seen as a potentially major barrier where problems emerged. The Norwegian system is seen as grading relatively harshly – with few 'A' grades awarded and a different correspondence between characters and implied quality in Norway and North America. In North America students often require consistently high grades (A or A+) for scholarships; if Norwegian courses are seen as leading to low grades, this could quickly deter future participation.

Communication within and between PPNA participants

The level of communication within PPNA projects seems quite mixed. Perhaps due to the researcher-driven nature of the collaborations, the approaches used to spread information about activities and opportunities for student participation were often fairly ad-hoc. In some cases, students felt little information had been provided as academics wished to select, or steer, who took part. In others, students and academics simply felt there had been little effort made to communicate about the project.

Certainly there was little sense that these projects have been promoted much within their home institutions, as examples of positive, effective internationalisation. It seems very likely that this would have required more time than coordinators had, but there were suggestions students could have been involved in this process, presenting their experiences to their peers and those in lower years.

The partnership coordinators' meeting in Gardermoen in September 2011, also made the point that this was the first opportunity for coordinators to meet, share experiences and discuss how partnerships have functioned, and it was seen as extremely valuable. Some suggested that more information sharing between the PPNA projects, via annual meetings, would be beneficial.

Longer and shorter term mobility and exchange

In this context of emerging, long term outcomes, it may be that an emphasis on clearly measurable outcomes in terms of new projects, publications or semester-long mobility, will tend to overlook important impacts the partnerships have fostered. Many of the mobility and exchange approaches deemed most successful, and which led to large numbers being involved in the PPNAs, involved exchange or other international events of a short duration (1-3 weeks) and certainly under a semester.

Indeed, there are large variations between projects in terms of scope and types of mobility (how many students, for how long and at what level). Some cooperations saw extensive mobility among master's students and staff, but others saw movement largely among PhD students and faculty, for more 'ad-hoc' or short terms visits. Table 3 below provides a rough overview of patterns of mobility, based on annual reports for the first three years for most projects², and split out by duration of the visit. As it makes clear, a great number of those who took part spent relatively short periods in a partner country. As table four shows, this applies more clearly to faculty and post-graduate students.

Table 3: Patterns of mobility by duration for faculty and students (over three years)

Group	1 to 3 weeks	4 to 7 weeks	8 to 11 weeks	12 weeks +	Totals
Norwegian faculty/staff to NA	48	11	2	8	69
N. American faculty/staff to NO	62	42	18	2	124
Norwegian PhD students to NA	13	1	10	19	43
N.American PhD students to NO	45	4	15	35	99
Norwegian Master students to NA	5	0	1	34	40
N.American Master students to NO	25	3	9	18	55
Norwegian Bachelor students to NA	0	0	0	92	92
N.American Bachelor students to NO	7	0	0	17	24
OTHER	6	0	0	2	8
TOTAL NUMBER	211	61	55	227	554
% (row)	38%	11%	10%	41%	100%

Table 4: All mobility, divided into less than, and more than 12 week periods

	under 12 weeks	12 weeks +	Totals
Faculty	183 (95%)	10 (5%)	193
Master/PhD students	131 (55%)	106 (45%)	237
Bachelor's students	7 (6%)	109 (94%)	116

This poses a substantial challenge in offering an experience of mobility, but one which may not count under ministry figures for mobility. Nonetheless, as this evaluation has found, there are substantial issues that make semester long exchange impractical and often relatively unpopular with students.

² A small number of reports (from two projects) did not report these figures in a format that can be used in this way, and in a handful of cases only 2 out of three annual reports were available.

2.6 Administration and selection process by SIU

SIU's approach to the on-going administration of the programme is seen extremely positively by project coordinators. The unanimous view of interviewees and of those at the PC meeting was that SIU's approach has helped their partnerships develop well and supported their success.

The following qualities and aspects of the approach were stressed in particular:

- Flexibility in how the programmes function has been valuable and should continue: allowing collaboration approaches to be adapted, where offerings proved impractical or less popular, and allowing flexibility in funding per year, allowed partnership to focus energies on the most successful aspects of their collaborations and build momentum over the period.
- A fairly 'light' model in terms of administrative requirements, follow up and reporting. As many coordinators are researchers and often quite senior academics, their limited time makes this a priority. The range of approaches and motivation among those taking part also suggest that very detailed or rigid follow up might be counter-productive.

The selection process and call

This was viewed positively, particularly the use of peer reviewers. However, it may be that the second wave of PPNA's would benefit from more tailored or strategic selection of projects, based on a 'big picture' understanding of how this fits with Norwegian priorities for internationalisation and research strategies. Those taking part in the partnerships were somewhat divided on the criteria that should be applied, but there is a general sense that selecting PPNA's which have the greatest potential to build strong, lasting links might have to involve picking areas of particular national expertise and strength; this would be in tension with selecting a broad range of subjects and in some cases a geographical range.

- Some suggested that the PPNA's role could be framed in terms of supporting international collaboration on global problems – themes where science and researcher activities will need to make joint efforts internationally: environmental issues are one clear area here, but information systems, extractive industries, international business and communications across national and cultures are also possible.
- Others suggest focusing on practical issues of research infrastructure (where Norway has exceptional facilities, fieldwork opportunities or data sources) in selecting future projects. Norway has some exceptional banks of data which act as a draw for international partners and which can link it in to international networks attempting to build complex models, for example.

In these ways, future PPNA's could benefit from being selected with an even stronger focus on their complementary qualities, perspectives and synergies, and their potential to make a lasting contribution to Norway's international links and standing in HE and research. Indeed, some coordinators felt that a clearer strategic orientation, with the PPNA being linked to other funding schemes or policies for North American collaboration and research, would make it even more effective and might help make projects more sustainable.

The first round of awards was conducted by a committee consisting of representatives from the SIU, some universities and colleges as well as the UHR. Time spent on evaluations must be in proportion to programme size. Impartiality is another challenging aspect, especially in a small country like Norway. In order to improve impartiality, peer review in assessment of applications should be considered; perhaps drawing on experts in the National Research Council /or European Commission databases.

Selection criteria could add more weight to issues such as: anchoring in institutional strategies for internationalization, which has been shown to be important; plans for financing the projects after the

initial period, which tend to be under-developed; plans for student engagement and feedback, and; plans for dissemination and spreading intended results might also be a valuable criterion to include.

2.7 Findings regarding key groups

2.7.1 Project Coordinators

The project coordinators noted that, while the administration and follow up process of the PPNA had been effective and efficient, there had been considerable work involved in coordinating the PPNA. They underscored how important it had been that they had existing, positive relationship with their fellow coordinators. To varying degrees, they made use of assistance from students in planning and running the PPNA and this seems to be an effective approach.

The backstory of the links between coordinators within projects were interesting, as often these relationships had been forged through coordinators' own experiences of international study or research. This underscored the impression that academics or researchers experiences as students can set them onto an international 'track' where they are more open to future mobility, and build up an international network which makes them a driver for further internationalisation and networking in their own careers. It may be that the application process ought to consider the applicants' own international perspectives and career vision.

2.7.2 Institutional and department leaders

The role of leadership-level actors, and those heading up departments and institutions where PPNAs were based seemed, in general, to be fairly 'hands off'. Having approved the application, leadership actors typically had little contact with the programmes. While this isn't presented as a barrier to the effective running of the partnerships, there are dangers of little institutional anchoring or mutual learning taking place, where PPNAs operate in an isolated way within the partner institution.

In some cases leadership actors have visited programme events and played a more active role. It was noted that departmental leaders had also been called upon to 'troubleshoot' problems in projects, including administrative and bureaucratic challenges, such as payments of funds between institutions, students' funding for exchanges or disputes over grade conversions; in these cases, leadership support is thought to be key to resolve problems that could become serious.

2.7.3 Students

Those students interviewed seemed to underscore the comments of several coordinators that even short-term international experiences can have a profound impact. The partnership activities seem to have added value to the educational offerings for students involved, in particular through:

- Improved access to a wider range of academic perspectives, methods, theories;
- Greatly strengthened personal networks with other students and academics and informal collaboration and support throughout masters,/PhD projects;
- Opportunities for future international mobility; and,
- Motivation and engagement in the research and academic process.

Models for mobility of students at different levels

However, the kinds of activities that seemed the best fit with the opportunities sought, and barriers experienced by students at different levels, varied. The programmes have developed quite a range of approaches – but typically ones that respond to the level of students they are attempting to engage. The table below summarised some key patterns that emerged from students and coordinators views.

Students' reasons for pursuing overseas study are thought to be driven by quite different motivating factors at the undergraduate level than masters and PhD level. More advanced students are more engaged by opportunities to study in a particular department, or opportunities for a specific course or

technique; in contrast, bachelors' students are thought to focus more on the opportunity for a cultural experience, and chance to live in another country.

Indeed, the post-graduate level is seen by coordinators as an opportunity to engage students with good potential, but who are undecided about further academic study or research careers: giving them experiences of research activity and contact with a range of academics in their field is seen as key to developing good potential doctoral students and post docs. It is also an opportunity for students to 'scout' for PhD opportunities in other countries – laying the foundation for international study or co-supervision.

Table 5: Student levels and feedback on opportunities, barriers and popular aspects of mobility

Level	Opportunities	Barriers	Popular Activities	Considerations
Under-graduate	Flexibility in programmes; more time for exchange; interest in international mobility; more flexible work commitments in some cases.	Minimum credit requirements; concerns to maintain high grades; low prior experience of internationalisation; prioritising 'personal development' or novelty not academic factors in mobility choices.	Semester exchange in less specialised courses that fit in with their 'home' programme.	Not the most effective group for generating on-going networks or links.
Masters	Students considering research/academic paths; higher level of subject knowledge and commitment; chance to lay foundations for internationalisation at PhD level (meet potential supervisors from other countries).	Very limited time; supervisors and students wary of periods abroad; not all Masters students ready for highly independent research experience; students' teaching commitments and scholarship requirements can also pose problems.	Summer schools/ Short (2-3 week) research visits during holidays; workshops/ fieldtrips; semester exchange to joint supervisor's home institution.	Timing of exchange is difficult – late on is busy, but near the end students have a clearer focus can look for PhD opportunities.
PhD	Longer time available; students committed to the field/subject; able to collaborate on a more equal footing with academics/researchers; able to work independently; building their own research networks.	Older students may be less mobile (family commitments); N. American students often have inflexible teaching commitments alongside studies; high pressure of academic 'track' in N.America makes leaving home institution a risky move.	Joint supervision with visits for lab-work/ specific courses; Summer schools alongside high-level academics; visits for specialist courses (of whatever duration); visits to labs or field centres.	Easy to link research and educational activities at this level, but less opportunity to develop joint study programmes & courses

3 Conclusions & Recommendations

Overall the PPNA appears to have proved a successful model in terms of its primary aim of stimulating and deepening collaboration and networks between Norway and North America. There is strong support for a programme of this sort, focused on networking, linking complementary efforts in education and research and fostering institutional connections within specific subject areas.

Added value has been demonstrated in terms of: development of new knowledge and technology, development of some new courses, broadening of the educational offerings for students, development of networks in general, interdisciplinary collaboration, new arenas for discussion/reflection and comparative approaches to be undertaken, co-publications, student and academic exchange, and cultural experiences. There is a widespread sense that a great deal has been achieved with reasonably modest levels of funding. However, some aspects of the aims have been less fully realised. In particular the sustainability of partnerships appears to be mixed and generally weak. However, there are signs that links and informal collaboration will continue in the medium to long term, and in this way the partnerships established provide a more durable, broad basis for collaboration beyond the formal PPNA period.

3.1 Recommendations for the programme model

Maintain and continue the model

The evaluation finds substantial support for maintaining this model, building on the central idea of offering funds to support and develop existing researcher-led collaborations. However, future programmes may want to focus more on certain success factors, and provide more support for efforts to formalise collaborations and link up partnership activities with institutional level actors.

Support researcher driven partnerships but also institutional engagement

Indeed, the point has been underscored by participants that success requires researcher and academic enthusiasm but also a minimal level of institutional and leadership support and facilitation: both these aspects should be clarified during the selection and follow up. For this reason, and others, future partnerships might benefit from closer links with leadership. At the moment, these are largely hands off.

An ideal approach might seek to 'close the loop' where institutions with formal, but inactive agreements, use these partnerships to build links and find successful models for collaboration, then formalize what they can, in the later stages of the partnership. For example, it might be a requirement in the 3rd year annual report to describe what, if any, activity has been undertaken to identify institutional support or other support after the PPNA funding ends.

More communication with the departmental and institutional leadership might also be part of broader efforts to promote the work of partnerships. Ideally, the PPNA's should be anchored in institutional strategies and receive more active support from the departments and institutions that host them.

Revisit the idea of partnerships as leading to sustainable funding

While it seems a considerable amount has been achieved with reasonably modest funds, there is little evidence of success in securing long-term, sustainable support from institutions or elsewhere to maintain most activities after the four year period.

Maintain flexibility

Flexibility in budgets and the approaches developed over the duration of each PPNA should be continued. This is also important as the evaluation makes it clear that the best approaches to use in each partnership will depend greatly on the particular ways the institutions offer advantages to one another: for example, if it is via access to certain field sites or facilities, or if it is a matter of sharing some departmental expertise.

It also seems that differing models of student involvement will be needed depending on the level of students targeted: the opportunities and challenges involved vary considerably between bachelors, masters and PhD levels. Ideally, partnerships would take a developmental perspective where they offer initial, convenient opportunities for mobility to encourage uptake of longer-term and more advanced opportunities, later on. This might also help puncture the 'North American Bubble'.

For example, programmes might aim to encourage early, short-term mobility before moving on to develop initial, modest educational programming, with the longer term aim of building up to joint courses or programs.

Maintain a (minimum) four year period

The four year period appears to be about right for most projects, in that by the fourth year most have broadened the networks in place between the partners and established fairly durable relationships between a number of actors. However, for some of the more concrete activities, particularly joint courses and programmes, a four year period is only just long enough to become established.

One possible option for the future might be to allow partnership to opt to spread their funding out over a longer period, if they can identify appropriate co-funding to make up the annual amount required.

Administration by SIU

SIU's approach to the on-going administration of the programme is seen extremely positively by the project coordinators. The unanimous view of interviewees and of those at the PC meeting was that SIU's approach has helped their partnerships develop well and supported their success. Flexibility in how the programmes function has been valuable and should continue: allowing approaches to be adapted, and allowing some flexibility in funding per year.

Similarly, the 'light' model in terms of administrative requirements, follow up and reporting is seen as beneficial. Both due to coordinators limited time, and the range of approaches and motivation among those taking part it may be that very detailed or rigid follow up could be counter-productive. However, the annual reports offer a chance to focus and motivate projects, to consider issues that seem to be important success factors, such as:

- Communicating about opportunities to students: this was generally ad-hoc, which may be appropriate in cases where there is ample demand and coordinators wish to select students. However, encouraging feedback on how activities and opportunities have been communicated to students, and the wider institution, over the year might support more effective approaches.

- Student feedback and engagement in planning: student involvement in planning courses and activities might ensure these meet students' interests and actively engage a wider group of people in running the programmes.
- Feedback from students after events or exchanges could help coordinators build year-on-year and help SIU see what kind of educational contribution is made, particularly via shorter-term mobility.

The selection process and call

Various suggestions were made to make selection of partnerships more focused or strategic; by supporting international collaboration on global problems; by considering practical issues of research infrastructure (where Norway has exceptional facilities or field-work opportunities); by utilising national banks of data which act as a draw for international partners such as those administered by the Research Council of Norway or the EU commission; or by focusing on areas that are relatively weakly developed among North American institutions. The introduction of peer review to the selection process might help in such a re-focusing of the selection criteria.

Anchoring partnerships more firmly in institutional strategies for internationalization is also important here, and should serve as an assessment criterion. Furthermore, a plan for financing the projects continuation and dissemination could also be added as selection criteria.

Meetings and information exchange

One issue raised during the evaluation was that there has been very little communication or information sharing between the PPNA projects. A coordinators meeting (possibly after the first year) might be a valuable venue for information sharing. Participants in the PPNA could benefit from exchanging ideas and solutions early on. Similarly SIU could play an active role in sharing 'best practice' examples of approaches that worked well in the first wave, for example those contained in this report as text boxes of good practice.

Including and counting short-term exchange

Many of the mobility and exchange approaches deemed most successful, and which led to large numbers being involved in the PPNAs, involved exchange or other international events of a short duration (1-3 weeks) and certainly under a semester. The length of stay should be a less important criterion, if possible, in measuring success.

This poses a substantial challenge in offering an experience of mobility, but one which may not count under ministry figures for mobility. Nonetheless, as this evaluation has found, there are substantial issues that make semester-long exchange impractical and often unpopular with students. It may be that SIU and the ministry need to consider the differing ways that internationalisation works, in practice, at different levels of HE, to match motivating factors to models that are successful.

Further efforts in terms of building students' experience and ideas into partnership activities, and gathering feedback could be made (some institutions are doing this already) and this would also provide a clearer sense of the kinds of benefits and outcomes generated by shorter-term exchange.

Dissemination and broader outreach

Dissemination and valorisation of the programmes has occurred in some cases. Efforts at popular communication of the PPNAs processes and aims might be developed, via realistic plans for dissemination and communication being included as a requirement in initial applications and in annual reports. However, it is important that in raising this issue, the ways in which partnerships build in dissemination and valorisation activities remain flexible.

SIU could offer suggested approaches, including: school links and student presentations in schools; industry links or placements and project-based collaborations with local industry or employers; ICT-based learning and dissemination of course materials, lectures etc.

In general, the PPNAs could be asked to find creative approaches to engagement with research and science/education more broadly. This would seem to underscore the existing values of the programme, in its focus on the combination of research collaboration and education: it could be made more of a feature in future programmes.

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