A Real-Time Course: Minimizing Disruption to Part-Time Nursing Students

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The Lives of Our Students

The Postgraduate Diploma in Midwifery is the first of its kind in Hong Kong. We wanted to design a course which would enable midwives to have appropriate knowledge and skills about contemporary midwifery care, as well as strong levels of confidence so that they can practise midwifery in a variety of settings and in good collaboration with other health care professionals. The programme needed to be a part-time one which could be structured so that students could arrange to attend classes while still working full-time.

We designed a programme to run over 18 months. It is strongly situated in the biological sciences and the behavioral sciences, and also focuses on clinical and community settings. The overall logic of what we are trying to achieve is described in Figure 1.

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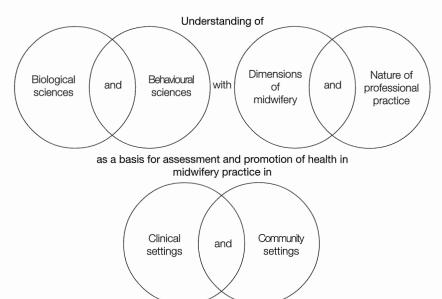
Figure 1   Programme Design of the Postgraduate Diploma in Midwifery

Understanding of

Biological sciences · and · Behavioural sciences · with · Dimensions of midwifery · and · Nature of professional practice

as a basis for assessment and promotion of health in midwifery practice in

Clinical settings · and · Community settings

Our programme team has invested a great deal of thought into the design of this professional qualification. We have gathered together an excellent pool of teachers who are currently immersed in professional practice themselves. Students gain clinical experience in antenatal units, labor wards, postnatal wards, neonatal units, as well as a variety of community and family health services.

A major strength of the programme is its strong links to existing professional practice. However, all this coordination involves long-term time commitments and altering teaching plans is very difficult. We have busy students and busy teachers working in intense professional environments; in this context there is only a small margin for accommodation of change.

This is the first cohort of study and we have four students, all female, with ages ranging from 25 to 43 years. They are all registered nurses (RN). Three of them are now working in the New Territories East (NTE) cluster obstetric unit as student midwives. (This is a special arrangement and these nurses were working in other hospitals before taking our programme.) The

other student is a registered midwife (RM) who works in the obstetric unit of her hospital; she is studying the programme because she wants to upgrade her professional qualifications in midwifery practice. As she is already a qualified RM, this student needs to take her own annual leave to attend lectures. The other three students also have to organize their personal and professional lives so that they can follow the time schedule given at the beginning of the programme. It's incredibly difficult for these students to change their duties and attend classes at changed times. We knew about these tight constraints but assumed that any hiccups would be minor ones.

The Design of the Course to be Delivered in April 2003

A block of the programme around the theme "Dimensions of midwifery practice" was due to begin at the beginning of April. We had planned a whole week of classroom-based lectures, followed by three study days on consecutive Fridays. Three speakers had been invited to present in this course.

The first one is a nurse specialist from a Neonatal Intensive Care Unit (NICU). She teaches the common respiratory problems in neonates and the current care in the hospital. Our midwife students will not practise in the NICU and so it's very worthwhile for them to have an understanding of the kind of interventions their clients may receive. They can learn how to reassure any postnatal woman if her baby unfortunately needs a period of NICU care.

The second speaker is a continence nurse specialist who treats postnatal women with incontinence after delivery. She teaches the prevention of incontinence during pregnancy, the assessment of continence level, and the treatments. She runs a clinic in a hospital that has lots of real case examples and these cases are very useful for students to discuss. The hospital our students work at did not have a continence nurse specialist or a specialist continence clinic.

The third speaker is a professor from the Midwifery School at the Prince of Wales Hospital, the school that our programme is jointly organized with.

She teaches obstetric emergencies, such as how to perform manual manoeuvres during delivery if the occasion demands. She has received special training overseas in this area.

The themes for this course are summarized in Table 1. It was a packed schedule but we felt that all the sessions were valuable and the students and I were all looking forward very much to this concentrated teaching and learning time. Besides the formal lectures, there would be time for lengthy discussion about the ideas and concepts in the course.

Table 1   Themes of the Postgraduate Diploma in Midwifery

Date	Morning	Afternoon
Mon 7 April	Home care for the family: – Family and community-based approach – Family assessment model	Home care for the family: – Midwife role in the community
Tue 8 April	Midwife in collaborative care: – Assisted delivery – Cesarean birth	**Family-centred care for infants with special needs: SPEAKER** **– Respiratory distress**
Wed 9 April	Fetal well-being monitoring: – Midwife role in fetal monitoring	Fetal well-being monitoring: – CTG workshop
Thur 10 April	**Home care for the family:** **– Continence care SPEAKER** **– Child development**	**Midwife in collaborative care:** **– Cord prolapse SPEAKER** **– Shoulder dystocia** **– Ruptured uterus**
Fri 11 April	Midwife in collaborative care: – DIC – Amniotic fluid embolism – Acute inversion of uterus	Home care for the family: – Family support for newborn with congenital disorder
Fri 18 April	Family-centred care for infants with special needs: – Premature newborn – Small gestational age	Family-centred care for infants with special needs: – Neonatal jaundice – Post term and large for gestational age
Fri 2 May	Midwife in collaborative care: – Infertility and assisted reproduction	Fetal well-being monitoring: – Introduction to obstetric USG
Fri 9 May	Midwife in collaborative care: – Genetic screening – Pre-natal diagnostic counseling	Revision & Presentation

The Disruption of SARS and Our Solution

And then SARS occurred. Because of the whole week class, students had either taken their own time off or had approved study leave in order to attend. On top of that, several lectures were to be given by our external guest speak-

ers and these presentations would be nearly impossible to reschedule. In view of all these circumstances, the possibility of having the classes deferred was heart breaking.

At that time, since most of the programmes within campus were suspended, the teaching team was thinking whether we could post the lecture notes on the Web and discuss the content with the students through chat rooms. However, this seemed a poor substitute to students actually hearing and interacting with their teachers (both the CUHK teachers and the invited guests). I was so disappointed.

We then contacted the Information Technology Services Centre (ITSC) and asked for advice. To our surprise, staff from the ITSC immediately came up to our School and set up the real-time online class system. With the help of the computer technical support staff in our own School, the system was installed and functioning smoothly two days before the class. It seemed really quite painless. I had always thought that such technology would be very hard to use. The ITSC staff were so helpful. For this story, I asked them to describe the system.

Basically *Real Producer* is a tool to encode and compress video signals, which are received from the Web Camera, to Real streaming format (.rm). *Real Producer* helps to encode video from the video camera and transfer it to ITSC's Real streaming server. Then, users can use the software *Real Player* to view the video by connection to the streaming server. The Producer allows the teacher to select the video size and the frame rate; these should be adjusted in accordance with students' connection speed. For example, if there are students using modem connections, the teacher should consider using a lower frame rate and smaller video screen size.

Based on the request, we helped nursing teachers to install *Real Producer*, a headset and a video camera on one of their departmental computers (selected so that all teachers could share this workstation when teaching online). In addition, we enabled the text-chat function in WebCT so that students could send questions to teacher in real-time. Teachers could keep monitoring the chat room when teaching and could answer questions as they arose.

As the course coordinator, I was very excited as well as worried. During the weekend, I contacted the students to ensure that they had the computer resources necessary at home. Everything seemed all right and so I got a good sleep the night before the first lecture. However, by the time came for me to sit before the camera, my level of anxiety went up, especially when I saw myself in the screen but knew there was nobody physically in the class with me. I felt alone. It took me about an hour to accustom myself to the environment. But after that it was much easier.

During the sessions on the first day, the connections did break down several times to several students' computers, but it all ran very smoothly on the rest of the days. The broken connections may be due to incoming phone calls that disconnected the Internet connection which was using the telephone line. In addition, lecturers had to wait for about 5 to 10 minutes before starting discussion through the chat room because there was a time lag for students to hear from us. But these were minor problems.

On the second day of the course, we had two guest lecturers scheduled. They also had the same mix of excitement, interest and apprehension I had experienced the previous day. It turned out that it was quite straightforward for them to use the system and they were very impressed with our ability to support students during the time of SARS. I felt very pleased we had made the effort to make sure this course of teaching occurred.

Would I Do This Again?

We were so busy during the main teaching week that I had little time to reflect. Once things settled down a bit, I really wanted to know how the students felt they benefited from the real-time online experience. So, I sent them a very simple questionnaire by e-mail. I asked just two questions:

1. Did you learn the material in the online lectures as effectively as you think you would have in a conventional face-to-face set of lectures? Y/N?

    Please explain the reason for your answer.

2. Did you enjoy the online lecture experience? Y/N?

    Please share you experience.

Three of the four students said "yes" to question 1 but their open answers indicated a more qualified response. "It depends" and "in some cases" would be closer to what they meant.

- *I cannot discuss with my classmates or teacher on some questions as easily as in face-to-face set of lectures.*
- *Most of the online lectures are effective as face-to-face lectures. But, some lectures with content of demonstration can't be replaced by online lectures.*
- *For most of the lectures, they were effective for me to learn. But for some need in-depth discussion, online lecture could not benefit my learning. There were always some communication problems, misunderstanding through chat room.*
- *If the online lectures are conducted in a two-hour based, it is as effective as face-to-face set of lectures. However, there was a sudden interruption in the online lectures and then I could not catch up with the lectures conducted.*

Question 2 responses indicated that the students had enjoyed the experience. I was really relieved. They had been quite depressed by the whole SARS crisis and I was pleased to have given them a pleasant as well as a beneficial experience. Three wrote "yes" and one "60% enjoy" in response to question 2. Their comments were:

- *More convenient*
- *I can learn at home with a free and relaxing area. Also, I can save time for travel and reduce the risks of SARS with other classmates learning together. But, I think online lecture is quite time wasting especially when waiting others response or others got problem on computer. So, I think online lectures is only good when all the classmates got the good basic knowledge on computer use. Also, the system should be improved for the smoothness.*

- *It was a means in learning under fear of SARS. And I could save time for traveling. But my home wasn't a good learning environment as it was just a small and crowded flat.*
- *Yes, if the lecturer asks some questions. All the students can answer at the same time.*

As a whole, both the students and the lecturers were quite satisfied with the real-time online classes as an alternative approach for teaching, especially during this unpredictable time. From the lecturer's perspective, most of the preparation work is about the same as conducting classroom teaching. However, the lecturer has to prepare herself psychologically to talk to the camera, as if it is a real person. In addition, students' facial expressions as well as body responses cannot be viewed and that certainly reduces the degree of effective communication.

From the students' perspective, I hoped that they could learn as much through the real-time online approach as when the lectures were given by teaching in face-to-face classrooms. This is the most interactive web-based teaching that I can think of. No matter what happens to the society or campus, with the presence of a real-time online teaching facility, students may save the traveling time to classes by using real-time online learning. However, I noted what the students said and it would be unwise to have all lectures online in this manner. For example, students may have to be very attentive to receive the lecture at home especially with small children around. Also, one of my students told me that she was very worried about disconnection, as she didn't know how to make the computer work if this happened.

In conclusion, this has been a successful and challenging experience in my life of teaching. Because of the benefits of using real-time online teaching, I would consider this teaching method as a means of having some occasional lectures and also discussion forums outside the main teaching schedule. If SARS returns, we are prepared to support our students again, and I feel confident that our hard-working students will not have their studies disrupted.