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Bachelor studies for nurses organised in rural contexts – a tool for improving the health care services in circumpolar region?

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Objectives: This article is based on a pilot study of Finnmark University College's off-campus bachelor programme (BA) for nurses, organised in rural areas. The objectives were to explore whether these courses had contributed to reduced vacancies; whether the learning outcome of the off-campus courses was the same as the on-campus programme, and how the education had influenced the nurses' professional practice in local health services.

Study design: In the study we used mixed strategies in data collection and analyses.

Methods: Data about course completion, average age, average grades and retention effect were collected in 2009/2010 from 3 off-campus classes and their contemporary on-campus classes. Then 7 of the off-campus nurses were interviewed. A content analytical approach to the data was employed.

Results: With retention of 93%, the off-campus BA course for nurses has been one of the most effective measures, particularly in rural areas. The employers' support for further education after graduating seems to be an important factor for the high retention rate. Teaching methods such as learning activities in small local groups influenced the nurses' professional development. Local training grants, supervision and a local learning environment were important for where they chose their first job after graduation.

Conclusions: The study confirms that nurses educated through off-campus courses remain in the county over time after graduating. The "home-grown" nurses are familiar with the local culture and specific needs of the population in this remote area. The study confirms findings in other studies, that further education is an important factor for nurses' retention.

Keywords: *off-campus bachelor for nurses; flexible learning; rural areas; retention; further competence-developing.*

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This article describes a pilot study of Finnmark University College's bachelor programme (BA) for nurses, organised off-campus in rural areas. Finnmark is the northernmost county in Norway, and there has been a shortage of nurses for many years, particularly in the county's smaller communities in rural areas. Offering education near the students' place of residence was one of many measures that were meant to contribute to reducing the nursing shortage. Despite Finnmark University College, among several institutions in Norway, having offered an off-campus BA in nursing since 1991, there is a lack of research showing where nurses choose to work after completing off-campus studies, and whether they really fill local positions in rural areas over time, in accordance with the programme's

intentions. In this pilot study we have focused on nurses from 3 off-campus classes in rural areas, 4–7 years after they completed the study programme.

Comprehensive primary health care services in Norway require highly qualified nursing staff in addition to the nurses needed in the hospitals. In the middle of the 1980s it became very obvious that there was a great shortage of nurses, particularly in the rural areas of Finnmark County. At this point it became apparent that the challenges were both high turnover and long-term vacancies (1–3). At the same time more than 50% of the newly graduated nurses from Finnmark University College left the county for their first jobs (4). The situation became even more serious as several studies showed that Finnmark County had a higher rate of

sickliness and lower average-life expectancy than the rest of the country (5,6). Therefore, the idea of a nursing education programme organised off-campus with flexible learning methods and team-based learning groups located in rural contexts, developed. This idea, however, met strong opposition, both from the health services in general and the Norwegian Nurses Association, mostly due to the potential risk of “second class” nurses. Nevertheless, Finnmark University College was given the order from the Government to develop a model for off-campus studies for nurses.

Finnmark County covers an area the size of Denmark and is home to about 75000 inhabitants, located in 19 small municipalities (972–19071 inhabitants) (7). The county has 2 local hospitals, one in the east and one in the western part (540 km between them), where the university college is located. Due to long distances, scattered population and a harsh climate, most local authorities have their own health centres. These require qualified health care personnel, especially nurses. The idea was that Finnmark University College’s off-campus BA courses should be temporary and located in the area with the greatest shortage of nurses. This made the rural communities in the eastern part, where the lack of nurses was greatest, the natural choice for the off-campus BA courses. Kirkenes, the town nearby the Russian border, was chosen as the natural meeting point for the students enrolled in the off-campus courses.

The regular BAs for nurses in Norway consist of a 3-year, full-time course at a university college, including clinical rotations in hospitals and community health care. Both the off-campus model and the regular on-campus course were organised as simultaneous full-time studies. For the pilot study we selected nurses from the last 3 classes who had completed the full time BA before the pilot study started, because necessary information was available. The full time model gave us the opportunity to compare the 2 student groups in relation to percentage of students completing the BA courses and their grades in final exams.

In the 3-year bachelor curricula for nurses, 50% of the programme is theoretical studies and 50% practical studies in community health care and hospitals. The off-campus and on-campus courses shared the same curriculum, learning requirements and exams. However, the off-campus course curriculum was organised with more flexible learning methods, where the students had to work independently and in teams. They were placed in permanent team-based learning groups located near their home context (8,9). Lessons in classroom situations were reduced by 30%, and this learning work was instead organised in the local groups and as individual work. A teacher or a local nurse tutored the learning groups. Specific work requirements were set out based on the learning goals of the curriculum, where each group had

to present joint written and/or oral assignments during the learning sessions in the classroom or to the teachers during the course. This was meant to promote their ability to present and impart knowledge, and to create a deeper understanding of central topics through dialogue and discussion. It was also meant to stimulate the students to take on responsibilities and make active contributions to their own learning outcome. Systematic work plans for the groups were drawn up in the form of specific weekly plans, sometimes for the whole semester (10–12).

During the 3-year BA, the university college’s electronic learning management systems (LMS) was utilised for the off-campus students, and different electronic tools were tested as they were developed (8). The “electronic classroom”, Classfrontier, was utilised, mostly for communication between teachers and students and between students, to present educational material and for students to hand in work requirements. In addition, the video conference system was used, mostly for lessons from teachers on campus in Hammerfest, and sometimes also as joint video conference lessons for the on-campus and off-campus students. The clinical rotations for the practical studies were kept geographically as close to the students’ homes as possible, preferably involving primary care in the home community and in the nearest hospital.

The curriculum for the simultaneous on-campus courses was organised per usual practice with daily lessons in classroom situations. The students were encouraged to establish discussion groups, but they were not organised in permanent learning groups. This approach assumed mainly independent and individual learning work outside the classroom situations.

The primary objective for the pilot study was to find out whether off-campus courses in nursing had contributed to a reduction of vacancies and turnover among nurses in rural areas. A second objective was to find out whether the learning outcome of the off-campus courses was the same as of the on-campus programme. Moreover, we wanted a deeper insight into the nurses’ views on the off-campus BA programme, and the influence the education had had on their further professional practice. This in light of the pilot study’s research question: Has the decentralised off-campus BA programme for nurses had any significance for the smaller rural communities in Finnmark County with regards to recruitment, stabilising and the quality of the health care services?

Material and methods

Methods for the study were based on the study’s objectives. The data-collection was done during autumn 2009 and spring 2010. 3 off-campus classes (40 students), and their contemporary on-campus classes (119 students), graduated in 2002, 2004 and 2005, were selected.

The parameters assessed both for off-campus and on-campus students, were the number of students admitted to the BA, the number of students that completed their studies, average grades in the final bachelor exam and average age when starting the course. These data were collected from the archives of Finnmark University College. External data collection was then conducted to find out where the graduate students were resident and working. Various open databases were consulted on the Internet, in telephone registers, tax lists, etc. Five of the 159 graduate nurses from the 3 years' classes were impossible to trace Table I.

Due to the wish for deeper insight into the nurses' views on the off-campus bachelor course programme and the importance the education had had on their further professional practice in the health care services, we sent an enquiry to the 40 nurses and asked them to participate in interviews. The first 7 who responded were interviewed (2 men, 5 women). They had all been employed in rural areas of Finnmark County for 4–7 years. A topic guide based on the objectives for the study was developed and used (13–15). Each of the interviews lasted about 1hr, was recorded on tape and transcribed verbatim. The interview texts were analysed on the basis of a content analytical method (16–18).

The 3 project leaders carried out first and second readings of the interviews individually, marked the significant units of the texts and proposed their individual suggestions to condensing these into topics and subtopics (19,20). These were then discussed in the project team as a whole, where the final development and condensation into main topics were completed. Ethical assessments have been made during the whole project period, particularly with regards to anonymising interview data and de-identifying lists with data about grades, age, gender etc. For the project we received administrative support from the university college for retrieving and de-identifying lists from the university college's archive, and also for sending out enquiries to former students about participating in interviews. Informed consent, where the purpose and objectives were presented, has been obtained (21). Information that the informants may withdraw from the study at any time has also been dispatched. The study is rooted in the institution's management, and is reported to Norwegian Social Science Data Services.

Table 1. Amount of students on campus and off campus graduated in 2002, 2004, 2005

	2002	2004	2005
Off campus	13	11	16
On campus	39	47	33
Total	52	58	49

Results

The results from the 3 off-campus classes were assessed in relation to their contemporary on-campus classes and are presented in the Table II. In addition to the parameters of course completion, average age and average grades, the table also shows the retention effect for health care services (community health care and hospitals) in Finnmark County.

Table II shows a slightly lower completion rate for the off-campus students. However, as the student population is so small, random reasons for leaving the course may have large effects on the completion rate. There was little difference in the average age between the 2 student groups, but the mean implies that there were more young students in the on-campus classes than in the off-campus classes. The average grades from the final bachelor exams are also approximately the same in the 2 student groups. However, regarding the number of students who stay in the county after graduating, the study shows that the off-campus classes have resulted in a considerably higher retention rate. While 92.5% of the nurses educated in the off-campus courses have lived and worked in the county for 4–7 years, 30% of those from the on-campus classes have left the county for work in other parts of the country. In both student groups, 2/3 works in the county's community health care services, while 1/3 work in hospitals. Meanwhile, the majority of the nurses from off-campus courses worked in rural communities or at Kirkenes Hospital, where the shortage of nurses was extensive.

As the role of the off-campus student was somewhat different, 7 nurses from 3 off-campus courses were interviewed to gain deeper insight into the nurses' views on the course programme and the education's importance on their further professional practice in the health care services. Their viewpoints, using fictional names, are presented in the following.

A binding and different student role

All the informants pointed out that the off-campus BA course was *their* opportunity to get higher education. They had been motivated to develop their competence in health care, but were settled with children and family responsibilities. They had considered it impossible, both practically and financially, to participate in a BA at one of the established university colleges in the region. The fact that the off-campus courses were localised close to their homes opened up a new opportunity. In addition, the practical parts of the studies were organised in their local community health care services and at the nearest local hospital (Kirkenes). Åse said: "To me it was a unique opportunity to combine work, the kids and getting an education at the same time". It was also important that the students' local network of relatives

Table II. Study completion, average age, average grades, retention effect, for classes graduated in 2002, 2004, 2005

Study model	No. admitted	No. graduated (% completion)	Average age	Average grade (Bachelor) ^a	No. (%) still working In Finnmark County
Campus course	146	119 (81.5%)	32.1 years, (19–54 years), (mean 29)	2.6	83 (70%) 3 unknown
Off-campus course	52	40 (76.9%)	32.9 years, (19–50 years), (mean 33)	2.7	37 (92.5%)

^aToday the A–F scale of marks is used, where A is the best grade, and F is a fail. The grades 2.6/2.7 correspond to the grade C.

and friends gave them support and a sense of security both during their education and afterwards, as newly trained nurses.

The informants referred to the period as students in the off-campus courses in positive terms, even though they had also experienced some challenges during parts of the programme. For example, some of the joint lessons with the on-campus students were given over the video conference system. This was during a phase where the university college was developing and testing out video-conferencing, and both students and teachers experienced challenges of technical, practical and professional/pedagogical nature. These lessons could be demanding as Tove expressed it:

The video conference lessons – there were many crashes and some waste of time. But in its own crooked way it worked – that’s what I think in retrospect. We learned what we needed to.

They had also periodically experienced the professional and personal learning processes as both exacting and challenging. In this case they talked about the importance of the local team based groups and how the learning work was organised here. The teamwork was very helpful and contributed to keeping them going with the education. The learning work in local groups supported their learning; they experienced obligations and responsibilities towards their fellow students in the group and they goaded each other on in their studies. Arne comments:

If you weren’t present one day, you almost needed a note from home. So there was no slacking. We made high demands on each other professionally. I think I had one day of absence during the three years. You become very visible as a student, what you stand for and how you work with your studies.

The work methods, such as sharing knowledge through presentations, discussions and handing in work assignments, the informants pointed out as very important for their learning and competence development. They got to know each other’s professional points of view, and the teamwork made them responsible and committed to each other regarding effort and attendance. This structure also leads to regular feedback from the teachers.

Some claimed that the learning groups were a prime factor in their positive recollection of their study period.

The informants seemed to be satisfied with the use of LMS, Classfrontier, as pedagogical tool. The full-time model suited them well, because they could focus better on their studies. Some of the informants stressed the importance of off-campus and on-campus students having the same curriculum, the same exams and some joint lessons. This, they maintained, contributed to strengthening their student identity and reassured them of the quality of the off-campus course.

Knowledge and competence developed through the BA programme

All the informants reflected on their knowledge and competence related to the challenges they met as newly trained nurses after fulfilling the BA programme. They entered the health services in the small local environment of their home communities, and many of them experienced sudden responsibility for the residents’ lives and health, often being the only nurse on duty. What they really needed of professional knowledge and expertise to handle situations they were responsible for, became clear to them. This also made some of them worry about whether they had managed to gain relevant knowledge during their education. Some wondered whether patients and colleagues thought they were qualified enough to meet the professional challenges of the work. Erna expressed it like this: “I was a newly graduated nurse, and I thought perhaps my colleagues were not sure that I could do the job. This made me insecure for a long time”. The work was often demanding and there was little time for professional development.

The informants expressed how important their fellow students from the learning group at the BA course became for them in challenging situations, particularly during their first years as newly trained nurses. Anna described it like this:

In the home-based care we were alone a great deal. I used the local learning group from the BA course. After graduating we started to work in different workplaces around the county, but since we knew each other so well, it was easy and reassuring to contact each other. Everybody was new in the game,

but we used each other's skills and experiences. Some were good at one thing, and some at another, and there was always someone who could say: 'try that way' or 'we have done it like this over here'.

As Dag says:

It is natural for us to confer with each other, because of the way we worked together in the local learning groups. We know each other's skills very well. We are often in situations where we need a second opinion, and it's reassuring to have someone to ask and confer with. It has contributed to us constantly working to gain new knowledge. We have immersed ourselves professionally together, taken postgraduate studies and so on.

All the informants except one had acquired more formal competence through different postgraduate studies within the field of health care. They stressed the necessity of further professional development in order to maintain the standard of work and contribute with professional expertise in the local community.

The local employer's active support and interest

Several of the informants were conscious of the importance their employer's interest in their studies had. For some of the informants, the local authority had been active in organising a practical learning environment and providing a local supervisor. They considered this very important in ensuring both progression and the quality during the course. Others had received a small training grant from their local authority with a lock-in period after completing their education. They appreciated this, mostly because it was a sign that they were wanted back as graduated nurses. As Åse says:

I was granted leave of absence immediately when the local authority started supporting the students. We got a training grant, classroom, video conference studio, so they accommodated everything for us. They obviously wanted us back as nurses.

The informants maintained that the fact that they were wanted, and received interesting job offers had been crucial for many of them staying in the home community after completing their education. Being qualified nurses had opened up opportunities for jobs outside the county, so moving had become a viable alternative for more of them. The informants also maintained that there were still challenges regarding turnover and local nursing vacancies. They pointed out that an off-campus BA programme is the measure best suited to improve the situation. They all also actively worked on recruitment by talking to acquaintances in the local community and colleagues in health care, in order to motivate them to apply for the off-campus BA course in nursing. They spent time and energy on this, and used themselves

as examples of the possibility of achieving such a goal. As Åse said:

There is one health care worker who is taking the off-campus BA now. She was very competent and had been working for many years. We pushed her; we wanted her to become a nurse. We are now pushing several others. I have said to them that if I could do it with all my kids at home, you can do it as well. Some people want to wait for their kids to grow up, but I say they just have to do it now. There's no need to wait. It won't get any better when they get bigger, there'll just be new excuses. You can do anything if you really want to.

One informant said that it demanded a great deal of work to motivate colleagues to start studying, despite it being organised locally, and claimed that the local authorities should be more active.

Discussion

Stabilisation of nursing staff

The findings show that the off-campus BA for nurses in Finnmark County has had positive impact on the nursing services in rural areas. This educational initiative has been one of the most effective measures in securing a foundation of qualified nurses who contribute the stabilisation of nursing staff. International studies show that education is the foundation for producing competent health care workers (22,23). However, to secure this competence in rural areas, it is of great importance to choose the "right" students, that is, those who are "home-grown" and therefore more likely to practise in remote and rural areas (24–26). Moreover, it is important to train them in locations and use methods and curricula that are more likely to influence their future practice location (27). Finnmark University College's way of offering an off-campus course seems to have taken this into account. To educate the county's own inhabitants as close to their homes as possible, together with the choice of learning methods, seems to have been very successful in this connection.

A permanent, stable core of locally affiliated nurses has also proven to be important for the general increase in the level of expertise in key professional positions (28–30). Finnmark County's health care service is characterised by great distances, harsh climatic conditions, scattered settlements and small specialist environments. The nurses are often alone on duty and need to deal with a variety of challenges on the spot, with conditions that at times may be quite unpredictable (closed roads, power outages, lack of phone signal, closed airports). Nurses with background from these communities and nurses who stay over time, build up a local expertise that is crucial for developing suitable services for patients. They know the cultural codes and can

therefore quickly develop their professional competence in relation to the local cultural context. This appears to be a particularly important factor in the effort to offer health care services at an acceptable level in rural areas (23,28,30).

Some studies show that the location of the first job for newly trained nurses is of great significance for where they continue their professional careers (24,31). This pilot study shows that even though the students from the off-campus group were established in the home community, it was not self-evident that they stayed there after graduating. The education had contributed to work offers outside the home municipality that they had considered. The informants claim that it was obviously important for them to feel wanted. It influenced their first job choice considerably when the local authorities demonstrated a clear and direct interest, recognised the value of their acquiring competence needed locally, and actively offered jobs. Even for the students who received local grants, this was not a decisive factor for their plans. It was more important that the amount signalled that they were wanted as future employees. This confirms similar findings from other studies (25,26,31). For the employers it did not amount to a lot of money: €6–7,000 per student in total over 3 years, but the scholarship had a powerful effect beyond the purely financial. The investments may also have been easily recovered by reduced advertising expenses and time consumption for recruitment. It is therefore important that the local employers are conscious of this and active in supporting nurses within the municipality.

However, off-campus BA courses do incur greater costs than on-campus courses. Blix and Eriksen (32) estimate an average additional expense of 4,5000 NOK (€4,000) per student per year. The course can still be financially worthwhile, particularly in rural areas.

Cooperative skills and professional development

For the off-campus programme a pedagogical model which was characterised by cooperation and knowledge sharing in learning groups was utilised. The students got experience of discussing professional challenges, practice in considering different points of view and promoting solutions based on a broader professional perspective (11,12). This was therefore a method that the informants claimed to be central in the learning work. They experienced the teamwork with their fellow students as stimulating and something which contributed extensively to their professional development. The method also developed their cooperative competence and strengthened their feeling of group belonging. This was competence which they valued in their nursing practice after graduating, and which is also in demand in today's health care services (33).

The off-campus courses' increasing use of the electronic platform, and the development of different electronic pedagogical tools, simplified the synchron time and asynchron time communication between students and between students and teachers. This contributed to reducing geographical challenges and eased the accommodation for different learning activities between the on-campus meetings. Today's development of the platform's electronic tools has caused a larger part of the BA courses to be offered through online support. This is a development that contributes to more of the learning work being accommodated electronically, often without the students meeting physically. During this development it is important to make note of the importance the informants gave to the personal and obligational relations towards fellow students and teachers. Today one of the challenges we face is that many students do not complete the Internet supported off-campus studies (34). In our study, obligational relations towards fellow students was of great importance when it came to keeping the students going, particularly during difficult study periods, and is a factor which should be in focus when Internet supported educations are being planned.

The informants were also interested in developing their professional knowledge according to the challenges they faced every day, and most of the informants had completed relevant postgraduate studies following their BA. Several studies show that it is of great importance for retention of newly educated health care workers in rural areas that they are offered support to continue learning throughout their careers, particularly in isolated areas where access to knowledge and information is not easy (27,31,35). The informants' focus on further professional development confirms the importance of this. In addition they developed their experience-based action-knowledge by consulting previous fellow students when facing professional challenges. These became important for their professional development and for mastering or becoming more secure when facing nursing challenges. This again was a factor in gaining patients' and relatives' trust in their professional competence so that they felt both recognised and valued as nurses.

The possibility and support for continued learning may therefore, for these nurses, have led to job stability in their home communities, and is in line with findings from studies of other rural areas (27,29,31,35). This should get attention from both health care authorities and politicians in small rural municipalities, so that postgraduate studies for nurses are being incorporated into the municipal competence plans and thereby also into the financial and working plans of the health care services.

Recruitment of students to off-campus courses

The informants pointed out that there was still a shortage of nurses in the local health care services; they therefore

actively worked to recruit local people to the off-campus nursing course. They contacted specific persons in their local environments and advertised for the off-campus nursing programme in a positive manner. By using themselves as examples, they tried to convince others of the possibility of completing a nursing course even with young children and other family obligations. However, the nurses seemed to be quite alone in recruiting at their own personal initiative. There was no cooperation with employers, the local authorities or with the university college that offers the course. Today, many of the Norwegian university colleges are struggling to recruit qualified students for their nursing courses. There is still a great shortage of nurses, particularly in remote areas of Norway (33). Closer cooperation between university colleges, the trained nurses and local employers should lead to far more students being recruited to the BA in nursing, and not least to ensure that more students take their first jobs within the county.

Conclusion

Bachelor studies for nurses organised in rural contexts seem to have a central impact for the quality of the health care services in Finnmark County. The study confirms our initial assumption that nurses educated through off-campus courses remain in the county over time after graduating. However, the impact of the off-campus study model cannot be judged merely by the numbers retained, but also by their features: The “home-grown” nurses are familiar with the local culture and the specific needs of the population in this remote area, which proves to be of great importance to the quality of the health care services for the patients in rural areas.

There is now development towards offering more Internet-based BA courses for nurses. In this case it is important to take note of the importance relational obligations between students and feedback from teachers may have, both for the quality and completion rate. Teamwork in the local learning groups contributed to the development of the nurses’ cooperative competence, which is particularly valued in today’s health care services.

There are still challenges with nursing shortages in rural areas. The initiative and interest shown by the employers has proven to be an important factor for the nurses’ retention in their home communities.

Support for further competence development after graduating appeared in this study as important for retention. This should lead to practical implications such as development of specific competence plans securing possibilities of postgraduate studies for personnel in the rural health care services.

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