Techniques in medical education

Summary

The Royal Colleges and their Faculties have moved continuing professional development up the agenda of doctors in the UK. The low educational value and failure to change professional practice of much continuing medical education has led to criticism of its emphasis on formal, didactic teaching and academic knowledge. The ubiquitous scientific or technical bias in medical education makes questionable assumptions about the nature of professional knowledge, how professionals learn, and the linkage of theory and practice in professional work. Given its narrow conception of professional knowledge, it is hardly surprising that the effectiveness of continuing medical education has proven difficult to evaluate.

These points of criticism suggest that a more systematic and coherent approach to continuing education is required. The adoption of the concept of continuing professional development, which draws on learning by reflective practice, marks an important step in this direction. Continuing professional development emphasises self-directed learning, professional self-awareness, learning developed in context, multidisciplinary and multilevel collaboration, the learning needs of individuals and their organisations, and an inquiry-based concept of professionalism. It also involves a widening of accountability to patients, the community, managers and policy-makers, and a form of evaluation which is internal, participatory and collaborative rather than external and scientific in character.

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Continuing education for medical professionals: a reflective model

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Doctors, like other professionals, have an obligation to update their knowledge and skills through educational processes which continue throughout their careers (Conference of Medical Royal Colleges, 1993). Patients, health service managers and governments are currently pressing for reassurances that medical professionals will maintain their competence to practise in a rapidly changing environment. However, the implications of this call for professional renewal for doctors are far from clear.

The move to institute formal control of continuing medical education (CME) arguably downgrades medical professionals as deficient in knowledge and incompetent in performance. Neither this 'deficit' view nor the efficacy of CME as an answer to the 'problem' are immune to criticism. The effectiveness of CME has been doubted.^{1–3} The prevalence in medical education of factual inputs, the lecture format and traditional examinations ignores established principles and practices of adult education.⁴ A further issue is its impact on health outcomes—this aspect of evaluation has hardly been addressed in the case of CME.

The Faculty of Public Health Medicine, following the lead of the Standing Committee on Postgraduate Medical and Dental Education,⁵ has adopted the wider concept of continuing professional development (CPD).⁶ In this paper, some important implications of the Faculty's theoretical position on CPD will be drawn out. It is contended that CPD grounded in principles of reflective practice is more effective than traditional CME in sustaining relevance, coherence and progression of professional learning and in facilitating the evaluation of this important national initiative.

The professional knowledge base

The application of the term 'professional' to medical and health practitioners implies, amongst other things, that they have established a knowledge base in initial training and that they accept an obligation to maintain it throughout their careers. Doctors appear to see CME as mainly a task of scientific and technological up-grading. This concept of professional knowledge may be influenced by the experience of undergraduate medical education, traditionally divided into inputs of free-standing scientific knowledge (eg, from microbiology) and a separate period of on-the-job training. Only at postgraduate level is training in a medical specialty introduced.

Critical questions may be raised about the implied relationship between professional development and academic knowledge in medical education. Can academic knowledge of medicine be learned apart from the contexts in which it is applied? What is the nature of professional knowledge? How is the relationship between practice and theory to be cemented in professional studies (both initial and continuing)? Are the learning of factual knowledge and the understanding of how to apply it to cases discrete processes?

CME which is focussed narrowly on individual doctors and their scientific and technological up-grading blindly assumes that qualified and up-to-date medical professionals can intuitively match specialist knowledge to the demands of actual cases. Some university medical schools (notably, at McMaster in Canada, Maastricht in The Netherlands, and Newcastle in Australia) have begun to recast the link between academic knowledge and effective practice. They aim to develop the learning of scientific knowledge through clinical experience, problem-solving and practice-based work. This challenge to the separation of theory and practice in learning is premised on the view that specialist academic knowledge only becomes professional knowledge when it is applied practically in particular clinical contexts.

An alternative view of how professional knowledge and practice are related has been offered by Schon.⁷ He contends that professionals respond to problems by employing tacit understanding which has evolved from practice

rather than a grasp of scientific or technical facts. These aspects cannot be learned by formal study as they are context-specific and difficult to express in clear and precise logic. The key to changing professional practice lies in bringing this practical knowledge to the surface and proceeding to refine and develop it in desired directions. The elements of professional knowledge may turn out to be wider than expected. Eraut⁸ has shown that headteachers' practical knowledge extends beyond specialist educational matters to include knowledge of people, situational knowledge, conceptual knowledge, process knowledge and control knowledge.

It seems a fair supposition that doctors also combine all manner of explicit and latent knowledge as they deliberate on alternative analyses of problems, compare different courses of action and ultimately form professional judgements. Patterns of consistency and coherence in professional judgement are conditioned by practical knowledge as much as by theoretical knowledge. They become embedded in implicit values, unquestioned rules and taken-for-granted ways of working.⁹ These can exercise an unconscious, cultural influence in professional practice, guiding behaviour as 'theories-in-use' behind 'espoused' professional justifications.⁷

Continuing education which imports a cultural perspective of individuals and their organisations can promote 'double-loop' learning.⁷ This learning goes beyond individuals' responses to technical problems and generates critical awareness of why practitioners approach problems in particular ways. It is the achievement of learning at this level which promises to have a lasting and positive interaction with professional practice, and which has necessitated the change from CME to CPD in the health professions.

Why CPD?

The narrow emphasis of CME on the updating of scientific knowledge now appears untenable in many areas of health work. Some clinicians have sternly defended their prerogative over specialist knowledge, their relative autonomy and moral accountability grounded in the professional-client relationship. For public health doctors, practice has always been mediated significantly by political authorities, public institutions and managerial roles. The extent to which these professionals should be held accountable by managers, patients and the public, and their knowledge, values and purposes seem as negotiable with such parties, will always be a sensitive issue, but the 'ivory tower' view has been steadily eroded in the health service.

The switch from CME towards CPD amounts to more than a change of terminology. It highlights deeper divisions regarding the nature of professional knowledge, medical education, the relationship between professionals, organisations and external groups, the meaning of effective practice and how to judge it. CPD may be defined as the self-development of professional knowledge which includes essential reference to the personal, social and political aspects of medicine and public health. Particular aspects of the wider context of professional learning are the career progression, organisational, managerial and policy frameworks, and cultural and values assumptions relating to those in health work. The main differences between CPD and CME are listed in box 1.

The principal focus of CME is on individual professionals and their presumed knowledge gap. The latter is seen as inevitable, given the speed and complexity of scientific and technological change. However, the resulting stress on specialist areas of knowledge and competence leads to a transmission model of learning in which prescribed content (eg, epidemiology and statistical techniques in Public Health Medicine) assumes a pre-eminent status. Teaching and learning are conducted in a relatively didactic and impersonal mode. Learning outcomes are mostly taken for granted: apparently little analysis is made of the type of practitioner and the professional qualities to emerge from this process. In essence, CME is saddled with a training function which detracts from any wider educational purpose.

In CPD, practitioners play an active role in defining the knowledge which they see as relevant to their professional needs. CPD grounds the curriculum in areas of experience from which a variety of subject content may be selected in the light of professionals' views of their own practices, traditions and values. Tutors are not merely the conduits, and learners the receptacles of pre-packaged theoretical knowledge. Professionalism is premised on the right to know, that is, the practitioners' right to appreciate the wider conditions governing knowledge in their field.

There is little justification in CPD for the dependency of the learner on experts. Studies must be self-directed, involving practitioners in the negotiation and design of their learning programmes. It is the professionals' responsibility

CPD and CME contrasted

CPD

- generic knowledge
- knowledge constructed by communities of practitioners
- professional practice is source of knowledge
- continuing education=active self-directed learning
- theory is grounded in professional practice, traditions and values
- learning interactive, cross-disciplinary, multilevel
- right to know principle
- knowledge permeable-open to nonprofessional audiences, lay participation
- participatory/illuminative evaluation

CME

- specialist knowledge
- knowledge=quantum attached to individuals
- deficit view of professional knowledge
- continuing education=training, determined by experts
- theory is imported to practice: decontextualised, depersonalised, value-free
- learning fragmented, isolated, individualist
- dependency principle
- knowledge impermeable-owned by professional elites, closed to non-professionals
- scientific/experimental evaluation

Box 1

to decide which courses, workshops or distance learning materials would suit their interests, since only they are in a position fully to understand the distinctive context of CPD application—whether it is in the western isles of Scotland or a borough of Inner London.

Learning in CPD will replace the specialist focus and didactic methods of CME with learning that is practice-based, learner-centered, and multi-disciplinary. Decisions and action plans in hospital trusts, community trusts and health commissions increasingly draw upon generic knowledge, as well as specialist information. CPD should reflect not only a cross-disciplinary but also a multilevel character: learning takes place not only at the individual level, but also at the level of teams or departments and at the organisational level.

For this reason the goals and purposes of CPD are best defined by the learner in dialogue with tutors and professional colleagues. The latter could include consultation with managers, administrators, policy-makers and the public, whose interests are integral to the context in which knowledge is implemented. New accountability relationships—both internal and external—reinforce the need for knowledge which is less specialist and more open to nonprofessional groups. There is also room for such groups to assist in the definition of professional development needs and the evaluation of outcomes.¹⁰ Greater openness and responsiveness will help to counteract the long-standing charge of elitism and protectionism among professionals only prepared to admit a moral accountability to the individual patient.

Accountability presupposes evaluation: it is grounded in judgements of quality. Typically, scientific approaches to evaluation assume that it is possible to identify quantifiable indicators of performance, then resort to randomised controlled trials in order to measure professional effectiveness and ultimately the quality of clinical care. However, such experiments either beg the question of what is meant by ‘effectiveness’ or they tacitly import the preconceptions of ‘expert’ evaluators. Effectiveness of performance can only be judged in terms of the values, goals and purposes of a professional practice, and those only exist insofar as they are shared by a consensus of its members.

The criteria and methods of evaluation of CPD must be consonant with its underpinning values of participation, negotiation and collaboration. Studies of organisational learning suggest that the lessons of evaluation are more likely to be acted upon if they are generated from shared knowledge, and are conceived as interpretations of or judgements about continuing professional education rather than descriptions of it.¹¹ It follows that CPD will contain inbuilt procedures of self-evaluation and internal evaluation, but that a complementary focus on healthcare outcomes will require the participation in the evaluation process of the above-mentioned ‘stakeholders’.

A reflective model of CPD

The idea of reflective practice has already received some attention from health professionals; for example, the Canadian MOCOMP programme and Post Registration Education and Practice for nurses in the UK.¹² The concept of reflective practice addresses a number of key issues raised in moving continuing education away from the dominant medical model and towards a CPD approach (box 2).

Reflection on professional practice is the basis of the pilot CPD project being adopted by the Faculty of Public Health Medicine. It takes the form of a learning cycle, starting with practitioners’ reflections upon practical situations, then moving through the stages of implementation of relevant CPD activities and the evaluation of professional outcomes—followed by yet more reflection upon action, and so on. The focus of the reflective cycle is a diary-keeping exercise. The figure demonstrates how knowledge, education and practice may be integrated around processes of diary-keeping which include personal development planning, recording and commenting on specific activities, and self-evaluation. This leads to revision of long-term CPD frameworks and options, and a further phase of the cycle.

The identification of learning needs is the crucial first step towards formal thinking about CPD. The foundational goals and directions of the CPD programme are set out in a personal CPD plan. In order to identify coherent and relevant aims at the planning stage, a certain amount of information-gathering and analysis of practice will be essential. Much of this preparation should ideally be conducted in discussion with colleagues. Colleagues’ views will be necessary to eliminate subjective distortion of the individual’s learning priorities and to broaden the professional and organisational base of learning. If the diary kept during a CPD cycle is to be truly reflective, it must record more than the basic facts about the activities undertaken. The selection of a particular

Reflective practice in CPD

- it locates health problems faced by the individual professional in a wider organisational and social context
- it emphasises the development of self-awareness and critical thinking about health practice in the individual professional
- it involves the multidisciplinary groups of health professionals in dialogue, negotiation and collaboration with tutors, peers and colleagues, as they design and implement continuing education programmes
- it has an inbuilt component of evaluation and review in order to facilitate the learner’s progress to further levels of reflection and action
- it relates theory and practice by offering a systematic and refined way of educating the practical understandings employed by health professionals in their everyday work
- it enhances professionalism by placing responsibility with the individual practitioner, by encouraging reflection around values fundamental to the health professions and by requiring open-mindedness and commitment to an inquiry-based approach

Box 2

Figure The reflective cycle

distance-learning course, scientific meeting or journal reading must be clearly related by the individual to a view of professional practice and direction in which they plan to take it. Further, comment in the diary on the quality of specific learning experiences will initiate the learner to reflect on educational processes. Correct choice of teaching and learning styles, learning resources and tutor support is as important as the focus on curriculum content. Review and evaluation of CPD activity in consultation with tutors, organisers and colleagues bring professional outcomes into focus and the question of subsequent changes in practice. The guiding principles and criteria emerging from the review stage will inform further assessment of professional learning goals, and the curriculum content and processes to be adopted in future CPD.

Conclusion

The strength of this kind of diary-based reflection and of the CPD model in general is that it allows professional interests and values to frame the forms of knowledge and understanding which are seen to be worthy in health practice. In providing a continuous flow of grounded data, individuals and organisations can collaborate in inquiry-orientated, evidence-based approaches to CPD. In effect, a data base will be produced which is based in cumulative case histories (of individuals, units, departments, organisations, etc). Thus, the question of what counts as evidence, for example, of effectiveness in CPD, is answered directly with reference to the values, goals and purposes which underpin everyday clinical and health practice. It is for practitioners themselves to define collectively what counts as an improvement in practice and how to evaluate the outcomes of CPD for their professional judgement and action.

The reflective cycle in CPD simply formalises the everyday experience of doctors when they have recourse to tacit knowledge in tackling situations at work. The assumption is that, as adult learners, they already act like reflective practitioners, but probably are not aware of it. Reflective practice is one way to advance taken-for-granted, pragmatic, CME. It can help to make implicit methods explicit, to change haphazard approaches into systematic ones and to replace the *ad hoc* with a planned response. The resulting gains in curricular coherence, relevance and continuity should do much to improve the educational value of CPD. Whether this will be translated into more effective practice remains to be seen.

Note: The ideas contained in this paper do not necessarily represent the views of the Faculty of Public Health Medicine.

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