

AMEE Guide No 20: The good teacher is more than a lecturer—the twelve roles of the teacher

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SUMMARY *Teaching is a demanding and complex task. This guide looks at teaching and what it involves. Implicit in the widely accepted and far-reaching changes in medical education is a changing role for the medical teacher. Twelve roles have been identified and these can be grouped in six areas in the model presented: (1) the information provider in the lecture, and in the clinical context; (2) the role model on-the-job, and in more formal teaching settings; (3) the facilitator as a mentor and learning facilitator; (4) the student assessor and curriculum evaluator; (5) the curriculum and course planner; and (6) the resource material creator, and study guide producer. As presented in the model, some roles require more medical expertise and others more educational expertise. Some roles have more direct face-to-face contact with students and others less. The roles are presented in a 'competing values' framework—they may convey conflicting messages, e.g. providing information or encouraging independent learning, helping students or examining their competence. The role model framework is of use in the assessment of the needs for staff to implement a curriculum, in the appointment and promotion of teachers and in the organization of a staff development programme. Some teachers will have only one role. Most teachers will have several roles. All roles, however, need to be represented in an institution or teaching organization. This has implications for the appointment of staff and for staff training. Where there are insufficient numbers of appropriately trained existing staff to meet a role requirement, staff must be reassigned to the role, where this is possible, and the necessary training provided. Alternatively, if this is not possible or deemed desirable, additional staff need to be recruited for the specific purpose of fulfilling the role identified. A 'role profile' needs to be negotiated and agreed with staff at the time of their appointment and this should be reviewed on a regular basis.*

The teacher and changes in medical education

Changes in medical education

Medical education has seen major changes over the past decade. Integrated teaching, problem-based learning, community-based learning, core curricula with electives or options and more systematic curriculum planning have been advocated (Harden *et al.*, 1984; Harden, 1986a; General Medical Council, 1993; Walton, 1993; Harden & Davis, 1995). Increasing emphasis is being placed on self-directed study with students expected to take more responsibility for their own learning (Rowntree, 1990). The application of new learning technologies has supported this move. New directions can be identified too in the area of assessment with increased emphasis on performance assessment, the use of techniques such as the objective structured clinical

examination, the use of standardized patients, logbooks, portfolio assessment and self-assessment (Scherpbier *et al.*, 1997).

An increased emphasis on the student

The increasing emphasis on student autonomy in medical education has moved the centre of gravity away from the teacher and closer to the student. Indeed it has become fashionable to talk about learning and learners rather than teaching and the teacher. This increased attention to the learner may be seen by teachers as a loss of control and power which can lead to feelings of uncertainty, inadequacy and anxiety (Bashir, 1998). The shift may even be seen as, in some way, a devaluing of the role of the teacher. It has to be recognized, however, that this is not true, that teaching and learning are closely related and that the purpose of teaching is to enhance learning. It is important to ensure that the changing role of the teacher is not neglected in discussions about new educational strategies and approaches to curriculum development.

The changing role of the teacher

The changing role of the teacher may cause unease among those entrenched in traditional approaches to education. The Rt. Hon. Sir Rhodes Boyson MP (1996), former headmaster of Highbury Grove Comprehensive in North London, wrote "Too often, the teacher has degenerated into an uneasy mixture of classroom chum, social worker and amateur counsellor" (p. 44).

Brew & Boud (1998) have highlighted the more complex demands now being placed on university teachers and the changing nature of their work tasks, with new academic roles and the diversification of existing ones. "There has been a significant shift", they suggest, "from thinking that clever people can do everything to a recognition of the complexity and range of academic work" (p. 18). The tasks facing a teacher are not simple or easy. "Teaching", suggested Brookfield (1990), "is the educational equivalent of white water rafting".

While the Dearing Report on higher education (1997) praised British universities for their world-class record, it highlighted the pressures on teachers and the poor quality of their teaching. "There is no doubt", Dearing suggested,

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“about the increased pressures facing staff in higher education”. Bold predictions about the impact of technology on teaching methods have not been realized and the adoption of recommended new approaches in medical education have been disappointing (General Medical Council, 1993). Why is this? Much of the responsibility for these failures rests with the teachers. Teachers have been slow to identify with and embrace the new roles expected of them. The result has been to hold back many changes in medical education.

One change in higher and continuing education is the acceptance of distance learning as a significant approach. The embedding of distance learning in mainstream medical education involves the adoption of an approach to learners and learning which is different from the one with which medical teachers have experience. Concern has been expressed that the consequences will be “the likely undermining of the respect, prestige and authority that goes with the teacher’s role as ‘director of learning’ and the loss of their ability to engage their students into intellectual conversations and debates” (Bashir, 1998). If the adoption of distance learning is to flourish in medical education then teachers must accept the different roles for the teachers implicit in this approach to teaching and learning.

What is certain, irrespective of whether we have face-to-face or distance learning and whatever the educational strategy implemented, the teacher will play a key role in student learning. In all phases of education, student achievement correlates with the quality of the teacher. Terry Dozier (1998), an adviser to the US Secretary of Education, emphasized that “if we don’t focus on the quality of teaching, other reform efforts won’t bring us what we’re hoping for”. The availability of a good teacher, for example, may have a greater effect on improving student achievement than other much publicised factors such as class size.

The good teacher

The question arises as to what is a good teacher. A good teacher can be defined as a teacher who helps the student to learn. He or she contributes to this in a number of ways. The teacher’s role goes well beyond information giving, with the teacher having a range of key roles to play in the education process. What one sees as good teaching, suggests Biggs (1999), depends on what conception of teaching one has. Two concepts are based on the strategies of teacher-centred and student-centred education (Harden *et al.*, 1984). Teacher-centred strategies are focused on the teacher as a transmitter of information, with information passing from the expert teacher to the novice learner. Student-centred strategies, in contrast, see the focus as being on changes in students’ learning and on what students do to achieve this rather than on what the teacher does. “If students are to learn desired outcomes in a reasonably effective manner”, Shuell (1986) suggests, “then the teacher’s fundamental task is to get students to engage in learning activities that are likely to result in their achieving those outcomes. It is helpful to remember that what the student does is actually more important in determining what is learned than what the teacher does.” Biggs (1999) goes on to describe the art of teaching as the communication to students of the need to learn. “Motivation”, he suggests, “is the product of good teaching not its prerequisite” (p. 61).

The roles of the teacher

A key question is: what is the role of the teacher in the context of the developments taking place in medical education? There has been little sustained analysis of the role of the teacher (Squires, 1999). In general, we have been preoccupied with the details of curriculum planning, with the content of the teaching programme and with the range of education strategies adopted. We have failed to take a broader view of the role of the teacher in these tasks.

What are teachers for in our institution? For what would they be most missed if they were not there? It is likely that, faced with these questions, members of staff would give a range of answers. Uncertainty and difficulty with the range of roles expected of a teacher is illustrated in the following extracts of letters from teachers regarding their own roles and responsibilities.

“I was appointed to the University as a lecturer to enthuse students about my subject and to convey to them, through my lectures, the essential information they need to acquire. It is not my job to sit in so-called problem-based learning groups watching students struggle, often ineffectively, with a subject new to them and in the process wasting both their and my time.”

“I am concerned about the amount of time I am expected to serve on the curriculum committee and on the system-based working groups, planning the course and its delivery. In my previous post I was simply left to get on and deliver the teaching programme in my subject, which is what I am employed to do.”

“I carry a heavy clinical, research and teaching burden. I need, therefore, to look at how my time can be used most effectively. I have been asked to prepare study guides relating to the part of the course for which I am responsible. I do not think that the preparation of study guides, which it is claimed will make learning easier and more effective for the student, makes the best use of my time. There is no need to spoon feed students in this way. If they attend my lectures and clinical teaching sessions they will soon find out what it is that they are expected to learn.”

Fortunately, not all teachers share these role ambiguities, as illustrated in a further set of extracts:

“I greatly enjoyed working last term with the students in the PBL groups. My previous experience as a teacher had been with a more didactic approach and an emphasis on lectures. I found this new method, by far, a more rewarding experience for me as a teacher. I am convinced that the students benefit from the more active participation in their own learning that inevitably occurs.”

“Thank you for giving me the opportunity to meet with the students and go over with them their responses in the recent Objective Structured Clinical Examination. A number of students subsequently told me that they found this one of the most powerful learning sessions this year.”

“I welcome the time I have been given off my routine teaching duties to prepare a series of computer-based learning programmes in my subject. This will allow us to replace about half of the lectures currently

scheduled with opportunities for the student to engage in independent learning and critical thinking. We will be able also to make better use of the remaining lectures scheduled."

Unless we agree what roles of a teacher we need for our institution, we cannot seriously attempt to appoint appropriate teachers to the post, we cannot arrange useful staff development activities and we cannot define 'good teaching' and reward it by promotion or other recognition. This guide presents a model or framework in which the teacher's expanded role in education today is described. It identifies 12 roles for the medical teacher. The implications and use of the model are discussed.

Identification of the roles of the teacher

The 12 roles described in the model presented have been identified from three sources:

- from an analysis by the authors of the tasks expected of the teacher in the design and implementation of a curriculum in one medical school (Harden *et al.*, 1997);
- from a study of the diaries kept by 12 medical students over a three-month period and an analysis of their comments as they related to the role of the teacher;
- from the literature relating to the roles of a teacher identified in Medline and the TIME (Topics In Medical Education) database and from medical education texts including Cox & Ewan (1988) and Newble & Cannon (1995).

The six areas of activity of the teacher can be summarized as:

- (1) the teacher as information provider;
- (2) the teacher as role model;
- (3) the teacher as facilitator;
- (4) the teacher as assessor;
- (5) the teacher as planner;
- (6) the teacher as resource developer.

Using a musical metaphor, the roles of the teacher may be likened to the performance of an orchestral piece of music. The composer is the planner who has the inspiration and

delineates the music to be played. The conductor interprets the composer's score and facilitates and guides the players to perform the music and the audience to appreciate the music. Resources in the form of sheet music for the players and programmes for the audience have to be developed to enable the musicians to produce the music and for the audience to fully appreciate the experience. Finally the musicians transmit the music to the audience—they are the 'information providers'. This 'performer role' (Harris & Bell, 1996) may include all or just one of the orchestral ensemble. Individual members of the orchestra giving solo performances may be perceived as role models. Finally the conductor evaluates the musicians' performance in private and the music critic and the audience assess the performance in public.

Each of the six roles described can be subdivided into two roles, making a total of 12 roles as illustrated in Figure 1. Roles to the right in the figure require more content expertise or knowledge, and roles to the left more educational expertise. Roles to the top are associated with face-to-face contact with students, and the roles to the bottom are associated with less student contact. Figure 2 shows how the 12 roles of the teacher can be viewed in the context of the relationships that exist among the student, the teacher and the curriculum.

The 12 roles identified were validated by a questionnaire completed by 251 teachers at different levels of seniority, in the medical school at the University of Dundee. The 12 roles were described in the questionnaire and staff were asked to rate, on a five-point scale, the relevance to the medical school of each of the 12 roles identified where 1 = definitely no, 2 = probably no, 3 = uncertain, 4 = probably yes and 5 = definitely yes. The respondents recognized all 12 roles identified as the responsibilities of a teacher. The mean rating for each of the roles ranged from 3.5 to 4.2 and is given in Table 1.

The 12 roles

In this section we explore each of the 12 roles identified in more detail.

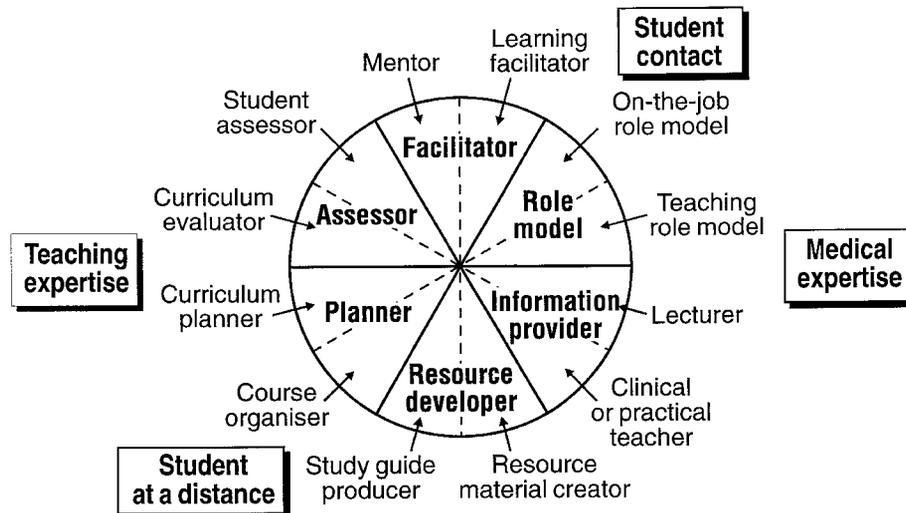


Figure 1. The 12 roles of the teacher.

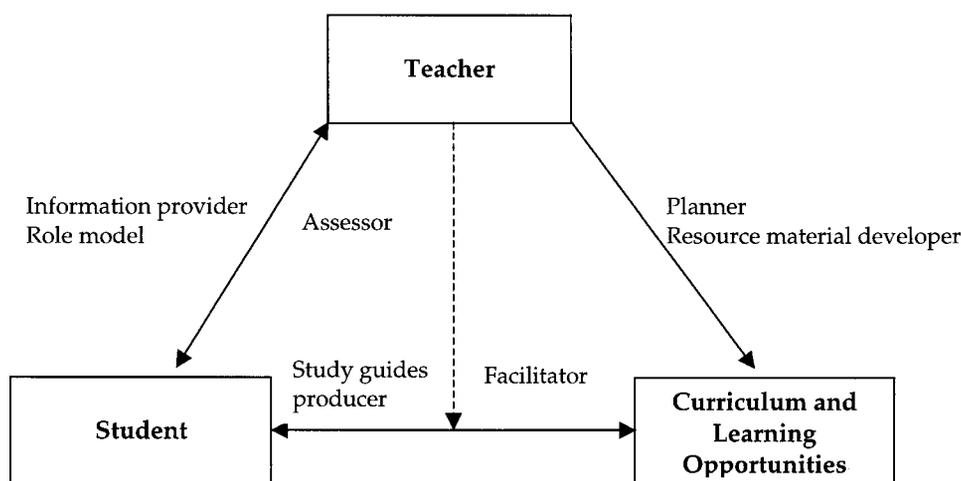


Figure 2. The roles of the teacher in the context of the teacher/student/curriculum framework.

The information provider

(a) *The lecturer.* Traditionally students expect to be taught. They believe that it is the responsibility of the teacher to pass on to them the information, knowledge and understanding in a topic appropriate at the stage of their studies. This leads to the traditional role of the teacher as one of provider of information in the lecture context. The teacher is seen as an expert who is knowledgeable in his or her field, and who conveys that knowledge to students usually by word of mouth. In transmitting the knowledge, the teacher may also assist the student to interpret it using one of a variety of educational strategies that the teacher explains the subject matter to the student (Brown & Atkins, 1986).

Despite the availability of other sources of information, both print and electronic—including exciting interactive multimedia learning resource materials, the lecture remains one of the most widely used instructional methods. It can be a cost-effective method of providing new information not found in standard texts, of relating the information to the local curriculum and context of medical practice and of providing the lecturer’s personal overview or structure of the field of knowledge for the student. In a study of teachers who had received awards for ‘excellent teaching’, Johnston (1996)

found that although the teachers did not speak specifically of teaching as transmitting the content of their subject, disciplinary knowledge was at the heart of their teaching approaches. The teachers used interactive ways, including the lecture, to pass this knowledge on to the students.

There has been, however, a general call for a reduction in the number of lectures scheduled in the curriculum, and a tendency for new medical schools to move away from their use as a learning tool. The exclusion of the lecture from the teacher’s toolbox, however, has been questioned, and rightly so. A lecture in which the infectious enthusiasm of an expert who is also a good communicator excites or motivates the students has much to commend it.

The importance attached to the role of the teacher as an information provider is partly cultural. Gokcora (1997), for example, found that Chinese students valued more than American students the professor’s knowledge of the subject and his/her transmission of this to the students.

(b) *The clinical or practical teacher.* The clinical setting, whether in the hospital or in the community, is a powerful context for the transmission, by the clinical teacher, of information directly relevant to the practice of medicine. The teacher selects, organizes and delivers information. This is achieved

Table 1. Mean rating by 251 medical teachers as to the relative importance of the twelve roles of the medical teacher.

Teacher’s role	Mean rating	Teacher’s role	Mean rating
<i>Information provider</i>		<i>Examiner</i>	
(1) Lecturer in classroom setting	3.6	(7) Planning or participating in formal examinations of students	3.9
(2) Teacher in clinical or practical class setting	4.2	(8) Curriculum evaluator	3.6
<i>Role model</i>		<i>Planner</i>	
(3) On-the-job role model	4.2	(9) Curriculum planner	3.8
(4) Role model in the teaching setting	3.6	(10) Course organizer	3.9
<i>Facilitator</i>		<i>Resource developer</i>	
(5) Mentor, personal adviser or tutor	3.5	(11) Production of study guides	3.5
(6) Learning facilitator	3.8	(12) Developing learning resource materials in the form of computer programmes, videotape or print which can be used as adjuncts to the lectures and other sessions	3.6

during teaching ward rounds, ward-based tutorials or more informally with the student in the role of the clinical apprentice. In clinical teaching attachments, the most important factor related to student learning may be the quality of the clinical teacher. Good clinical teachers can share with the student their thoughts as a 'reflective practitioner', helping to illuminate, for the student, the process of clinical decision making. In a study of distinguished clinical teachers, Irby (1994) concluded that a key element in teaching is the organization and presentation of medical knowledge "so that learners can comprehend it and use it to satisfy their learning objectives" (p. 340).

The clinical teacher explains the basic skills of history taking and physical examination in clinical practice-based and simulated situations. Increasing use is being made of simulators to teach clinical skills (Gordon *et al.*, 1999). This requires of the teacher additional skills not needed in more traditional clinical teaching. One area of controversy in medical education is the extent to which clinical skills learning units should have specifically recruited and trained staff whose role is to teach in the unit, or whether teachers who teach in the clinical practice-based context should also be expected to teach in the clinical skills unit.

The role model

(a) *The on-the-job role model.* The importance of the teacher as a role model is well documented. Walton (1985) concluded, "Sociological research has demonstrated the extent to which an important component of learning derives from the example given in their own person by teachers, who significantly influence medical students in many respects, such as in their choice of future career, their professional attitudes, and the importance they assign to different subjects" (p. 50). The General Medical Council (1999) in the UK acknowledges that "the example of the teacher is the most powerful influence upon the standards of conduct and practice of every trainee, whether medical student or junior doctor" (p. 1).

The teacher as a clinician should model or exemplify what should be learned. Students learn by observation and imitation of the clinical teachers they respect. Students learn not just from what their teachers say but from what they do in their clinical practice and the knowledge, skills and attitudes they exhibit. "Being a role model", suggested McAllister *et al.* (1997, p. 53), "is widely recognised as critical in shaping, teaching, coaching and assisting future clinicians as it is the most powerful teaching strategy available to clinical educators". Role modelling is one of the most powerful means of transmitting values, attitudes and patterns of thoughts and behaviour to students (Bandura, 1986) and in influencing students' career choice (Campos-Outcalt *et al.*, 1995).

The first Native American physician, Charles Alexander Eastman (1991), described the importance of the role model in the education of an Indian: "We watched the men of our people and acted like them in our play, then learned to emulate them in our lives" (p. 20). Ullian *et al.* (1994) described as the 'physician' role the modelling by the teacher of knowledge and skills through performing medical duties. "As clinicians we overtly teach by example, whether we choose to or not", suggested Westberg & Jason (1993). "Any time that learners witness us doing what they view as their

future work or way of being, we are serving as role models. The admonition in the old aphorism 'Do as I Say, not as I do' seldom works. What we do is likely to have more impact on learners than what we *tell* them to do" (p. 155).

Indeed, role modelling may have a greater impact on the student than other teaching methods. Falvo *et al.* (1991), for example, found role modelling to be educationally more effective than lecture/discussion sessions in enhancing the students' ability to communicate with patients about immunodeficiency virus. Douglas (1999, p. 889) describes vividly her experience of terminal care as a trainee and the lessons learned from her trainer: "Jimmy [her trainer] was an inspirational doctor and man, and I miss him terribly. His legacy to me, as a trainer myself now, is to remind me of the importance of teaching by example, which matters as much as, if not more than, anything that happens in a tutorial." The importance of the role model was emphasized too by Sir Donald Irvine (1999), President of the General Medical Council in the UK. He suggested that "the model of practice provided by clinical teachers is essential because students learn best by good example" (p. 1175). Better medical students who work with the best internal medicine attending physicians and residents in their internal medicine clerkship are more likely to choose an internal medicine residency (Griffith *et al.*, 2000).

There has not been a great deal of research on what makes an important role model from a student perspective. Wright (1996) found that students rated low, in terms of importance in role models, seniority or title and research ability. The most important physician characteristics found in role models identified by students (Ambrozy *et al.*, 1997) were:

- expresses enthusiasm for speciality;
- demonstrates excellent clinical reasoning skills;
- establishes close doctor-patient relationships;
- views the patient as a whole.

The most important teacher characteristics identified were:

- expresses enthusiasm for teaching;
- actively involves students;
- communicates effectively with students.

Althouse *et al.* (1999) examined how clinical instructors, designated by their medical students as influential role models, described their teaching and their relationships with the students.

Medical students and their models did not generally spend large amounts of time together. Often they met only briefly after patient encounters to discuss care of a specific patient. This finding indicated that the quantity of time physicians spent with their students was not nearly as important as the quality of the time. Regardless of the amount of time spent together, students chose models who were more than just a good instructor or clinically competent. Students chose models who demonstrated a dedication to their speciality and patients, a love of teaching, and a caring personality, which fostered an environment of mutual respect. The role models were genuinely interested in facilitating the growth of the students, which manifested in being selected by students as a model (p. 120).

(b) *The role model as a teacher.* Teachers serve as role models not only when they teach students while they perform their duties as doctors, but also when they fulfil their role as teachers in the classroom, whether it is in the lecture theatre or the small discussion or tutorial group. The good teacher who is also a doctor can describe, in a lecture to a class of students, his/her approach to the clinical problem being discussed in a way that captures the importance of the subject and the choices available. The teacher has a unique opportunity to share some of the magic of the subject with the students. He/she can kindle, in the students, a curiosity and quest for a better understanding of the topic and the relevant pathophysiology by his/her own personal example that is difficult to reproduce in an instructional text or computer program. One problem facing medical education today is that many teachers of medical students, particularly in the basic sciences but also in clinical departments, are not medically qualified. This may have implications for role modelling. One result is that students may have more difficulty understanding the relevance of what they are learning to their future career as doctors.

Reviewing the roles of teachers, Squires (1999) noted that “it is important to identify modelling as a distinct function and heading in order to draw attention to what is a pervasive but sometimes unconscious, and even denied process in education. Teachers may not see themselves as models, and may even regret the very idea as pretentious and paternalistic, but it is difficult for learners not to be influenced by the living example set before them.”

The facilitator

(a) *The learning facilitator.* The move to a more student-centred view of learning has required a fundamental shift in the role of the teacher. No longer is the teacher seen predominantly as a dispenser of information or walking tape recorder, but rather as a facilitator or manager of the students’ learning. The more responsibility and freedom given to the student, the greater the shift required in the teacher’s role. Not all teachers adapt to this different role. “Many teachers”, suggested Jacques (1991), find the task of facilitator “difficult to perform satisfactorily and fall back with some disappointment on their reserve position of authority, expert and prime talker”.

The introduction of problem-based learning with a consequent fundamental change in the student–teacher relationship has highlighted the change in the role of the teacher from one of information provider to one of facilitator. The teacher’s role is not to inform the students but to encourage and facilitate them to learn for themselves using the problem as a focus for the learning (Barrows & Tamblyn, 1980; Davis & Harden, 1999). This changing role of the teacher is also reflected in the constructivist approach to learning, in which knowledge is ‘constructed’ in the mind of the student and is constantly evolving (Brooks & Brooks, 1993). It is the role of the teacher to facilitate this process rather than to act simply as an information provider. Schmidt & Moust (1995) looked at the characteristics of an effective teacher in a problem-based curriculum. Teachers needed the ability to communicate with students in an informal way in the small-group sessions, and to encourage student learning by creating an atmosphere in which an open

exchange of ideas was facilitated. Teachers were able to function most effectively if, in addition to those skills, they also had subject-based knowledge.

The increasing availability and use of learning resource materials also brings with it the need for the teacher as a learning facilitator. No set of course materials, whether in print or electronic format, is perfect for all students. It is the responsibility of the teacher to facilitate student use of the resources by overcoming any deficiencies in the materials and by integrating them into the curriculum.

The facilitative relationship between students and teachers is perceived by both as a key element in student learning and one that distinguishes good from poor clinical teaching (Christie *et al.*, 1985). This role—of the teacher as a facilitator in the clinical setting—has been referred to as the ‘supervisor’ role, with the teacher providing the student with opportunities for working in the clinical context, observing the student and giving feedback (Ullian *et al.*, 1994).

(b) *The mentor.* The role of mentor is a further role for the teacher that is in vogue. Everyone has a mentor or is beginning to want one, suggest Morton-Cooper & Palmer (2000). The role, however, is often misunderstood or ambiguous. There remains “considerable semantic and conceptual variability about what mentoring is and does, and what a mentor is and does” (SCOPME, 1998, p. 5).

Meggison & Clutterbuck (1995) have defined mentoring as “off-line help by one person to another in making a significant transition in knowledge, work or thinking”. The mentor is usually not the member of staff who is responsible for the teaching or assessment of the student and is therefore “off-line” in terms of relationship with the student. Mentorship is less about reviewing the student’s performance in a subject or an examination and more about a wider view of issues relating to the student. The mentor, suggest Meggison & Clutterbuck, has a role to help the learner grasp the wider significance of whatever is happening.

Mentoring can be viewed as a special relationship that develops between two persons with the mentor always there for support but not dependency (Ronan, 1997). Lingham & Gupta (1998) defined mentoring as a process by which one person acts towards another as a trusted counsellor or guide. It is not for educational supervision. It is about helping a person to learn within a supportive relationship. It may be a single event but is usually a longer relationship.

Easton & Van Laar (1995) showed that 97% of respondents in a survey of university lecturers reported having helped at least one student in distress during the previous year. Grayson *et al.* (1998) found that students both expect and want their lecturers to be a source of help. Professor John Radford, addressing a meeting of the British Psychological Society in 1996 on receipt of an award for the teaching of psychology, suggested that in some respects academics resembled priests who had a caring, pastoral role.

Three emerging models for the teacher as mentor outlined by Morton-Cooper & Palmer (2000) are:

- (1) the apprenticeship model and the mentor as skilled craftsperson. This role includes learning by observing. This is sometimes referred to as ‘sitting by Nellie’;
- (2) the competence-based model and the mentor as trainer.

- This encompasses the role of the trainer as an instructor and coach who demonstrates and assists the student to achieve a set of competences;
- (3) the reflective practitioner model and mentor as critical friend and co-enquirer. This includes the promotion of collaboration and partnership in the learning process.

As can be seen, there are different concepts of what a mentor is. Some of the mentor roles described overlap with other roles identified in this guide.

The assessor

(a) *The student assessor.* The assessment of the student's competence is one of the most important tasks facing the teacher. "Good teachers know how they must assess their students' learning", suggested Mapstone (1996, p. 2), "and they want to do it well." Ian Lang, when Scottish Secretary and resisting pressure for parents to choose whether their children took part in national testing in primary schools, put it rather well: "I believe that teaching without testing is like cooking without tasting".

Assessment has emerged as a distinct area of activity for the medical teacher and one that may dominate the curriculum. It offers perhaps the greatest challenges facing medical education today. "Educational achievement testing", suggested van der Vleuten (1996), "is an area of turmoil in the health sciences" (p. 41). It is an area where the number of instruments available has increased dramatically but where their value may be difficult to determine in a field at risk of being dominated by the psychometrics.

Examining does represent a distinct and potentially separate role for the teacher. Thus it is possible for someone to be an 'expert teacher' but not an expert examiner. All institutions now need on their staff some teachers with a special knowledge and understanding of assessment issues. Such individuals act as test developers and provide guidance on the choice of instrument, marking procedures and standard setting. Examining, however, must also be regarded as an integral part of the teacher's role and part of the occupation of teaching in higher education (Piper, 1994). Most teachers have something to contribute to the assessment process. This may be in the form of contributing questions to a question bank, of acting as examiners in an OSCE or a portfolio assessment and of serving on a board of examiners faced with the key decision of who should pass and who fail the examination. The assessment of students is an integral part of teaching, suggest Whitman & Schwenk (1984), and requires the development of rapport and genuine interest in the student (p. 30).

The assessor role of the teacher is often perceived as different from the other roles. While as information provider, role model, facilitator and curriculum planner the aim of the teacher is to assist the student in a variety of ways to achieve the course goals, as an assessor the teacher has the role of passing judgement on the student. This is particularly true in summative assessment, but is less so with formative assessment where the boundaries between assessment and teaching become increasingly blurred.

The teacher's role as an assessor is an important one. Murray *et al.* (1996) suggested: "Given the importance of assessment of student performance in university teaching and in students' lives and careers, instructors are responsible

for taking adequate steps to ensure that assessment of students is valid, open, fair, and congruent with course objectives." Students can walk away from bad teaching, suggests Boud (1990), but they are unable to do so with regard to assessment.

(b) *The curriculum assessor.* The teacher has a responsibility not only to plan and implement educational programmes and to assess the students' learning, but also to assess the course and curriculum delivered. Monitoring and evaluating the effectiveness of the teaching of courses and curricula is now recognized as an integral part of the educational process. The quality of the teaching and learning process needs to be assessed through student feedback, peer evaluation and assessment of the product of the educational programme. Curriculum and teacher evaluation is a form of accountability which emphasizes the obligation of those employed in the education system to be answerable to the public, to the profession, to those who fund the education and to the students themselves. In this sense evaluation is an instrument of management and control (Nisbet, 1990).

Evaluation can also be interpreted as an integral part of the professional role of teachers, recognizing teachers' own responsibility for monitoring their own performance. Part of the expectation of the professional role of the teacher is as assessor of his/her own competence as a teacher. "Standards are the most effective when we set them ourselves", suggests Nisbet (1986). "Professionalism requires from us the capacity to apply the highest standards to ourselves even when there is no one but ourselves to judge This is what we try to teach our students They learn (or do not learn) from our example." Course evaluation is thus part of every teacher's responsibilities. Within the context of the curriculum, however, some teachers may be expected to assume greater responsibility for overall assessment of the teaching and some may have this as a major personal responsibility.

Curriculum evaluation has been defined (Coles & Grant, 1985, p. 405) as "a deliberate act of enquiry which sets out with the intention of allowing people concerned with an educational event to make rigorous, informed judgements and decisions about it, so that appropriate development may be facilitated". The assessment of teaching and of the curriculum can be conducted at an institutional level with the teacher as one of the stakeholders in the process. Just as important is the self-evaluation by the teacher of his or her teaching with the individual teachers reflecting on and analysing their own teaching.

Feedback from students and other teachers or 'critical friends' may be brought in to provide a further insight and to identify areas in teaching for the teacher's growth and development. The most widely used technique for obtaining feedback from students for the purpose of evaluating the teacher is the questionnaire. The use of focus groups, the nominal group technique, a Delphi technique, interviews with individual students and a study of diaries kept by students may give information which is perceived by the teacher as of more value (Tiberius *et al.*, 1987).

The planner

(a) *The curriculum planner.* Most medical schools and postgraduate bodies have education committees charged

with the responsibility for planning and implementing the curriculum within their institution. Teachers employed by the school and members of the postgraduate institution may be expected to make a contribution to curriculum planning. Teachers can undertake few activities, suggests Diamond (1998), that will have greater impact on their students than their active involvement in the design of a curriculum or course they teach. Curriculum planning is an important role for the teacher. Different approaches to curriculum planning can be adopted (Harden, 1986b) and there are 10 issues that need to be addressed (Harden, 1986a). The following should be specified:

- (1) the needs that the curriculum should meet;
- (2) the expected learning outcomes;
- (3) the content to be included in the curriculum;
- (4) the organization of the content;
- (5) the educational strategies;
- (6) the teaching methods;
- (7) the assessment procedure;
- (8) communication about the curriculum to staff and students;
- (9) the educational environment;
- (10) procedures for managing the curriculum.

Curriculum planning presents a significant challenge for the teacher and both time and expertise are required if the job is to be undertaken properly.

(b) *The course planner.* The best curriculum in the world will be ineffective if the courses that comprise it have little or no relationship to the curriculum that is in place. Once the principles that underpin the curriculum of the institution have been agreed, detailed planning is then required at the level of the individual course or phase of the curriculum. Traditionally much of the planning was discipline or subject based. More recently there has been a move to interdisciplinary or integrated teaching (Harden, 2000). Such approaches need to be reflected in course design. Course planning, like planning the curriculum as a whole, requires the dedicated time of individuals. The task is significantly more demanding in integrated programmes, but it is generally accepted that this is a small price to pay for the advantages of integrated teaching. Lack of attention to detail may lead to problems with the teaching programme.

Participation in course planning gives the teacher an opportunity to exert a significant influence on the educational process and to design courses which will achieve the learning outcomes specified by the institution. "Teachers in higher education", suggests Toohey (1999):

. . . retain a very significant advantage over teachers in other branches of education: their control of the curriculum. In much of primary, secondary, technical and vocational education, course design has been handed over to 'experts', to the impoverishment of the role of classroom teachers. Yet course design is an advantage of which many teachers in universities seem quite unaware. Much of the creativity and power in teaching lies in the design of the curriculum: the choice of texts and ideas which become the focus of study, the planning of experiences for students and the means by which achievement is assessed. These define the boundaries of the experience for students. Of

course the way in which the curriculum is brought to life is equally important, but the power of good teacher–student interactions is multiplied many times by course design.

The resource developer

(a) *The resource material creator.* An increased need for learning resource materials is implicit in many of the developments in education. With problem-based learning and other student-centred approaches, students are dependent on having appropriate resource material available for use either as individuals or in groups. Even in traditional curricula, students spend as much time with their workbooks as with their teachers.

The role of the teacher as resource creator offers exciting possibilities. Teachers will become, suggest Ravet & Layte (1997) "activity builders, creators of new learning environments". Indeed, the vision has been painted of the virtual university in which lecturers are replaced by instructional designers. The new technologies have greatly expanded the formats of learning materials to which the student may have access and make it much easier for the student to take more responsibility for his/her own education. As developers of resource materials, teachers must keep abreast with changes in technology. An investment in the further development of computer-based learning material is needed. The use of computers in education is expanding and some schools make the purchase of computers by students compulsory. Computer-based learning, however, is often limited by the lack of good material for use by students (Platt & Bairnsfather, 1999).

Institute-wide use of resource materials to support learning using traditional paper media or new technologies, however, will occur only if at least some teachers possess the array of skills necessary to select, adapt or produce materials for use within the institution. The raising of awareness and the training of staff in the role of resource developer is necessary for the appropriate development within an institution of technology-supported learning (Longstaffe *et al.*, 1996; Ryan *et al.*, 1996).

(b) *The study guide producer.* The trend from the teacher as an information provider to the teacher as a manager of students' learning has been discussed. While learning is facilitated by face-to-face contact with students, the amount of time available for this is restricted and can provide only to a limited extent the necessary guidance for students. Study guides, suitably prepared in electronic or print form, can be seen as the students' personal tutor available 24 hours a day and designed to assist the students with their learning. Study guides tell the students what they should learn—the expected learning outcomes for the course, how they might acquire the competences necessary—the learning opportunities available, and whether they have learned it—the students assessing their own competence (Laidlaw & Harden, 1990). Study guides can be used in both undergraduate and postgraduate education (Mitchell *et al.*, 1998).

The role of teacher as producer of learning resource materials was highlighted in the previous section. It can be argued, however, that it is not cost-effective for the teacher to reinvent the wheel and produce instructional material

and handouts on topics that are already covered in books or other resource materials. What may be more valuable is for the teacher to identify the best resources available, direct the students to these and guide the students' use of them in study guides prepared by the teacher.

Study guides can facilitate learning in three ways (Harden *et al.*, 1999), by:

- assisting in the management of student learning;
- providing a focus for student activities relating to the learning;
- providing information on the subject or topic of study.

A 'study guide triangle' model can be used to represent these different functions, with one function at each point of the triangle. Guides can be placed at different points in the triangle reflecting the relative emphasis on these three functions.

Discussion

The 12 roles model as a framework

The 12 roles model for the teacher provides an understanding of the different views of the functions fulfilled by the teacher and a framework for the further consideration of these. The explicit identification of the 12 roles and their arrangement in the circle offers a useful model or framework for teachers, for curriculum planners and for administrators in an institution to think about and make decisions related to teaching. The description of the 12 roles is not intended as a guideline on how to teach or the methods and educational strategies available. The circle represents the overall functions to be filled by a teacher and the segments within the circle represent the key elements that go to make up the overall picture. The position of the different segments or roles relative to each other is significant and each quadrant of the circle has a different emphasis. On the north/south axis is the relationship with students—either face-to-face or at a distance. On the east/west axis is the area of competence of the teacher—in education or in medicine.

Quinn (1996) has used a similar approach to present a model for the functions of a manager. He described this as a 'competing values framework' with the management functions within the quadrants of the framework carrying a conflicting message. In the same way the different teaching roles appear at first sight to conflict with each other. We see the teacher as a provider of information but also as a facilitator of learning, encouraging the student to take responsibility for acquiring his or her own information. The teacher is a facilitator, helping the student to learn, but also is an assessor whose role is to pass judgement on the student. Within the framework these opposing views of a teacher's role can mutually exist. Neighbouring roles in the circle may compliment each other, e.g. the facilitator and role model. As set out in Figure 1 the dimensions in the circle are not necessarily orthogonal. The four quadrants into which the dimensions divide the map, however, are of equal importance and so they can be considered orthogonally.

Interconnection of roles

There is a need for a better understanding of the nature and practice of academic work including teaching (Blaxter *et al.*, 1998) and for the interconnectedness of different academic roles. Joyce *et al.* (1997, p. 11) describe the problem:

Thinking about the roles that make up teaching can make you dizzy. Just for starters, these roles include helping students grow in understanding, knowledge, self-awareness, moral development and the ability to relate to others. Simultaneously we are managers of learning, curriculum designers, facilitators, counsellors, evaluators and, reluctantly, disciplinarians. To the best of our ability, we modulate across roles accordingly to individual and group needs as we select and create learning experiences for all our students.

While each of the 12 roles has been described separately, in reality they are often interconnected and closely related one to another. Indeed a teacher may take on simultaneously several roles. An example is the lecture situation, where teachers may see as their main function the provision of information. They may choose, however, to adopt a more interactive approach, providing the students with some information but at the same time encouraging them during the lecture to engage with the subject and come up with their own solutions to problems posed. During the lecture the teacher cannot escape from being a potential role model, with how he/she approaches the subject and the attitudes he/she reveals influencing the student. Similarly, in the problem-based tutorial group the teacher's main responsibility is as facilitator but he/she may at times also serve as an information provider. This may explain why students who were facilitated by subject-matter experts achieved somewhat better results than those facilitated by teachers who did not have this background (Schmidt & Moust, 1995).

Teachers may be engaged simultaneously in a combination of teaching tasks. White & Ewan (1991) have referred to the multiple teaching roles often needed within a single clinical teaching experience and Irby (1994) described how clinical teachers need to assess learners' knowledge and provide information as well as facilitate learning. As the teaching situations arise, a good teacher will move instinctively between different roles. The good clinical teacher, for example, needs to fulfil a range of roles (McAllister *et al.*, 1997).

The teachers' role portfolio

It needs to be emphasized that a good teacher need not be competent in all 12 roles and that it would be unusual to find, and unreasonable to expect, one individual to have all the required competences. Human resource planning should involve matching teachers with the roles for which they have the greatest aptitude.

Teachers will have an interrelated set of teaching roles which combined represent their teaching responsibilities and their 'role portfolio'. While all the roles of a teacher need to be covered in the context of an institution, it is unlikely that one teacher will assume all of the roles. A few teachers may assume only one role and indeed may have

been appointed with this specific responsibility. The majority of teachers, however, will assume a number of roles.

Medical practice and approaches to medical education are changing and there is a continuing need to re-examine the role of the teacher in the educational process. Different roles require different skills and abilities in the teacher. All teachers may be expected, however, to fill roles such as information provider, while other roles, such as resource developer or assessor, may require more specialized skills.

The functions of the teacher are complex and the role will vary depending on:

- (1) *the aim of a course*: Is the aim to develop independent learning skills or to provide the trainee with specific competences, such as cardiac auscultation?
- (2) *the stage of the student*: The importance of the different roles for the undergraduate teacher may differ from the roles expected of the postgraduate teacher.
- (3) *the curriculum within which the teacher operates*: The roles of the teacher will differ in a problem-based learning curriculum compared with those in a more traditional curriculum.
- (4) *the culture*: Some cultures favour more informal roles of teachers and others more didactic roles.

The roles most appropriate for an individual teacher may change as his or her career develops. The roles taken on by a teacher may vary with the seniority of the teacher and may change as the teacher gains more experience. Kugel (1993) has suggested that teaching activities evolve with time and experience, with a shift taking place from an emphasis on self, to an understanding of subject-matter and later from an emphasis on teaching to an emphasis on learning.

Meeting the curriculum needs

Identification of the required and available teaching roles in an institution makes it possible, within the constraints of the curriculum, to match a teacher with the role(s) to which he/she is best suited. Some teachers prefer and are better at fulfilling certain roles, while other teachers may be interested in and have expertise in other directions. It may help with the assignment of teaching roles in a faculty if staff have the option to indicate their own preferred roles. They may be asked to compare their current roles with their preferred roles using a questionnaire as in Table 2. The teaching responsibilities can then be allocated within an institution taking account, where possible, of the preferences of staff. Some staff may have an interest in curriculum planning and serving on curriculum committees, while others prefer to have face-to-face contact with students, for example in the clinical teaching contexts. The former can be appointed to curriculum planning groups and the latter can be given clinical teaching responsibilities.

An analysis of the roles expected of teachers for the implementation of the curriculum and a comparison of these required roles with the role expertise available within the teachers in an institution demonstrates the strengths and weaknesses in terms of the ability of a school to deliver its teaching programme. Where there are no major discrepancies between the available and the required roles, it may be sufficient to highlight where the discrepancies exist. Recognizing the deficiencies and the need to accommodate the full range of roles, discussing the matter openly and

placing it on the agenda at executive and staff meetings may be all that is required. Where there are more serious discrepancies between required and available roles there are a number of options:

- (1) Ignore the deficiencies. This is usually a recipe for disaster with frustration developing on the part of both staff and students. An adverse effect on the quality of teaching is almost inevitable.
- (2) Change the curriculum to accommodate the available teaching roles. If, for example, a school is populated by good lecturers who lack expertise in group facilitation, one can design the curriculum to place an emphasis on lectures rather than on problem-based learning where there is a need for tutor-facilitated small-group work. The compromises that such an approach entails may or may not be acceptable and an institution has to make this judgement.
- (3) Retrain staff within the institution to fulfil the required roles. This is possible but requires a commitment from the staff and administration and an energetic and focused staff development programme.
- (4) Recruit staff with the appropriate expertise to fill the roles. This is easier in a new school, but may also be implemented in an established school when staff leave or when new appointments are created. Staff recruitment may be particularly necessary in the case of more specialized roles such as assessment or learning-resource-material development.

Staff development

The need for staff development programmes and the training of medical teachers in education has been recognized. The areas to be covered in such programmes and the particular teacher skills to be addressed are often a matter of debate. A consideration of the “12 roles” can inform the debate and ensure that the programme helps to equip the teachers with the competences necessary for them to fulfil the roles expected of them. A staff development programme can be tailored to meet the needs of the individual teacher and this may succeed where ‘one-size-fits-all education’ may fail (Tyree, 1996). There should be an agreement with the individual teacher as to whether the aim of a staff development activity is to make the teachers better at what they already are doing or to help them to acquire new skills and fulfil new roles which were previously not within their remit.

The culture of good teaching practice

Consideration of the roles of the teacher should be part of the culture of good teaching practice. Tyree (1996) conceptualized our current understanding of the importance of the commitment of teachers to teaching and the multidimensional nature of the phenomenon. There needs to be a commitment both to the subject that is being taught and to the teaching role expected of the teacher. Attention is often paid to the former with the latter being relatively neglected. The different roles of the teacher need to be recognized and accepted by staff. Use of the framework presented in this guide makes the different roles explicit and encourages a careful consideration of the different roles rather than blindly pursuing one or two and undervaluing the others.

Table 2. Questionnaire used to assess the teacher's perception of the importance of the 12 roles and their current personal commitment and preferred personal future commitment to each role.

Teacher's role	Importance to medical school teaching programme					Current personal commitment					Preferred personal future commitment				
	None	Little	Some	Considerable	Great	None	Little	Some	Considerable	Great	None	Little	Some	Considerable	Great
	1	2	3	4	5	1	2	3	4	5	1	2	3	4	5
<i>Information provider</i>															
(1) Lecturer in classroom setting															
(2) Teacher in clinical or practical class setting															
<i>Role model</i>															
(3) On-the-job role model (e.g. in clinics, ward rounds, etc.)															
(4) Role model in the teaching setting															
<i>Facilitator</i>															
(5) Mentor, personal adviser or tutor to a student or group of students															
(6) Learning facilitator, e.g. supporting students' learning in problem-based-learning small groups in the laboratory, in the integrated practical class sessions or in the clinical setting															
<i>Examiner</i>															
(7) Planning or participating in formal examinations of students															
(8) Curriculum evaluator—evaluation of the teaching programme and the teachers															
<i>Planner</i>															
(9) Curriculum planner, participating in overall planning of the curriculum, through, for example, curriculum planning committees such as the Undergraduate Medical Education Committee															
(10) Course organizer, responsibility for planning and implementing a specific course within the curriculum. This may, for example, relate to one system or one theme, or to a special study module															
<i>Resource developer</i>															
(11) Production of study guides to support the students' learning in the course															
(12) Developing learning resource materials in the form of computer programmes, videotape or print which can be used as adjuncts to the lectures and other sessions															

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Explicit recognition of a teacher's commitment to a specific role can reinforce the teacher's commitment to teaching and serves also as an indication of the value attached by the institution to teaching. This can be reflected in tools used to measure an organization's commitment to teaching (Mowday *et al.*, 1979). It is likely that an acknowledgement of the value attached by the institution to the teachers' specific roles will encourage teachers to give their best performance and to put more effort into their teaching.

Uses of the teachers' role framework

The uses of the teachers' role framework model can be summarized as follows:

- (1) to make explicit an institution's commitment to teaching and to the different roles expected of a teacher. An open discussion about the values of the different roles identified in the model may help to prevent a gravitational pull within an institution to the information-provider section of the circle;
- (2) to assist with identification of the teaching skills required within an institution. It is important that, within a medical school or training institution, all of the roles are represented among the staff in the school. What is needed is a balanced team of staff responsible for delivering all aspects of the teaching programme;
- (3) to identify staff recruitment needs and to contribute to the job specifications and contracts with staff. This should include a 'roles profile' for each member of staff;
- (4) to identify the needs for staff development programmes and to relate these to the requirements of individual teachers. The 12 roles have different optimal training strategies;
- (5) to evaluate staff. Recognition of the different roles is important with regard to teacher evaluation. A teacher rated by students and peers as poor in one role, e.g. giving formal lectures, may perform well with small groups of students or alternatively as a developer of resource materials. Students may express different levels of satisfaction in the same teacher, even within the same course, according to the model of teaching being assessed (Husbands, 1996);
- (6) to inform an analysis of teaching activities. Such an analysis may be required for the allocation of resources within the institution or for other purposes. In the past there has been a tendency to measure teaching in terms of student contact hours. This does not reflect the range of roles expected of the teacher. The involvement of staff across widely varying teaching roles, including time spent on curriculum planning and production of resource materials, can be incorporated into measures of teacher activity (Bardes & Hayes, 1995);
- (7) to facilitate change. Resistance to change not infrequently characterizes the adoption of a new approach in medical education. Hannafin & Savenye (1993) have suggested that when "the traditional role of the teacher—that of lecturer, imparter of knowledge and controller of activities—was being assailed" (p. 26) teachers may feel dispensable and as a result choose to resist a change. Less resistance from teachers to change may be experienced if the roles of the teacher are made

more explicit and it is recognized that traditional teachers' roles continue to have an important part to play in addition to any new roles.

Other roles for the teacher

This paper has considered the teaching roles of the teacher. The teaching roles framework described reflects the complexities of teaching in universities and medical schools and provides a tool to broaden thinking about teaching. Other roles for the teacher including clinical, administrative and research cannot be ignored. These place additional demands and pressures on the lecturer.

Implicit in the widely proposed changes in medical education is the need to accept new norms of what is expected of the teacher. If these changes are to be widely adopted, then new roles for the teacher, as described in this paper, have to be accepted, valued and recognized in academic audit. The teaching role circle as described in this guide may facilitate this.

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