

‘NVQ 4 made me read some books!’ Developing a teaching and learning strategy to support knowledge acquisition in work based programmes.

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Abstract

This paper reports on the findings of a two year evaluation project that investigated how far social care workers, on a work based National Vocational Qualification (NVQ) 4 Care Programme, were able to synthesise new knowledge into their practice. The outcomes for NVQ 4 Care Unit CU:7, ‘Synthesise new knowledge into practice’ and Bloom’s Taxonomy, were used as benchmarks to measure progress. This collaborative project, between Oldham Social Services Training and Development Unit and the University of Salford, was designed using action research principles and methods. Feedback was a key process that created a continuous dialogue between the project team, the programme manager and the candidates. A cycle of continuous improvement was initiated by a range of reflective exercises developed to assess the impact of new learning upon the candidates’ practice. The study demonstrated how reflective exercises can be used to support learning and that feedback and questioning skills are central to this process. The importance of designing a teaching and learning curriculum for work based programmes that is responsive to the needs of non-traditional and individual learners was emphasised. The programme manager found that the action-research approach facilitated ongoing modifications to teaching and learning activities which were then incorporated into subsequent NVQ programmes.

Background to the Project

When a group of eight candidates from Oldham Social Services Department’s Children’s Services began a new NVQ 4 Care award the question of how to evaluate the programme became an important part of the planning. One measure of the effectiveness of the programme would be the extent to which candidates used learning to develop and improve their practice.

The project was influenced by three key drivers:

- i) The Skills Strategy White Paper (DfES, DTI, DWP, 2003) outlined the need for more effective work based training to bring the UK into line with standards of EU partners. The paper identified five key areas for action, two of which are reflected in this study, a) ‘to motivate and support more learners to re-engage in learning,’ and b) ‘to make colleges and training providers more responsive to employers’ and learners needs.’(ibid;1).
- ii) To contribute to the Higher Education (HE) widening participation agenda, as expressed in the Higher Education Act 2004 (HMSO 2004), by enhancing opportunities for progression for employment based learners.
- iii) The need for the Social Services’ Training and Development Unit to monitor a new training initiative and plan future programmes on the basis of good pedagogical practice.

To achieve the NVQ 4 Care award candidates had to successfully complete eight mandatory units and six option units. The programme followed the Social Services agency’s established pattern of having a taught curriculum for core knowledge (10 weeks) and specialised training linked to optional units. The standards for NVQ 4 Care programme, replaced by new NVQ 4 Health and Social Care Standards in January 2005, (Care and Health, 2004) required candidates to use new knowledge in their practice and to reflect on their learning. These standards were expressed within one Unit of the award, Unit CU:7: ‘Synthesise new knowledge into practice.’

NVQ standards provide a framework for the assessment of professional knowledge, skills and values. However the standards alone cannot be relied upon as a means of helping candidates to learn. Candidates have different strengths in different areas and, at the start of a programme, may be at different levels in relation to the standards. So, to be fair, candidates need access to a programme of professional development that provides appropriate learning experiences as well as opportunities to connect theoretical and practice learning. In order for employment based learners to have fairer access to HE it is important that learning in the work place addresses progression requirements. NVQ 4 is equivalent to HE level one (DfES, 2003) and it was possible for holders of the award to APL (Accreditation of Prior Learning) onto the second year of Diploma in Social Work programmes. NVQ candidates are usually skilled, experienced practitioners who undertake complex, risky and challenging direct work with service users. However, they may be anxious adult learners, ambivalent for many reasons about returning to learn. There is a considerable challenge for many

candidates at this level in locating knowledge and demonstrating how it influences their practice. Employment based learners may also have limited time and support for developing the necessary skills in using theoretical knowledge. The NVQ 4 Candidates were expected to use knowledge with a high degree of complexity, because they were required to both 'synthesise' and 'evaluate' their practice using underpinning knowledge.

The project team were guided by the concept of complex learning (Knight, 2002) when designing the learning activities for the programme. Complex learning encompasses a range of skills and attributes that are desirable as outcomes for higher education, these are, according to Knight (ibid); understanding, social practices, efficacy beliefs and metacognition (USEM).

This study would therefore focus on developing the candidates' confidence in knowledge acquisition thereby addressing specifically the 'efficacy' and 'metacognition' aspects of complex learning.

The CU:7 Professional Development Portfolio was devised by the project team for candidates to:

- provide evidence towards meeting the standard of 'synthesising new knowledge into practice'.
- serve as a monitoring tool, with several tasks and hand in dates.
- provide a focus for taught sessions on reflective writing.
- produce data for the evaluation study.

Throughout the study candidates were not asked to engage in activities in excess of those required for their award and they all gave informed consent to participate.

The Evaluation Project

The overall aim of the evaluation project was to assess whether the NVQ candidates were able to synthesise new knowledge into their practice. According to Kirkpatrick the question to be asked is: '*to what extent does the training transfer to the work place?*' (Kirkpatrick, 1959 in Phillips, 1996). Following Kirkpatrick's schema there were two stages to the evaluation; a baseline study and the main study. The purpose of the baseline study (Box 1), undertaken three months into the two year project, was to provide:

- a baseline against which to measure the candidates' progress.
- evidence from which to develop a teaching and learning strategy responsive to the needs of individual candidates
- detailed positive feedback early in the programme, to settle, engage and motivate the candidates.

Self evaluation essay - completed prior to starting the programme, to provide an indication of the candidate's abilities and to enable feedback prior to the start of the programme.

- Learning needs exercise, completed early in the programme
- Action learning set – to review the action learning set and its value as a learning activity
- Learning logs – completed after each taught session, with prompts to encourage recall, application to practice and development using knowledge
- Questionnaire – to enable candidates to comment on the learning activities

Box 1: Baseline evaluation activities

The baseline study was a useful diagnostic exercise providing information on candidate progress in the early stages of the programme. It gave candidates the opportunity to express their concerns about some of the activities, they identified the need for clarification on some tasks. The baseline study confirmed what assessors and candidates often report anecdotally: that the identification of knowledge in itself can be difficult and to identify how knowledge has been used in practice is even more challenging. A timetable of activities for the main study (18 months, Box 2) was devised to include the sampling candidates' work at regular intervals, action learning sets, project development meetings, focus group and an interview with the programme manager.

- Taped Transcripts from four action learning sets.
- Written Reflective Accounts of practice.
- Learning Logs.
- Evaluation event: focus group.
- Interview with programme manager

Box 2: The Main study

Method

The methodological approach to the evaluation study had three strands;

- Action Research
- Textual analysis using Bloom’s taxonomy (Bloom, 1956 in Dochy, De Ridjt and Dyck, 2002).
- Learning through reflection

These were combined to provide a framework that would allow for the continuous development of the programme through reflecting on and revising processes against outcomes thus following a model of action research that is ‘based upon the repeated application of plan, act, observe, and reflect.’ (Kemmis and McTaggart’s, 1988 in Kuit et al, 2001:128). An aim was to maximise the learning of all involved, the project team were guided by the action research principles expressed by Carr and Kemmis (1983, in Zuber-Skerritt, 1992:12-13)

‘Action research..... is participative and collaborative. The researcher is not considered to be an outside expert conducting an inquiry with ‘subjects’ but a co-worker doing research with and for the people concerned with the practical problem and its actual improvement.The approach is not hierarchical: rather all people concerned are equal participants contributing to the inquiry.’

A timetable was devised for the duration of the study that set dates for reviewing all programme activities. The focus for reviewing was the practical problem of developing and implementing appropriate learning activities to meet the requirements of Unit CU; 7. Reviews involved an appraisal of both the feasibility and the pedagogical of value of all learning activities.

The views and experience of the programme manager were discussed at regular project team meetings. Candidates expressed their views via periodic feedback questionnaires, discussions with the programme manager and a focus group held three months after the programme had ended. Evidence provided by candidates’ written and oral reflective exercises was sampled and reviewed in line with the programme’s hand in deadlines and the assessment schedule.

Bloom’s Taxonomy

Bloom’s taxonomy (Fowler, 2002) was selected as an analytical tool for assessing the candidates’ capabilities in using knowledge in their practice. Samples of the candidates’ work were textually analysed, using Bloom, to provide evidence for the study. Bloom’s Taxonomy provides a framework for analysing the acquisition and use of knowledge. The way people learn is divided into three domains.

One of these is the cognitive domain which identifies intellectual outcomes. This domain is further divided into categories or levels. Each level represents a progression in increasingly complex tasks from ‘knowing’ knowledge, through to using knowledge.

Bloom’s taxonomy – cognitive domain levels

- i) Knowledge
 - ii) Comprehend
 - iii) Apply
 - iv) Analyse
 - v) Synthesise
 - vi) Evaluate
- Level 5: Synthesise – compiling information in a different way by combining elements together in a new pattern or proposing different solutions.

Box 3: Bloom’s taxonomy: from ‘knowing’ knowledge to using knowledge to inform evaluation

Bloom identifies a range of verbs associated with each level for example, 'to synthesise' can be demonstrated as using knowledge in practice to: 'adapt', 'intervene', 'modify', 'organise', 'perform', 'construct' and so on. Bloom's taxonomy can provide benchmarks to support structured reflection. Having a toolbox of verbs facilitates an understanding of the level of a candidate's performance and offers a means by which a deeper understanding can be encouraged. The key words used and the type of questions asked may aid in the establishment and encouragement of higher level critical thinking. The verbs identified by Bloom were used to by the programme manager to help formulate questions and feedback (Box 4).

Bloom's taxonomy helped the programme manager formulate feedback and questions in the following way:

Comprehension

'You could give a summary of what you might be looking for in assessing the development of a child of this age. Maybe give some examples of what you did observe in the child.'

Application

'How did you prepare for the visit? It could be useful to explain why you chose those activities.'

Analysis

'You could point out to the group how you recognised behaviour associated with secure attachment.'

Synthesis

'How did this occasion compare with previous visits, what was different? What would you do differently and why?'

Evaluation

'Can you see any pros and cons of using that approach/theory/method?'

Box 4: Using Bloom to formulate feedback and questioning

Learning through Reflection (action learning sets and learning logs)

The project team took reflection to mean,

'.....a process by which experience (thoughts, feeling and actions) is brought into consideration and, deriving from this, the creation of meaning and conceptualisation from experience and the capacity to look at things as potentially other than they appear.' (Brockbank and McGill, 1998)

Learning through reflection is central to NVQ programmes. The standards for Unit CU.7 required candidates' to show deep learning (Biggs 2003, in Harrison, 2004). Learning activities (action learning sets and learning logs) were therefore designed to encourage critical reflection and to question taken for granted or automated practice. By considering the wider context of knowledge and focusing on the main ideas and principles of practice candidates would be able to reflect on and devise new approaches to their work. Harrison (ibid) suggests that through deep learning candidates become more positively engaged in learning.

Action Learning Sets

Action learning was a significant aspect of the study. Action learning *'involves students doing something and taking a lead in thinking about what they are doing'* and engages students *'in higher order thinking tasks as analysis, synthesis and evaluation.'* (Snyder, 2003:161). According to McGill and Beaty (1995) this approach *'links the world of learning with the world of action through a reflective process within small co-operative learning groups.'* Four taped action learning sets were planned. The candidates worked in two small groups each with a facilitator from the project team. At the start of the action learning sets time was spent considering the ground rules for the discussion, permission was sought to use tape recorders and participants' nervousness was acknowledged. Candidates were asked to come prepared to talk about an example of their work where they had used knowledge to modify practice.

The programme manager introduced a framework for discussing critical incidents (Atkins and Murphy, 1994 in Salteil, 2003) to help structure the candidates' narrative in the sets. She had learnt from the baseline study that candidates tended to tell the whole story of their practice in an unstructured descriptive way. The complexity of the case and issues relating to policy and particularly, procedures, dominated the accounts. It

proved to be more of a struggle for candidates to identify and discuss theoretical knowledge. Candidates found it hard to concentrate their attention on a sustained examination of one aspect of their work, as suggested by comments made by learning set facilitators in Box 5.

Comments from learning set facilitators

The candidate was engaged in complex work and their approach in the learning set was dominated by this complexity (story) rather than on a sustained examination of a critical incident.

Tacit knowledge and 'practice wisdom' clearly underpinned the candidate's practice. Underpinning knowledge became more explicit following prompts from colleagues and the learning set facilitator.

The action learning set did illustrate the wealth of knowledge possessed by the candidate but considerable prompting was needed to bring this into conscious awareness.

Box 5: Learning to make knowledge more explicit in learning sets

The learning sets ultimately proved to be an energetic and collaborative learning space for candidates and the project team (Box 6). Underpinning knowledge became more explicit as a result of the candidates' questions, prompts and sharing of experience. Ideas about practice development were refined in the group, tested in practice and reviewed at the next session. As the action learning sets progressed, it was found that preparation was important in developing candidates' ability to handle theory. By the third set participants were arriving more prepared and assertive with a plan of what they wanted to cover and the knowledge to be demonstrated. Those candidates, who prepared and, to some extent, rehearsed their contributions seemed to benefit from the time to reflect. Transcripts from the action learning sessions served two purposes, they provided;

- an alternative method of assessment, not reliant on candidates' written work, enabling candidates to express their understanding orally, so developing presentational and verbal skills.
- material from which the candidate could write up their reflective account useful in reinforcing learning.

Action learning sets helped to develop a range of skills:

- Knowledge handling
- Identify underpinning knowledge
- Oral communication skills
- Rehearsal
- Questioning skills
- Handling constructive feedback
- Professional discussion
- Focus on critical incident
- Review performance
- Social learning

Box 6: The value of action learning sets

The value of action learning sets and taped transcripts was evidenced in the candidates' written reflective accounts. Reflective accounts are a principal method in NVQ portfolios for demonstrating underpinning knowledge. Candidates may have difficulty in constructing reflective accounts that are sufficiently analytical with a tendency towards descriptive narratives of practice. Having rehearsed, refined and developed their thinking about a specific aspect of practice in learning sets candidates were then able to read through the transcript of their tape and use this to construct their reflective account. The programme manager commented

on the quality of the reflective accounts produced from taped transcripts, she also noted that by using Bloom she was able to analyse the accounts more effectively (Box 7).

Programme manager : ‘The textual analysis of these written accounts has been a revelation. Having a framework for the analysis of written work certainly pinpoints the different thinking skills evident in the accounts. Written accounts encourage the use of higher level thinking skills. The process of carrying out the written task seems helpful in providing space for evaluation (select, prioritise, justify, conclude, judge).’

Box 7: The value of Bloom’s taxonomy

Learning Logs

Learning logs were a useful tool for developing reflection with feedback being a key strategy to aid the candidates’ development. Progress could be monitored via the logs, they were useful for reinforcing work of appropriate standard and indicating where this could be used as evidence for the knowledge requirements. Learning logs were completed after teaching sessions and it was possible to glean from them what candidates were learning from the sessions and how their capacity to reflect in a more complex way was developing. The base line study showed that early learning logs were very scant and not even descriptive. They were mainly concerned with recall in the form of lists. Logs were therefore useful to scaffold learning (Bruner 1974 in Tusting 2003). The programme manager could provide regular feedback, using Bloom to indicate how the candidate might approach their next log. Using Bloom, the programme leader could signpost how the candidate might develop, what they needed to do to progress and to extend their use of knowledge to the next level. Boxes 8 and 9 illustrate how the programme manager used Bloom to construct feedback to candidates.

Candidate: ‘I enjoyed the observation task which has made me aware of the feelings a service user may feel when I am undertaking a home visit or assessing a family.’

Programme manager: ‘The learning log from this candidate provides an example of application of knowledge and analysis of practice. Feedback would suggest a further development to ask how the candidate has modified their practice in relation to home visits and assessments in light of this awareness. This would then prompt the candidate to move from application to modification and synthesis.’

Box 8: Feedback to candidate on learning log entry

Candidate: ‘I have found that I no longer disclose personal information, however, I do discuss experiences which may be personal without the client knowing this, i.e. my child, I would say, ‘I worked with this child once who.....,’ therefore using my experiences without being personal.’

Programme manager: ‘Following an exercise on role boundaries a candidate recorded the above in the last section of their learning log, indicating a modification to practice. The last section of the learning log asks candidates to reflect on, ‘How has learning affected my practice?’ This question does seem to prompt higher order analysis, synthesis and sometimes evaluation.

Box 9: Evidence towards CU.7 in a candidate’s learning log following a teaching session on professional boundaries.

Developing Skills in Giving Feedback

The benefits of the evaluation study became very evident having the opportunity to examine candidates' work using Bloom as a framework enabled the project team to judge the efficacy of teaching and learning strategies. It became apparent that effective feedback and questioning had a positive impact on the candidates' progress.

Programme manager: 'Bloom's taxonomy continues to be a useful tool for me in analysing how well candidates are integrating new learning into practice. It helps me to formulate my feedback and to plan developmental activity to help candidates progress.'

Box 10: Programme manager's view on feedback

A study by Juwah et.al. (2004:2) identified seven broad principles of good feedback:

Facilitating self-assessment (reflection) in learning, encouraging teacher - peer dialogue, clarifying what good performance is, providing opportunity to close the gap between current and desired performance, delivering high quality information to the student about their performance, encouraging positive motivational beliefs and self esteem, providing information to the teacher that can be used to help shape the teaching.

The programme manager was an experienced and skilled teacher who had well developed feedback skills. By using Bloom to formatively assess candidates' work she was able to further develop and to improve her practice across the range of principles identified by Juwah et al (ibid). Feedback could be tailored to meet the learning and developmental needs of individuals. Box 9, for example, illustrates how the programme manager recognised that the candidate had applied knowledge, she then prompted the candidate to consider how their practice had changed in the light of this knowledge. By identifying the candidate's cognitive level the programme manager could think about what questions to ask and pitch these at an appropriate level, thus adopting a supported, graduated approach to learning.

The public nature of learning sets, though initially rather exposing, provided a useful vehicle for developing oral skills and the confidence of the candidates in the use of these. In early groups there was a reticence to offer colleagues constructive feedback with a predominantly supportive group norm resulting in safe, descriptive practice narratives. Frankland and Sanders (1995) suggest that there is a balance to be struck between support and challenge in learning environments. Their support/challenge axis (ibid:143) indicates that learning is optimised by combining high support and high challenge skills, whereas learning is compromised when there is high support but low challenge.

The traditional approach to assessment relies on assessors giving feedback on paper and there can be a delay between the activity and the feedback, the assessor may not be present when the activity is taking place. This is not the case with action learning sets, verbal prompts and feedback can be used proactively to provoke reflection and the evocation of underpinning knowledge. Assessors can respond in the moment to candidates' explanations of practice and ask helpful questions, learning takes place in situ.

Developing Skills in Questioning

'In action learning the ability to question is essential to the learning process.....it is through the questioning process that the learner finds out what needs to be done differently' (Vick, 1999:378, in Harrison, 2004). The taped transcripts from action learning sets highlighted the importance of asking good questions. It was only through an examination of the transcripts and the use of Bloom that the learning set facilitators became aware of and thus able to reflect on their own questioning style. The common fault of asking several questions at once was all too clear in the practice of the facilitators, further the level at which their questions were pitched required attention. Preparing questions beforehand, trying to frame questions using Bloom's was a challenge and there is scope for work to be undertaken with respect to developing skills in asking good questions. Despite being skilled verbal communicators the candidates' questioning practice also improved. Early sets showed questioning to be at the 'low level' of gaining more factual evidence rather than the 'high level' (Ellsworth et al in Harrison, 2004) of probing for evidence of more complex practice.

Questioning can therefore encourage deep and or complex learning by engaging the learner in *'intellectual activities such as: relating, arguing, explaining, applying understanding to near and far problems, relating specifics to principles, hypothesizing, and reflecting* (Biggs 1999, knight, 2002). Box 11 indicates how over time candidates developed their questioning skills.

Learning set facilitators' comments:

Questions from set members tended to encourage more analysis rather than provoke the candidate to consider how her practice had been changed as the result of new knowledge.

This was a structured presentation with a focus on an aspect of practice development. Questioning from set members encouraged the candidate to reflect on underpinning knowledge that was then brought into conscious awareness.

Questions asked in this learning set demonstrated how questioning could be used to extend the candidate's knowledge and create building blocks for learning. Set members demonstrated that progress has been made in questioning skills.

Box 11: Developing questioning skills in learning sets

The Candidates' Views

Kirkpatrick (ibid) advises that for this type of study evaluation needs to take place after training. Three months after the end of the programme a focus group was arranged for the candidates and their assessors. Each candidate was asked to complete a questionnaire to gain individual views. The aim of both exercises was to explore the candidates' views and feelings about the programme's teaching and learning strategy with respect to knowledge acquisition. Candidates reported that before NVQ their practice was informed by, "*some knowledge learnt during training, formal learning, supervision*" and after their NVQ practice was, "*predominantly informed by knowledge gained on training courses, in supervision and other taught programmes.*" (adapted from Kember et al, 2003). Candidates reported that they felt more confident in,

- completing learning logs but they expressed ambivalence about having sufficient time to complete them.
- participating in learning sets, they were enthusiastic about action learning and saw learning sets as a valuable support to learning
- planning for learning sets, focusing on knowledge and also on selecting material to be discussed
- writing reflective accounts, they felt more able to plan for their accounts and what to include.

Three questions put to the focus group produced a wealth of material which was collated and thematically analysed. Questions, themes and a sample of responses from candidates are presented in the boxes below.

Question one: What have been the most effective ways of learning during NVQ 4 Care

Theme: Questioning and discussion

Critical questioning was useful, especially probing questions in action learning sets...'

Theme: Developing reflective writing skills

'More thinking took place prior to writing accounts, 'I no longer write down just what I do...'

Theme: Knowledge acquisition

'Engaging with underpinning knowledge, 'wanting to know what's behind what you know...'

Box 12: Question one, themes and a sample of responses

Question two: In what ways are you more conscious, or more aware, of using knowledge in your practice?

Theme: More aware of policy and procedures

‘Complaints, as a manager, I follow policy and procedure more thoroughly...’

Theme: More value placed on practice

‘Bringing all aspects of knowledge about my practice together for example, helping to clarify what I am doing, the reason why I do my job, justifying my job, being more confident with my responsibilities.....’

Theme: Developing skills in reflecting on my practice

‘Making more of an effort to closely examine and review everyday practice.

‘How can I improve that, how can I develop it?’

‘Gaining more confidence in researching, knowing where to look for information and how to get answers.....’

Theme: More open to feedback

‘Identifying something new in feedback from service users that can change and add to practice’

‘Not feeling ashamed of not knowing.....’

Theme: Working with others

‘It can be scary to recognise things that you don’t know and knowledge brings responsibility but sharing new knowledge can create a dialogue between staff.’

Box 13: Question two, themes and a sample of responses

Question three: What has helped you to be more aware, more conscious, of using knowledge in your practice?

Theme: Feedback

‘Learning logs providing guidance as to how to develop understanding of what is required.’

‘Constructive criticism/praise/pointer/guidance.....’

Theme: Knowledge acquisition

Learning to be more confident in using knowledge

The comments indicate that the teaching and learning strategy was useful in helping candidates to develop their cognitive capacity and that they acquired

skills that facilitated a more complex use of knowledge in practice. Assessors reported on the candidates’ progress and the value of the NVQ award with respect to developing knowledge handling skills. The programme manager had noted an incremental increase in confidence paralleled by an increase in capability.

Programme manager: ‘Candidates have reported an increase in confidence in their ability to discuss practice in a reflective manner, ability to engage in discussion at HE level and to discuss and debate issues.’

Box 15: The candidates showed increasing confidence

Barriers to Learning

Candidates, assessors and the programme manager identified significant barriers to learning for example,

- Workplace pressures, manifest in the candidates reluctance to use the study time negotiated for them and patchy attendance on the programme.

- Limited time for supervision in order to discuss and reinforce the connections between theory and practice complex
- NVQ systems and bureaucracy, it was considered that some prior knowledge of NVQ systems, structures and, above all language, was an advantage. Those who had no previous knowledge of NVQ felt it took them a long time understand the requirements of the award.
- Variability of assessors' skills and availability, candidates had different experiences in relation to the support from their assessors. Assessor time was limited for some, due to operational pressures. New assessors felt they needed more support, possibly mentoring from a more experienced assessor.
- More written guidance on the range of learning activities would have been helpful, in particular for action learning and writing reflective accounts.

Candidate attrition rates can be linked to some of the barriers identified by the focus group. Eight candidates started the programme but only four remained at the time of the project review date.

Conclusion

Evidence was gathered from a very small sample limiting generalisability of the findings. Despite the small sample the project team managed to collect all the evidence identified in the project proposal.

NVQ standards provide a framework for assessment of competence; they address assessment, not teaching and learning and cannot be relied upon as a means of helping candidates to learn. The study confirmed the view that there is value in having a teaching and learning strategy based upon a combination of reflective activities to facilitate the achievement assessment outcomes. A baseline assessment is important for new candidates, so that the strategy can be tailored to meet their individual learning needs.

This study demonstrates the importance of specifically focusing on knowledge requirements in work based training. By emphasising knowledge acquisition, extra attention was placed on how to develop candidates' abilities in this aspect of the NVQ award. The range of reflective activities contributed significantly towards candidates' progression in their use of knowledge. Bloom's Taxonomy provided a framework to link the activities and to tailor feedback to the needs of the candidate. NVQ programmes usually require both written accounts and direct observation of practice but evidence of underpinning knowledge is often only demonstrated in written formats. The study suggests that programmes would be more effective using a combined approach for assessing knowledge requirements. The use of action learning sets in this study illustrates the potential for directly observing candidates' use of underpinning knowledge.

Learning sets provide an opportunity for candidates to try out ideas for written work and to learn from each other. The discussion provides an opportunity to formulate strategic questions (Harrison, *ibid*), a skill in itself. In this study the transcripts of tapes provided much evidence for candidates' portfolios, but the transcribing could be too time-consuming to offer routinely. Action learning has much to offer for NVQ candidates, but needs to be carefully prepared. Using tape recordings as evidence of underpinning knowledge is recommended. The impact of the study upon the programme manager was a significant and important dimension.

The programme manager became more consciously competent in developing teaching and learning strategies around different cognitive levels. She experienced the benefits of planning, developing and evaluating the programme with an outside consultant. Having time to reflect on activities and engage in a deeper level evaluation contributed to the programme manager's professional development and to modifications in subsequent NVQ 4 Care programmes.

We are grateful to the candidates who participated in this study. Their feedback has been a major source of our evidence. The group clearly grew in confidence. Candidates developed extended writing skills, in which they had little prior experience, to finally produce complex and well structured reflective accounts. Candidates were motivated by feedback and energised through action learning. They survived the public scrutiny of their work and learning became a more social shared experience so mediating the isolation which can be a feature of work based learning.

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