

Health & Social Care cluster

**Project title: Bioscience in nurse education (BiNE)
special interest group**

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1. Project Aims

The aims of this project are:

- to develop a special interest group for those delivering biosciences in nurse education;
- to evaluate biosciences in nursing curriculum.

2. Background

A working appreciation of biosciences underpins many nursing skills and is considered an essential basis for safe and effective practice (Nursing and Midwifery Council (NMC), 2010; National Institute for Clinical Excellence (NICE), 2007). Yet, research over the decades consistently reports that the learning of biosciences by pre-registration nursing students is problematic and that both nursing students and indeed qualified nurses often experience difficulties understanding and applying bioscience knowledge in practice (Davies *et al.*, 2010; McVicar *et al.*, 2010). In addition the literature and the results of National Student Satisfaction (NSS) surveys indicate that there is a dearth in physiological content in pre-registration nurse education and highlights the need to incorporate more applied physiology and bioscience both in classroom and clinical settings (Fell and James, 2012).

As nursing moves to an all-graduate profession, nurse educators need to ensure that graduates of the future are confident in their abilities to apply bioscience in clinical decision-making. This will become increasingly important as nurses become more autonomous in practice and take on new roles such as prescribing.

As nurse educators we need to address the issue of how best to support student learning of bioscience, in all learning environments, to ensure that the learning experience leads to increased confidence in knowledge application within the healthcare setting.

The intent of this project is to bring together educators in a new academic network, designed to promote collaborative work and research related to biosciences teaching and learning in nurse education.

3. Project outputs to date

3.1 Developing a bioscience in nurse education (BiNE) special interest group

The bioscience in nurse education (BiNE) special interest group was set up in July 2012 and has attracted a lot of interest from bioscience lecturers nationwide. The group is currently composed of over 30 educators from 14 different institutions across the UK. This special interest group aims to provide support and information to those who teach bioscience within the nursing curriculum. Besides offering a platform for educators to share their local experiences, it is also concerned with improving the consistency and quality of bioscience learning outcomes in nurse education across the UK.

3.1.1 Aims and objectives of the group

The aims and objectives of the BiNE special interested group were agreed as follows:

- establish an effective network to provide support and information to those who teach bioscience in the nurse education;
- identify and disseminate existing strengths and areas of good practice in BiNE;
- develop and share innovative learning and teaching approaches to support effective student learning of BiNE;
- create an electronic source of educational / reusable learning resources (e.g. podcasts, videos, images, activities, multiple choice questions etc);
- promote collaborative research designed to enhance the research in this field and to also increase the publication profiles of special interest group (SIG) members;
- provide a source of consultation and advice to bioscience teachers in nurse education;

- promote and raise the profile of BiNE with organising bodies, nurse educators and students;
- collate information and evidence in order to advise and influence national organising bodies (e.g. Nursing and Midwifery Council (NMC), Royal College of Nursing (RCN), Higher Education Academy (HEA)), nurse educators and students on BiNE learning/national curriculum.

N.B. For full terms of reference please see BiNE Xoodle site at: <http://xoodle.bcu.ac.uk/course/view.php?id=49>

3.1.2 Meetings

The group intend to meet on a regular basis to share best practice, facilitate networking and develop new ideas and collaborative partnerships. To date the group have held two face-to-face meetings (with a third scheduled meeting cancelled due to weather conditions).

Meeting – 12 September 2012

This initial meeting was hosted by Birmingham City University (BCU). In addition to developing and agreeing on the terms of reference for the group, the day included a mix of activities, opportunities for discussion and presentations on laboratory-based learning, action learning approaches and the use of food labels as a tool to teach scientific principles.

Meeting – January 2013 (cancelled due to adverse weather conditions)

A network such as this affords opportunities to collaborate on learning and teaching projects. A meeting was set in January 2013 with the aim of developing bids for submission through HEA collaborative teaching development grant scheme. Unfortunately the event had to be cancelled due to adverse weather conditions. We do however anticipate that collaborative projects will be a future output of this special interest group.

Meeting – 22 April 2013

This meeting was hosted at HEA in York. The morning's activities centred around discussion and presentation of the initial BiNE survey results (see section 3.2 below) followed by the opportunity to discuss the group's views and concerns regarding bioscience education in nurse curricula to Emma Westcott, NMC Director of Education & Standards. 'Lite Bite' sessions in the afternoon addressed topics as varied as peer assisted learning, podcasting, formative testing and team based learning approaches.

The next meeting will be held on 9 September 2013, venue to be confirmed.

N.B. Full details of activities and copies of presentations are available on the BiNE Xoodle site at: <http://xoodle.bcu.ac.uk/course/view.php?id=49>

3.1.3 Xoodle site

A dedicated BiNE Xoodle virtual learning environment site has been set up, hosted by BCU, to facilitate continued communication and sharing of ideas.

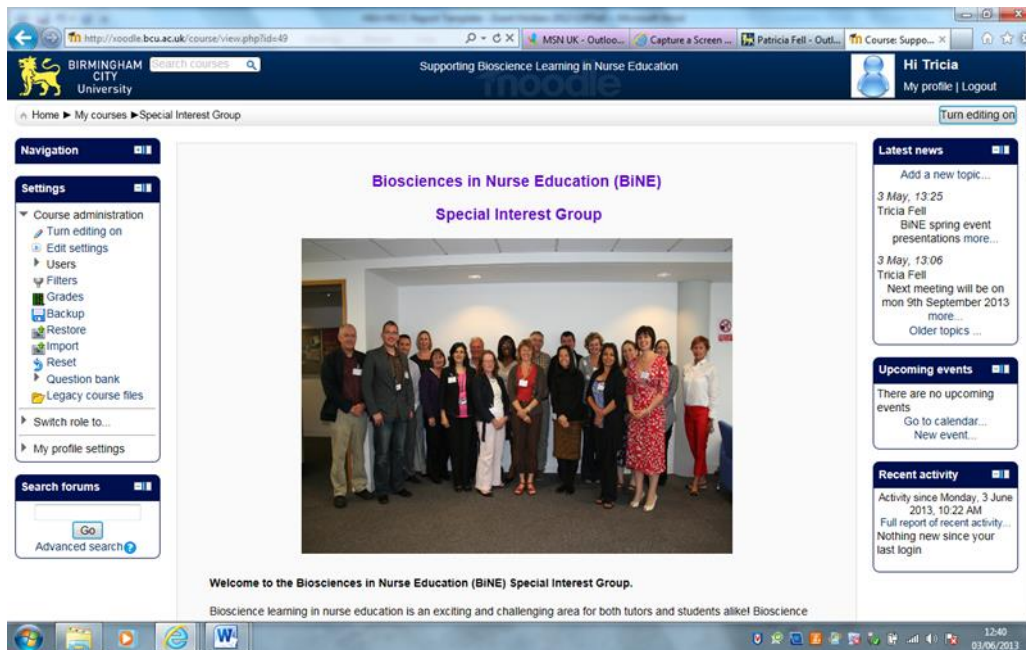


Figure 1: BiNE Xoodle site.

This site allows the sharing of resources through its repository and notice board functions together with a means of communication between meetings via an electronic forum facility. Links to the BiNE Xoodle site are available via the HEA Health and Social Care Cluster website. At the time of writing, usage of the Xoodle site is in its infancy but it is hoped that there will be greater uptake by BiNE members in future.

3.2 BiNE survey

Researchers: Vanessa Taylor, HEA; Patricia Fell, Birmingham City University; Sarah Ashelford, Bradford University; Penny Goacher, University of East Anglia.

3.2.1 Introduction

One of the first collaborative initiatives undertaken by this special interest group was to conduct a survey exploring the experiences, views, concerns and recommendations of BiNE members about biosciences in nursing education. The aim of this research was to evaluate and capture the views of nurse educators on the current provision of bioscience learning and teaching in both pre-registration and post-registration nursing programmes across the UK. Such data should provide evidence on which to base recommendations on how future educational provision can better prepare student learning of bioscience in nurse curricula and to ensure future graduates are competent safe practitioners.

3.2.2 Methodology

A semi-structured questionnaire* was e-mailed to BiNE members seeking views on four areas as follows:

1. pre-registration degree programmes;
2. post-registration/CPD nursing programmes;
3. teaching expertise and commitment;
4. student feedback.

Responses from ten different universities were received representing over 22 BiNE members.

* The questionnaire can be found on the BiNE Xoodle site at: <http://xoodle.bcu.ac.uk/course/view.php?id=49>

3.2.3 Initial findings

The data has been through an initial review, the initial findings from which were presented at the BiNE meeting on 22 April 2013 and presented to Emma Westcott, NMC Director of Education & Standards. Key concerns expressed included:

- widening participation & entry requirements lead to varied levels of bioscience knowledge in student groups;
- inadequate bioscience in curriculum particularly beyond year one;
- lack of co-ordination/low priority of biosciences within pre-registration and into CPD;
- lack of alignment, consolidation, integration or assessment of student progress in bioscience in both HEIs and in practice;
- lack of appreciation/knowledge of bioscience by other academic staff/practice mentors;
- lack of preparation and competence of mentors to integrate and assess the level of bioscience knowledge in practice;
- inappropriate teaching and learning strategies expected (large groups, unsupported directed work);
- qualified nurses have insufficient bioscience knowledge to provide safe informed care;
- subject specialists and nurses are not working together to develop and deliver nursing curricula;
- bioscience is not considered as that important to nursing by many nursing colleagues;
- student feedback indicates that insufficient time is spent on the subject (and varies across fields);
- student feedback (regarding requests for more time) is being ignored yet they feel this topic is essential to underpin safe nursing practice.

N.B. Please see BiNE XOODLE site for the full version of the initial findings presented at this meeting.

The research team are currently in the process of collating the data and writing up their findings. This will take the form of a report for the HEA and NMC and also as an article for publication in a peer review journal.

4. Impact of project/implications for student learning experience

As a collective group of bioscience teachers in nurse education we have a unique opportunity to collate information and evidence in order to advise and influence national professional bodies and organisations (e.g. NMC, RCN, HEA, Council of Deans for Health (CoDH)), about standards of BiNE learning and the opportunity to develop a national curriculum. Already we have presented our initial finding to NMC and as a result of such discussions the group have been asked to develop a quality tool proposing bioscience learning outcomes for inclusion in the pre-registration curriculum.

In addition to research the BiNE group provides new opportunities to share good practice, discuss pedagogic issues and adopt new teaching practices on a wider scale and thus offers a real opportunity to improve the standards of bioscience learning and teaching nationwide.

5. Dissemination

The BiNE group are continually looking to expand and there is a link to the groups Xoodle site on the HEA website. Patricia Fell and BiNE members have been asked to present on the group's activities at the Biosciences in Nursing Education Forum 2013 in London on 18 June 2013.

The group intend to disseminate their collective work and research through conferences, HEA media and peer reviewed articles.

6. Future work

The BiNE special interest group is now established and it is intended that the group will continue to offer a platform for educators to share their local experiences as well as aiming to improve the consistency and quality of bioscience learning in nurse education across the UK. It is anticipated that the group will meet at least twice a year. The next meeting will be held on 9 September 2013.

References

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