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Task-based learning: an educational strategy for undergraduate, postgraduate and continuing medical education,
Part 2

R. M. HARDEN, JENNIFER M. LAIDLAW, JEAN S. KER & HELEN E. MITCHELL
Centre for Medical Education, University of Dundee, Scotland, UK

SUMMARY  Task-based learning (TBL) supports the notion that learning in medicine can occur most effectively when related to the tasks undertaken by the healthcare profession. This applies in undergraduate, postgraduate and continuing education. In undergraduate education, TBL facilitates vertical integration of the curriculum, introducing relevance and the application of theory to practice in the early years of the curriculum, and providing a strategy for continuing a study of the basic sciences in the later stages. In postgraduate education, TBL enhances the value of on-the-job learning and can help resolve the conflict between training the doctor and providing a service. In continuing education, TBL can assist the doctor to build repertoires of skills, knowledge and understanding based on continuing practice. Eight aspects of implementing TBL merit consideration: determination of the course aims and objectives; specification of the tasks; preparation of a grid charting aims and objectives for each task; appraisal of the options for introducing TBL in the curriculum; provision of learning opportunities; determination of the role of staff in TBL; the development of study guides; and organization of student assessment.

Implementation of task-based learning
Having considered the concept of TBL and its rationale in Part 1 of this guide (Harden et al., 1996) we will now look at how it can be implemented in practice. Our examples come in undergraduate, postgraduate and continuing education, from a range of sources. There are eight steps in the implementation of task-based learning.

Define the aims and objectives of the training programme
The usual first step in the development of any education programme is to define aims and objectives (or learning issues) for that programme. How can we start a journey unless we know where we are going? What content should be included? What is the breadth of experience required by the end of the programme? Identification of the learning issues is important in ‘scoping’ any educational programme.

Much of the work may already have been done. Medical schools, colleges and other postgraduate bodies continually publish statements of what they see as the aims and objectives of their training programmes. If available statements do not form a suitable basis and the thought of undertaking the work seems too daunting, the medical teacher may find it easier to go to the second step and specify the tasks, returning at a later stage to look at the learning issues.

A range of approaches can be used to determine the educational needs for a training programme (Harden, 1986). Three aspects should be considered.

- Are the objectives core, where all students should demonstrate mastery, or are the objectives optional, where students have a choice?
- Are the objectives in the knowledge (cognitive), skills (psychomotor) or attitudinal (affective) domains?
Are the objectives subject specific, relating to mastery of the subject, or general, involving transferable skills such as management, team work and problem solving?

Specify the tasks

Tasks should be chosen to reflect the real or expected workload of the trainee or student. When specifying or selecting the tasks that will be used as the focus for the learning, consider three things: access, focus and context.

Does the student or trainee have access to the task? It is pointless to select a task the student is unlikely to encounter and to which he or she cannot relate. In the development of a TBL programme for vocational training in dentistry, an early assignment was to identify those tasks encountered regularly in day-to-day work by trainees in general dental practice. Six tasks were identified (Table 1).

Table 1. ‘Tasks’ used in TBL for vocational training in general dental practice.

<table>
<thead>
<tr>
<th>Task Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>(1) Patients with a caries problem</td>
</tr>
<tr>
<td>(2) Orofacial pain</td>
</tr>
<tr>
<td>(3) Endodontic problems</td>
</tr>
<tr>
<td>(4) A periodontal problem</td>
</tr>
<tr>
<td>(5) The patient requires minor oral surgery</td>
</tr>
<tr>
<td>(6) Full dentures</td>
</tr>
</tbody>
</table>

How does the task provide a good focus for learning? A task should provide a focus around which the student or trainee acquires:

- the specific knowledge, skills and attitudes in the area of study;
- general principles relating to the topic;
- a basic understanding of the topic, including the basic medical science;
- generic or transferable skills, e.g. communication skills, management skills.

For example, in the dental example (Table 1) the tasks provided a focus not only for the development of the dentist’s competence in the topic covered by the task but also more general competences—such as health promotion, communication skills, practice management, management of emergencies and teamwork.

Table 2 lists the tasks identified as a focus for students’ learning in undergraduate programmes in obstetrics and gynaecology, paediatrics and ophthalmology in medical schools in Bangladesh. All reflect the activities that the students encounter as part of their undergraduate programme.

Table 2. The tasks selected in Bangladesh as the focus for the curriculum in three subjects: obstetrics and gynaecology, ophthalmology and paediatrics.

**Obstetrics and gynaecology**

(1) The management, at a primary healthcare level, of a normal delivery  
(2) The management of a patient with pre-eclampsia  
(3) A general and local examination in a patient with symptoms of pregnancy  
(4) The appropriate investigations in a woman who is bleeding in early pregnancy  
(5) The initial management of a patient with bleeding in late pregnancy  
(6) A vaginal examination to assess cervical dilation level of presenting part caput and moulding  
(7) The recording of labour progress on a partograph  
(8) The assessment of foetal condition in labour using auscultation and observation of liquor

**Ophthalmology**

(1) The initiation of treatment for conjunctivitis  
(2) Minor surgical procedures affecting the eye, e.g. stye or chalazion  
(3) Relevant investigations at primary healthcare sites for common eye conditions  
(4) Relevant records of patients with ophthalmic conditions  
(5) General and local examination of the eye  
(6) Obtaining an appropriate history from a patient with an eye complaint  
(7) Advice for a patient with conjunctivitis about adequate preventive measures

**Paediatrics**

(1) The diagnosis and management of a child with loose motions  
(2) The management, in a primary-care setting, of a child with an acute respiratory infection  
(3) The initiation of the management of a child with febrile convulsions  
(4) Examination of the newborn child  
(5) The management, at a primary healthcare level, of the initial stages of treatment of a child with protein-energy malnutrition  
(6) Advice for mothers on the appropriate measures to avoid recurrent problems of diarrhoea
Week 1 task
You are appointed the Cardiovascular Disease Prevention Officer for the second-year class of students. How are you going to go about this?
You should consider screening your colleagues (for what?), devising a health education campaign, issuing recommendations for adopting healthier lifestyles, follow-up to assess impact and success of the programme.

Week 2 task
It is reported at a meeting of the Tayside Health Board that the mortality in patients with myocardial infarction is higher in Tayside than in other regions in Scotland. It is suggested that, as the effectiveness of therapy in myocardial infarction is related to how soon it is given, delay in receiving treatment may be a factor.
You are asked to investigate and make recommendations for the public, the primary care services and the hospital services.

Week 3 task
You are contacted via e-mail by a 48-year-old journalist who is currently on a South Sea Island. He would like you to give an opinion about his recent complaint of chest tightness and to assess his risk-factor profile for heart disease.
Derive a questionnaire written in plain English that could complete and transmit back to you to allow you to give him the opinion he has requested. Also provide a commentary for him on the value and limitations of this approach.

Many of the tasks chosen in the Bangladesh example (Table 2) emphasize the practical requirements of training currently expected in that country. In areas such as obstetrics, paediatrics and ophthalmology, referral for specialist opinion may be less available than in the UK.

Table 3 lists the tasks chosen as a basis for the student's work during three weeks in the cardiovascular system course scheduled in Year 2 of a five-year curriculum at the University of Dundee. Each task reflects the key aims and objectives of the week's programme. The first week, for example, has lifestyle and prevention of coronary artery disease as a major theme. Later weeks look at the investigation and management of cardiac problems. The tasks are specified in some detail, in contrast with the specifications in the examples in Table 1 and 2.

What is the context of the education and training? It is important in implementing TBL to consider the context. TBL may be implemented in a variety of contexts including clinical settings such as the hospital ward, the hospital outpatient department or the community, or the practical laboratory.

The tasks in the dental example (Table 1) and, to a lesser extent, in the example from Bangladesh (Table 2) reflect an emphasis on the trainees' clinical environment. The dental trainees did, however, have a day-release programme; in Bangladesh, the students had classroom teaching in the format of lectures. In the example from the cardiovascular course (Table 3), the tasks were not based directly on the ward experience of the students but were developed for work by the students in time set aside for this, through working in small groups.

A study of TBL in the training of senior house officers, being undertaken for the Scottish Council for Postgraduate Medical and Dental Education, identified tasks as a focus for learning in the clinical situation: the SHO was working in the paediatric wards, in outpatient clinics, in the neonatal unit and in the community. The tasks for the first two of these settings are set out in Table 4.

### Table 4. Tasks selected for hospital ward and outpatient clinic, as a learning focus for senior house officers in child health.

<table>
<thead>
<tr>
<th>Hospital ward</th>
<th>Outpatient clinic</th>
</tr>
</thead>
<tbody>
<tr>
<td>Acute abdominal pain</td>
<td>Asthma</td>
</tr>
<tr>
<td>Acute oncology</td>
<td>Behavioural disorders</td>
</tr>
<tr>
<td>Acute poisoning</td>
<td>Constipation</td>
</tr>
<tr>
<td>Breathlessness</td>
<td>Diabetes</td>
</tr>
<tr>
<td>Convulsions</td>
<td>Epilepsy</td>
</tr>
<tr>
<td>Dehydration</td>
<td>Failure to thrive</td>
</tr>
<tr>
<td>Injured child</td>
<td>Headache</td>
</tr>
<tr>
<td>Moribund child</td>
<td>Malignancy</td>
</tr>
<tr>
<td>Pyrexia (and rash)</td>
<td>Short stature</td>
</tr>
</tbody>
</table>

Use grids to match learning issues with tasks
In planning a course and preparing a coherent learning plan, it is often helpful to prepare a grid on which the learning issues (aims and objectives) are related to the specified tasks. This makes clear how the tasks will meet course objectives. Some objectives may be addressed through more than one task. An example from the grid for vocational training in dentistry is given in Table 5.

An alternative form of grid has been used in undergraduate programmes, particularly when these are integrated. The tasks identified are listed on the chart vertically, and the major themes of the course are arranged horizontally. At each intersection, the learning issues to be covered under each theme as the task is studied are noted. Examples of the themes are given in Table 6.


Table 5. First two parts of the objectives/tasks mastery grid for vocational training in dentistry.

<table>
<thead>
<tr>
<th>Tasks performed by the trainee*</th>
<th>Caries and restorations</th>
<th>A periodontal patient</th>
<th>Acute dental pain</th>
<th>An endodontic problem</th>
<th>Partial or complete denture</th>
<th>Minor surgical procedures</th>
</tr>
</thead>
<tbody>
<tr>
<td>General</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Critically appraise and</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>assess his or her own work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Keep up to date and continue</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>with his or her education</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Understand not only what he</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>or she is doing, but why it is</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>being done</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Communication with patients</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>History taking</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Explanation of the clinical</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>condition</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation of suggested</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>treatment plan and alternatives</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Explanation or cost and obtaining consent to pay</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Explanation of preventive aspects of the patient’s problem</td>
<td>+</td>
<td>+</td>
<td>±</td>
<td>−</td>
<td>−</td>
<td>−</td>
</tr>
<tr>
<td>Explanation of recognized</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>complication related to treatment</td>
<td>+</td>
<td>−</td>
<td>±</td>
<td>+</td>
<td>+</td>
<td>+</td>
</tr>
<tr>
<td>Explanation of appliance</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>inconvenience or failure</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>−</td>
</tr>
<tr>
<td>Explanation of necessary appliance adjustment or modifications</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>−</td>
<td>+</td>
<td>−</td>
</tr>
</tbody>
</table>

Note: *Applies +; may apply ±; does not apply −.

Such grids may help course planners, teachers or trainees implement TBL. They may also aid students or trainees.

Determine the role of TBL in the curriculum

A decision (which need not remain eternally fixed) has to be taken about the role of TBL in the curriculum. TBL can be adopted wholesale as the strategy for a new innovative curriculum or more gradually as part of the evolution of a more traditional curriculum. The question is not whether one wishes to adopt the strategy but, as in the SPICES model (Harden, et al, 1984), where on the TBL continuum one wishes to be.

At one end of the spectrum, the curriculum is built round a TBL approach: the timetable, learning methods and learning opportunities all directly relate to TBL. The task for the week becomes the focus for the student’s work during the week. All activities are planned round this. In the dental example (Table 1) each of the six tasks in turn becomes the major focus for the trainee to study on the job that month—although he or she will of course also see patients with other problems during this time. The programme of more formal instruction through the day-release classes is designed to support this focusing. It covers themes related to the task, in the form of presentations and small-group discussions.

At the other end of the spectrum, TBL is added to, and complements, an established programme. Information about the task is given to the student for private study, supplementing the programme of lectures, practicals and clinical work.

In the middle of the spectrum is a curriculum where the student receives the task for the week early in that week. Time is scheduled during the week for the student to work on issues related to the task. Lecture and clinical programmes are organized in parallel to this.

TBL can be adopted in both integrated and discipline-based curricula. The way in which TBL is introduced will also be influenced by the degree of integration in that curriculum. TBL is itself a powerful tool to facilitate integration.

Review the learning opportunities

It is important to consider the learning opportunities that will be available to support the student or trainee in TBL. In the undergraduate curriculum, as with problem-based learning, small-group work is likely to be the foundation of
Table 6. Themes considered in relation to each of the tasks identified in the system-based undergraduate programme.

- Clinical methods
- Investigative procedures
- Normal structure and function
  (a) specific to system under consideration
  (b) general principles
- Abnormal structure and function
  (a) specific to system under consideration
  (b) general principles
- Biochemistry
- Microbiology
- Genetics
- Age-related factors
- Public health
- Health promotion and disease prevention
- Pharmacology
- Surgery
- Emergency care
- Other aspects of patient management
- Ethics
- Self-audit
- Computers and information handling

TBL. In postgraduate education, trainees may work on their own.

Other learning opportunities will include whole-class sessions. These may be lectures, where material is presented, or more interactive sessions, giving greater opportunity for discussion and for students or trainees to assess their own competence. Planned practical classes and clinical sessions—in the wards, at outpatient clinics, in a clinical skills laboratory or in the community—also have a role to play. Important too are learning resources materials for independent study—in the form of books, journals, videotapes, computers and multimedia applications. These help the trainee or student explore the learning issues related to the tasks.

Clarify staff role and organize appropriate staff development

The role of staff in TBL should be clarified. Are staff to be concerned with planning the TBL programme (including the first four steps described above)? Have they to help develop resource material relating to the task? Is their role to provide student support and to facilitate the work of the student, individually or in small groups? Are they to act as a resource or subject specialist in a selected area, such as microbiology or genetics? Are they to monitor the students' progress and to assess the students' achievement of the course objectives?

Inevitably, there will be a switch of emphasis—many would argue a welcome switch—from the teacher as a provider of information to the teacher as a manager of the students' learning. The tasks of the teacher in TBL have much in common with tutors' tasks in problem-based learning (PBL) (Barrows & Tamblyn, 1980). These tasks have been reviewed recently by Des Marchais & Chaput (1993).

However, many teachers, and trainees, will have little previous TBL or indeed PBL experience. The introduction of TBL must therefore be accompanied by a staff development programme.

Ensure appropriate communication by the provision of study guides

An essential aspect of TBL is communication with staff and students. All concerned should become familiar with programme aims and objectives, and how these will be achieved. It is not enough to give the students a list of tasks and tell them to 'get on with it'. Guidance is needed to maximize learning round the tasks. The amount of assistance required will vary with the experience of the learner in the area and with his or her approach to study.

Reference has already been made to the role of a grid in communicating the objectives of the programme. An extremely valuable, additional, tool in TBL is a study or training guide. Experience has shown that, if properly developed, such a guide will be of great assistance to staff and students alike. The guide may be in print (Laidlaw & Harden, 1990) or in computer format (Harden & Smyth, 1995). Examples of the type of information in a study guide assigned to support TBL are given in Figure 1. The

Figure 1. Categories of material in training guide for dental vocational trainees to support a TBL programme, each identified throughout the guide by an icon. Each task was covered in the guide as described in Table 1, after an introductory section about the approach adopted. The final sections listed the learning resources indicated and reproduced the grid of objectives and aims for each task (Table 5).
Design a reliable and valid student assessment procedure

In the introduction of any new approach to teaching and learning, assessment is critical (Harden, 1992). TBL is no exception. The assessment process should reflect, as does the learning strategy, the aims, objectives and content of the curriculum. Higher-level objectives, rather than only factual recall, and the student's application of theory to practice should be assessed. Portfolio assessment and performance-based assessment, through tools such as the OSCE (objective structured clinical examination), have a role to play.

Task-based learning in the three phases of education

As a strategy, TBL is equally applicable in all three phases of education: undergraduate or basic, postgraduate or vocational, and continuing. The previous section looked at the eight steps in implementing TBL. Those steps are applicable in all three phases of education. This section looks more closely at aspects of TBL in each of the three phases.

Undergraduate or basic education

In undergraduate medical education, the emphasis has progressed over the last four decades: from a student-centred approach, through integration among disciplines and on through problem solving to relevance and the problem of information overload (Figure 2). TBL is a response to this challenge, focusing on the tasks undertaken by healthcare professionals and on the learning related to these tasks.

- There may be major gaps in the student's experience. Students may not have the range of experiences expected of them by their teachers.
- Emphasis is placed on the individual cases of patients being investigated and treated. The student may not be able, or may not find time, to generalize what he or she has experienced to other situations.
- The student may find it difficult to relate his or her clinical experience to formal courses, for example in, clinical pharmacology, medicine, medical ethics.
- The development of the student's knowledge and understanding of the basic sciences may not take place.

This last point is a matter of particular concern. The basic sciences are crucial to the practice of medicine, yet the time allocated to their study in the early years of the curriculum has decreased. The promised integration of the basic sciences later in the curriculum has been found to be difficult to deliver in practice.

TBL offers a solution to these difficulties. Lofaro & Abernathy (1994) have described 'contextual learning' in a course in surgical critical care for junior medical students. The central concept was that "clinical experiences can provide a foundation on which basic science facts can be built, resulting in a solid understanding of medical science". TBL is an extension of this philosophy. In the later years of the undergraduate curriculum, a TBL approach allows the student to benefit fully from the rich learning experiences of the clinical situation. It also ensures learning is planned and supervised in a way that makes practical the achievement of the programme's objectives.
Postgraduate education

The continuum of undergraduate, postgraduate and continuing education is now well accepted. After qualification, however, the pattern of training changes dramatically. Education now has to compete with the doctor’s service commitments. These usually have the higher priority. The model of education is one where the junior doctor or trainee is an apprentice. He or she learns by watching seniors practising medicine and by practising under supervision. Scholarly activity must complement the service component of the programme, suggests Lockyer (1992), to ensure junior doctors continue to develop a conceptual framework and knowledge base for independent practice. In postgraduate education, TBL can achieve this. The training guide (or study guide) can help ensure the doctor, in relation to the tasks performed, further develops understanding of basic processes and mechanisms of disease. The guide can also help ensure that the knowledge and skills gained in the apprenticeship model are not situated only in the particular context but are generalized to other situations.

The development of a TBL curriculum for postgraduate education increases uniformity of training, whether in a teaching hospital or a district general hospital. On-the-job training can be integrated with off-the-job training through attendance at courses or other educational opportunities. TBL, with the training guide, can form a basis for curriculum planning. If used appropriately, it can lead to better planned postgraduate education, with aims and objectives shared between trainers and trainees.

Postgraduate education in the UK, and elsewhere, is changing. There are new demands for greater effectiveness, efficiency and openness about education and its results. TBL can help: in meeting these demands and in implementing the frequently ambitious programmes of training set out by the Royal Colleges and other postgraduate training bodies. TBL offers the much needed structure and focus for postgraduate education that previously was all too often lacking. In its application, the different players—from postgraduate dean to educational supervisor—each have a role which should be defined. Experience demonstrates that TBL is particularly effective in allowing the supervisor, through the use of a training guide, to support and monitor training.

As the TBL approach is applied increasingly in postgraduate education, we must ensure training is not viewed as conflicting with or competing with service but rather enriching it—through delivering improved competence in practice and improved education.

In postgraduate education, TBL should be designed to allow the individual trainee to undertake activities that are progressively more independent. They may confront the same clinical situations on a number of occasions, but on each occasion they should be guided to extend their responsibilities and their learning.

Continuing education

Postgraduate TBL can enhance the educational potential of the doctor’s service commitments. This is even more important in continuing education, where the amount of time available for formal education is limited. The extent to which the doctor’s work experience can act as a learning resource will depend on what the doctor makes of the experience. TBL, used appropriately, helps ensure that continuing professional education is more than technical updating. A deep approach to learning requires a deep approach to every working experience (Usher, 1986). This can be provided through TBL: the doctor can be encouraged to think not only about what he or she is doing, but also why they are doing it.

Practice-linked continuing medical education (CME) can be a powerful tool in lifelong learning (Hofvendt & Mjell, 1993). Using a TBL approach, where doctors are encouraged to use their own experiences and problems as a starting point for their learning, CME can be more effective. The importance of relevance in education has been acknowledged previously (Harden & Laidlaw, 1992). Usher and Bryant (1987) have suggested that “the aim of continuing professional education courses is generally considered to be that of helping the practitioner improve practice. Yet in emphasizing the transmission of theoretical knowledge, the improvement of practice often becomes ineffective.” They suggest a reformulation of the theory–practice relationship, in an attempt to avoid these problems. The relationship they propose is one of practice reviewed through theory. An essential aspect would be “to create situations where practitioners, in the relative safety of the classroom, come to see their practice as problematic, and are supported in subjecting it to serious scrutiny and theoretical review”.

TBL achieves just that. Senior doctors learn in a self-directed way through a personalized approach. They may need assistance, however, in identifying the learning issues relating to the tasks they are doing, and in having access to resource materials which will allow them to explore the issues further. Bligh & Harden (1990) described how TBL can be applied in the continuing education of general practitioners.

The continuum of education

The General Medical Council (1993) has recommended a dialogue between those providing undergraduate and those providing postgraduate education. “The concept of a continuum of learning—uniting the educational experience of the physician from admission to medical school through a professional lifetime—has featured increasingly in the discussions we medical educators have about professional education” (Mann, 1994). Mann continues, “Making that concept a reality has proven less easy to accomplish”. Curriculum developers, planners and teachers have tended to concentrate on specific phases of the continuum.

TBL in continuing education offers a focus for further work. By planning TBL throughout the continuum, tasks first encountered in undergraduate or postgraduate studies can offer the necessary continuity.

Discussion and conclusion

Task-based learning, like any other educational approach, is no panacea. TBL does offer a focused and structured
approach to learning. TBL supports the notion that learning in medicine can occur most effectively when related to the tasks undertaken by a healthcare professional. The aim of medical education is improved care of patients by a reflective practitioner. TBL offers a powerful tool to achieve this aim.

It has become apparent that students and trainees have a wide range of learning styles. These are accommodated by the flexibility inherent in TBL. This educational strategy can respond to different cognitive styles.

Problem-based learning has been described as central to the purpose and value of higher education (Birch, 1986). Like problem-based learning, TBL offers an attractive combination of pragmatism and idealism: pragmatism in the sense that learning with an explicit sense of purpose is seen as an important source of student motivation and satisfaction; idealism in that it is consonant with current theories of education as described in Part 1.

Do we want to improve dramatically undergraduate, postgraduate and continuing education? Do we wish to respond adequately to increasing demands? It is uncertain whether further development and implementation of existing methods and approaches alone will allow this. What we need is a new approach—one that can accommodate all of the current challenges to education. That approach is task-based learning. Its further exploration and adoption is merited. In this guide we have suggested how this can be done.

Acknowledgements

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Notes on contributors

R. M. HARDEN is Director of the Centre for Medical Education, University of Dundee.

JENNIFER M. LAIDLAW is the Associate Director of Postgraduate Medical Education in the Postgraduate Centre, Ninewells Hospital and Medical School, Dundee.

JEAN KER is a previous Principal in General Practice with an interest in Women’s Health and her main activity is co-ordinating the ODA funded Further Improvement of the Medical Colleges in Bangladesh Project at the Centre for Medical Education, University of Dundee.

HELEN E. MITCHELL designs task-based learning materials for Senior House Officers in the Postgraduate Office, Ninewells Hospital & Medical School, Dundee.

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