New horizons: developing the novice infection control nurse through work-based learning and the new professional core competencies

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Summary
This article aims to provide the reader with an example of using the professional core competencies for infection control nurses, together with the self-assessment tool, to provide a framework for the development of a trainee infection control nurse using the opportunities for work-based learning that present themselves as an integral part of this clinical nurse specialist role. The development of the competencies, the educational context and the practical application of this model are described.

Introduction
In 1999, at the invitation of its Education Subcommittee, members of the ICNA, together with their President George Castledine, locked themselves away for many hours trying to distil the composition of the infection control nurse’s (ICN) role. Little did they know that their efforts would result in a new horizon of professional development for ICNs.

This article will outline the development of the Professional Core Competencies for Infection Control Nurses (ICNA, 2000) and the Competencies Self-Assessment Tool (ICNA, 2001), and then illustrate their use to develop a trainee ICN into a fully-versed clinical nurse specialist. Contributors to the article include the ICN manager (workplace facilitator), the academic facilitator and the learner, who together used the competencies to form the basis of the development programme for the learner, and a member of the Education Committee, who was a key driver of the competencies initiative.

The Competencies Editor’s perspective: development of the competencies and the self-assessment tool
Up until the development of these two documents, the standard for professional preparation of ICNs was found in the joint Department of Health (DH)/Public Health Laboratory Service (PHLS) working group guidelines on hospital infection control (DH, 1995): ‘2.27: ICNs should... attend a course of education and training in infection control approved by the English National Board.’

The development of the professional core competencies occurred in the context of change not only for nurse education, but also for professional education as a whole, as the importance of defining national occupational standards was recognised (Fraut, 1994). Other important contemporary influences included the new career framework for nurses (DH, 1999) and the development of the descriptor of the Higher Level of Practice (UKCC, 1999).

Such documents provided a platform to integrate assessment of competence to practice into post-registration education, and provided ICNs with the opportunity to determine the standards for their speciality of the profession. These standards could then be utilised in the formulation of job descriptions and form the basis for a programme of development for new ICNs, as well as providing a means by which all ICNs could demonstrate their competence and learning needs.

The competencies document was produced following a consensus meeting of senior ICNs, educationalists and executive members of the ICNA. A mind-mapping exercise was undertaken to identify the key core components of the ICNs’ role, from which five domains of practice emerged: specialist knowledge, evidence-based practice, teaching and learning, management and leadership, and clinical research. In turn, each domain describes areas of competence (see Table 1) that are then further detailed through demonstrable criteria.

The competencies were written at the level that relates to a practitioner who uses reasoning, critical thinking, reflection and analysis to inform assessment and decision making. The document was intended to be a framework of core skills that would be used alongside existing professional guidance, such as the UKCC’s Code of Professional Conduct (UKCC, 1992) and other documents, and could be further developed by ICNs with additional specialist responsibilities, e.g. public health. Following an extensive period of peer review and editing, the final document was published in November 2000.

While the competencies document forms the skeleton for the new structure, the development of the self-assessment tool was pivotal in making this structure functional in the real world.

In developing the framework for self-assessment, the skills acquisition model described by Benner (1984) based on the five-stage process...
conceptualised by Dreyfus and Dreyfus (1980) was adopted. This 
model describes the transition from novice, through advanced begin-
ner to competent, proficient and ultimately expert practitioner, and 
defines characteristics for each level.

The process of self-assessment is dynamic and ongoing and forms the 
basis for peer/managerial performance reviews and ongoing profes-
sonal development planning. Using the framework for self-assessment (see 
Figure 1), the key criteria from the competencies document, together 
with the definitions of level of practice, allow ICNs to undertake an ini-
tial assessment of competence. Following this, areas for development 
can be identified and a personal action plan completed. Reassessment is 
undertaken at an identified interval and the framework work completed. 
This then forms part of the professional portfolio to demonstrate the 
level of achievement, along with a collection of evidence in support of 
the documented levels, e.g. reflective essays.

In his Foreword to the Self Assessment Tool, Professor Robert Pratt 
states: ‘We believe that the use of this assessment tool will provide 
opportunities for them [ICNs] to systematically document current 
competencies and thoughtfully identify areas for further development in 
all domains of their professional practice.’

Using the competencies and self assessment may well prevent 
scarce resources being wasted on a ‘Holy Grail’ of unnecessary certifi-
cates. Evidence of competence can be demonstrated in a number of 
ways, such as reflective essays, that indicate the appropriate level of 
achievement as described in the Self Assessment Tool.

The current standard for ICN preparation is found in the Controls 
Assurance Standard for Infection Control (NHS Executive (NHSE), 
2001): ‘Criterion 3: There is an appropriately constituted and func-
tioning infection control team. Members of the ICT must have 
appropriate training in infection control and provide evidence of

<table>
<thead>
<tr>
<th>Level</th>
<th>Key criteria numbers</th>
<th>1.1.1</th>
<th>1.1.2</th>
<th>1.1.3</th>
<th>1.1.4</th>
<th>1.1.5</th>
<th>1.1.6</th>
<th>1.1.7</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>Expert</td>
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<td></td>
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<tr>
<td>4</td>
<td>Proficient</td>
<td></td>
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</tr>
<tr>
<td>3</td>
<td>Competent</td>
<td></td>
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<td></td>
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<tr>
<td>2</td>
<td>Advance beginner</td>
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<td></td>
</tr>
<tr>
<td>1</td>
<td>Novice</td>
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</tbody>
</table>

Initial assessment [ ] Review [ ]

Table 1: Competency summary (ICNA, 2000)

Domain: Specialist Knowledge

<table>
<thead>
<tr>
<th>Area of competence</th>
<th>Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Microbiology</td>
<td>The application of microbiological knowledge to promote health, prevent and control infections and communicable disease.</td>
</tr>
<tr>
<td>Immunology</td>
<td>The application of immunological knowledge to promote health and control infection and communicable disease.</td>
</tr>
<tr>
<td>Decontamination</td>
<td>The application of the principles of cleaning, disinfection and sterilisation to promote a safe environment.</td>
</tr>
<tr>
<td>Epidemiology</td>
<td>The application of epidemiological knowledge to control infections and communicable disease.</td>
</tr>
<tr>
<td>Practices to prevent and control infection</td>
<td>The application of knowledge about the transmission of micro-organisms to prevent and control infection.</td>
</tr>
</tbody>
</table>

Domain: Clinical Research

<table>
<thead>
<tr>
<th>Area of competence</th>
<th>Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Interpreting research</td>
<td>Critical analysis of published literature</td>
</tr>
<tr>
<td>Conducting research</td>
<td>Participation in research independently or collaboratively</td>
</tr>
</tbody>
</table>

Domain: Management and Leadership

<table>
<thead>
<tr>
<th>Area of competence</th>
<th>Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Managing an infection control service</td>
<td>Use of a coordinated approach to ensure effective management of the service</td>
</tr>
</tbody>
</table>

Domain: Teaching and Learning

<table>
<thead>
<tr>
<th>Area of competence</th>
<th>Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Facilitating learning in others</td>
<td>Use of appropriate strategies and opportunities to share knowledge on infection prevention and control</td>
</tr>
<tr>
<td>Conducting research</td>
<td>Use of appraisal to facilitate learning</td>
</tr>
<tr>
<td></td>
<td>Participation in research independently or collaboratively</td>
</tr>
</tbody>
</table>

Domain: Evidence Based Practice

<table>
<thead>
<tr>
<th>Area of competence</th>
<th>Competency</th>
</tr>
</thead>
<tbody>
<tr>
<td>Using research in practice</td>
<td>Use of evidence to critically evaluate and develop standards for practice</td>
</tr>
<tr>
<td>Using audit to improve quality</td>
<td>Use of core audit skills</td>
</tr>
<tr>
<td></td>
<td>Surveillance of infection</td>
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</tbody>
</table>
just seem to fall into place. Here is an example:

What is work-based learning?

The competencies in action

cheap option, as it requires investment in time and commitment of staff. One of the major shifts in culture is that learners need to understand and engage in a deeper approach to learning. which as shown in Table 2.

The Workplace Facilitator's perspective:

The competencies in action

Sometimes, even in today's frenetic infection control scene, things just seem to fall into place. Here is an example:

- As the coordinator of the ICNA's Education Committee, I have the advantage of being familiar with the two documents our President, Professor Robert Pratt, described in his closing address at the ICNA annual conference in 2001 as: 'marking a turning point in the evolution of the Association'.
- As the leader of a team of ICNs, I had the opportunity to use this advantage when I needed to recruit and develop a trainee ICN.
- As a keen educator within my Trust, I was aware that my employees were developing an initiative with the local higher education institution (HEI) that would provide opportunities in this new way forward for academic accreditation of work-based learning.

This system of professional development depends on hard work and on team work. Myself, the Academic Facilitator and the Learner comprise a team that will deliver a clinical nurse specialist to this infection control team in the future.

The Academic Facilitator's perspective:

What is work-based learning?

Work-based learning is not new and can simply be defined (Seagraves et al, 1996) as:

1. Learning for work
2. Learning at work
3. Learning from work.

This simple definition indicates that the workplace is the primary source for learning — an environment that should reflect the attributes of a learning organisation. A learning organisation that is committed to working with appraisals, personal development plans, supervision and reflection, and in partnership with academic institutions.

The philosophy of clinical governance and the ideals of the workforce modernisation agenda (DH, 1997) depend upon major shifts in culture within the workplace and workforce if a learning organisation is to succeed in developing both competence and capability of staff. One of the major shifts in culture is that learners need to understand and engage in a deeper approach to learning, which as Gibbs (1992) and Foster (1996) suggest, includes the opportunities shown in Table 2.

Therefore, work-based learning should not be seen as an easy or cheap option, as it requires investment in time and commitment of each member of the partnership. Without such commitments, the learner's output may not reach the academic rigour required.

How can work-based learning equate with academic courses?

Professionals who have in the past valued traditional academic courses for the development of specialist practitioners may be sceptical of using a work-based learning approach. Indeed, some academics have questioned the equivalence of work-based learning to taught modules of learning. According to Boud and Soloman (2001), it is important to consider what else, other than the expected content and learning outcomes, is necessary to transform the learning to be accepted for academic purposes. This requires a process and ethos that enables the learner to move beyond the specifics of the role and engage in critical reflection and the formal discussion of topics, both verbally and in writing. Crucial to the process are the following key aspects:

- A partnership approach between practice and education
- Learner's portfolio of evidence
- Generic work-based learning modules validated by a local university
- A recognised process (prototype) that suits practice and education.

The academic facilitator's role is crucial in enabling the learner to engage deeper in developing global transferable skills such as critical reflection, problem solving, critical reasoning and debate — skills that, when enriched within the context of practice, can be assessed as equivalent to taught modules. The relationship between the learner, manager/mentor and academic facilitator demands effective communication and can lead to a dynamic process that provides a valuable bridge between theory and practice. This bridge enables the learner to access essential knowledge and interpret the complexity of practice to develop competence and eventually engage in the continuum from novice to expert (Dreyfus and Dreyfus, 1980; Benner, 1984).

Learner's portfolio of evidence and generic work-based learning modules — the process is enabled further by the learner's portfolio of achievement and generic work-based learning modules validated by a local university. The portfolio may contain evidence of learning in previous roles, such as a link nurse for infection control, and a leader for certain work-based initiatives to improve the quality of infection control. In situations where the learner has no diploma profile, such evidence is valuable, as it could be matched against generic learning outcomes of diploma level work-based learning modules in order to gain credit through Accreditation of Prior Experiential Learning (APEL). These modules are generic, in that the learning outcomes are written in general terms that can be interpreted to include professional competencies or learning from specific activities.

Where the portfolio contains evidence of taught modules and academic credit, the learner may decide to trade these in as part of a degree pathway. This is known as accreditation of learning (AL) in the case of a newly appointed ICN, there may be opportunities to take on the role of a research fellow if the department is engaged in specific projects. Learning from this experience would prove beneficial should the nurse develop a related theme later in his/her studies, an example of double-loop learning (Argyris and Schon, 1978). With a diploma profile of theoretical and experiential opportunities, the learner can develop the competencies of the infection control nurse at degree level through work-based learning and independent study. An example of such a profile is given in Table 3.

The work-based learning process (prototype).

Previous educational research, which has tested the process in industries, has identified that the first stage of the process can take some time to establish — a hurdle being procrastination by the learner, especially when reflecting upon possible evidence of achievement and learning needs (Boud et al, 1985; Foster, 1996; Seagraves et al, 1996; Keeling et al, 1998). Within the UK healthcare system nurses have been expected, as part of their professional regulation, to maintain evidence of learning. For many years managers in the NHS have invested heavily in developing assessors in practice. It is this rich resource that
Table 3: An example of a profile of a newly appointed, novice infection control nurse

<table>
<thead>
<tr>
<th>Proposed Diploma profile:</th>
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<tbody>
<tr>
<td>Taught</td>
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<tr>
<td>1990 Registered nurse</td>
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<tr>
<td>1999 Teaching and assessing (ENB 998)</td>
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<tr>
<td>1998 Audit module</td>
<td></td>
</tr>
<tr>
<td>2002 Research module</td>
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<tr>
<td>Portfolio evidence for APEL:</td>
<td></td>
</tr>
<tr>
<td>Health promotion project</td>
<td></td>
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<tr>
<td>Audit project</td>
<td></td>
</tr>
<tr>
<td>Comparative study — Hygiene</td>
<td></td>
</tr>
<tr>
<td>Level 3 studies:</td>
<td></td>
</tr>
<tr>
<td>Three work-based learning modules (using ICN competencies)</td>
<td>120 credits at level one AL</td>
</tr>
<tr>
<td>One independent study module</td>
<td>20 credits at level two AL</td>
</tr>
<tr>
<td>(focusing on the research methodologies she is using as a fieldworker)</td>
<td>20 credits at level two AL</td>
</tr>
<tr>
<td>Dissertation module</td>
<td>20 credits at level two AL</td>
</tr>
<tr>
<td></td>
<td>40 credits Literature search and review, or project.</td>
</tr>
</tbody>
</table>

Total = 360 credits = BSc degree

may, in partnership with discipline-specific academics and managers, provide the necessary support for the work-based learner.

In recognition of the specific relationship between the manager and learner for the appraisal and development of a personal development plan and the possibility of procrastination, Moore (2001) recommends that stage I of the prototype should be divided into two sections (see Figure 2).

By stage Ib the learner should be ready to register with the university and start to negotiate a learning contract. Each member of the relationship undertakes responsibilities at each stage of the prototype. The stages are as follows:

- **Stage Ia.** Thinking-personal development plan (PDP). Learner to undertake a self-assessment, appraisal, engage in clinical supervision, and review organisational objectives with the manager
- **Stage Ib.** Enquiry and intent. Once it is agreed that work-based learning is the chosen option, the learner is ready to register with an HEI. Further discussions with manager/mentor and academic facilitator are needed to identify opportunities, individual or team approach, objectives and support requirements
- **Stage 2.** Exploration and negotiation. An initial learning contract is drawn up between learner, manager/mentor and academic facilitator. Decisions are made regarding the appropriate type of work-based learning model and support needed
- **Stage 3.** Development and implementation. The learning contract is finalised between learner, manager/mentor and academic facilitator. Contract to include learning outcomes, identified competencies, work-based activities, means of assessment, action plan and timescale, and agreed meetings with academic facilitator. The learner is responsible for managing the contract and learning activities. The manager/mentor and academic facilitator are responsible for ongoing support and monitoring progress
- **Stage 4.** Demonstration — assessment, evaluation and accreditation. The learner is responsible for collecting the evidence, which demonstrates achievement of the learning outcomes and reflecting on the learning achieved. The manager/mentor is responsible for verifying the evidence, reviewing the outcome and contribution to the appraisal/PDP and recording outcomes. The academic facilitator is responsible for assessing the standard of the outcome and fielding academic processes within the university.

It is important to note that in using such a prototype, the guiding principles of any work-based learning could be specific occupational standards or specialist competencies, such as the Professional Core Competencies for Infection Control Nurses. It is these that could guide the learner to interpret, often broad learning outcomes of generic work-based learning modules owned by a local university. It is the first stage that is crucial and requires time in establishing an appropriate pathway that can be owned by the learner before seeking learning opportunities and salient resources.

As Eust et al (1999) analysed, the informal learning within the workplace depends on the learner’s confidence, motivation and capability to succeed and the support mechanisms available.

The Learner’s perspective:

The Learner states: ‘I have spent nearly 30 years as a nurse in a clinical setting. I have always had a very keen interest in infection control so was very pleased when in October 2001 I was appointed as a trainee ICN working with a small team of ICNs.

‘Having no formal qualification within this field and now working with a dynamic and forward-looking team, we explored the possibilities of using the competencies together with the self-assessment tool. These two documents together form a framework for the self-assessment process, allowing me to identify and address my own professional needs and requirements.

‘Armed with these competencies I have been able to establish where I am at the moment, e.g. a novice, and the skills and the knowledge I require in order for me to develop into an experienced practitioner using evidence-based practice. I envisage that I will be able to progress towards a higher education award, using reasoning, research, reflection, and critical analysis.

‘I will gain a large proportion of my knowledge and skills working alongside my colleagues within the team, learning to assess and deal with situations as they arise, and then reflecting on the situations to
4. Demonstration-assessment, evaluation and accreditation

Figure 2: The stages of the work based learning prototype

3. Development and implementation

2. Exploration and negotiation

1b. Enquiry and intent

1a. Thinking-personal development Plan (PDP)

PORTFOLIO OF LEARNING

4. Demonstration-assessment, evaluation and accreditation

Key Process
Storage Evidence

make what educational requirements I need to develop into a clinical nurse specialist.

‘The competencies laid down by the ICNA give a broad and concise baseline of required knowledge from which I have been able to establish the foundation on which to begin building my expertise. Empowered with new knowledge and skills, I hope to progress from a novice to an expert.’

Conclusion

Later this year the Workplace Facilitator, the Academic Facilitator and the Learner are looking forward to sharing our progress along this professional development journey with delegates at the ICNA annual conference. We are confident that, given the necessary time and effort, our team will produce a competent ICN. As knowledge of the documents and of our example of using them are disseminated further, we anticipate with optimism that more infection control teams may begin to follow a similar route towards new horizons in professional development.

References


