


MODULE FIVE
TEACHING & LEARNING – PRINCIPLES

QUESTIONS ANSWERED

	WHAT	<ul style="list-style-type: none"> • Are the main elements of the teaching and learning process? • Are the essential features of effective learning? • Are the special features of teaching and learning in GP training?
	WHY	<ul style="list-style-type: none"> • Is it important to understand educational theories and principles? • Are self-directed learning and learning plans emphasised in GP training?
	WHEN	<ul style="list-style-type: none"> • Should different teaching methods be used?
	HOW	<ul style="list-style-type: none"> • Do I incorporate learner needs and attributes into planning my teaching?
	WHERE	<ul style="list-style-type: none"> • Do various types of teaching and learning occur?
	WHO	<ul style="list-style-type: none"> • Are the critical participants involved in the teaching and learning process?

The ME should have a knowledge base of educational theory which provides a foundation for their teaching practice. The ME should understand the main elements of the teaching and learning process, adult learning principles, motivation to learn, learning styles and the implications for planning and preparation of their teaching.

Activity 5.1



Enjoyable Learning Experiences

A good starting point for any discussion of teaching and learning approaches is to ask you to do a bit of reflection about your previous experience.

What is the best learning experience you remember? What were the important features that made it so memorable?

What is your preferred approach to learning?

What types of teaching do you enjoy most? Why?

After reflecting on your own answers to these questions, ask an experienced ME what their answers are. Discuss the similarities and differences in your responses and the implications for the way you carry out your ME role.

The ME's role in facilitating learning occupies the biggest chunk of their time. Consequently this module gives a brief but comprehensive introduction to the educational role activities an ME must perform.

Module 2 provided a competency framework which included the following educational competencies:

2.1 Planning

Demonstrate ability to:

- a) effectively plan an education session or program, taking into account teaching and learning principles, curriculum requirements and learning needs
- b) facilitate, review and analyse learning needs
- c) construct and clearly state learning outcomes
- d) match teaching and learning methods to learning outcomes

2.2 Developing

Demonstrate ability to:

- a) create effective teaching tools and resources
- b) prepare effective assessment questions and strategies
- c) develop effective evaluation methods

2.3 Teaching

Demonstrate ability to:

- a) use a wide range of methods for teaching and learning guided by educational principles and specific context
- b) maximise the impact of opportunistic learning (teachable moments)
- c) frame knowledge and skills in the context of general practice
- d) teach in response to registrar learning needs
- e) assist the registrar to incorporate change into their mode of practice
- f) coach the registrar towards competence

2.4 Assessment and Feedback

Demonstrate ability to:

- a) make defensible assessments of registrar performance (progression towards unsupervised practice) using a variety of assessment tools
- b) provide constructive feedback that is learner centred and balanced
- c) guide learners to self reflect on their performance
- d) match assessment methods to learning methods and content
- e) accurately inform registrars on the ways in which they will be assessed by the respective Colleges

2.5 Evaluation

Demonstrate ability to:

- a) effectively evaluate education sessions and programs using a variety of tools
- b) match evaluation methods to teaching methods and content
- c) appropriately respond to evaluation to enhance teaching

This module deals with the educational theory and principles underlying planning, developing, teaching, assessment and evaluation competency topics. Module 6 deals with the practical ways and means of teaching and facilitating learning. Module 7 deals with assessment and progression because of its importance to registrars, and evaluation because of its importance for improving the quality of teaching and learning.

A SMALL DOSE OF THEORY

The characteristics of the GP training environment are that:

- it is an adult learning environment
- educators and learners are members of a high status professional group
- learners are culturally diverse
- the learning is strongly clinically and practically focused
- there are high stakes associated with success or failure

These features and the areas of competence required of an ME suggest that it is important to have a reasonable understanding of education theory to inform their practice. The list of references and resources provide more detailed discussion for those MEs who would like to explore these topics further.

Questions such as the following might spring to mind:

What constitutes a good teacher?

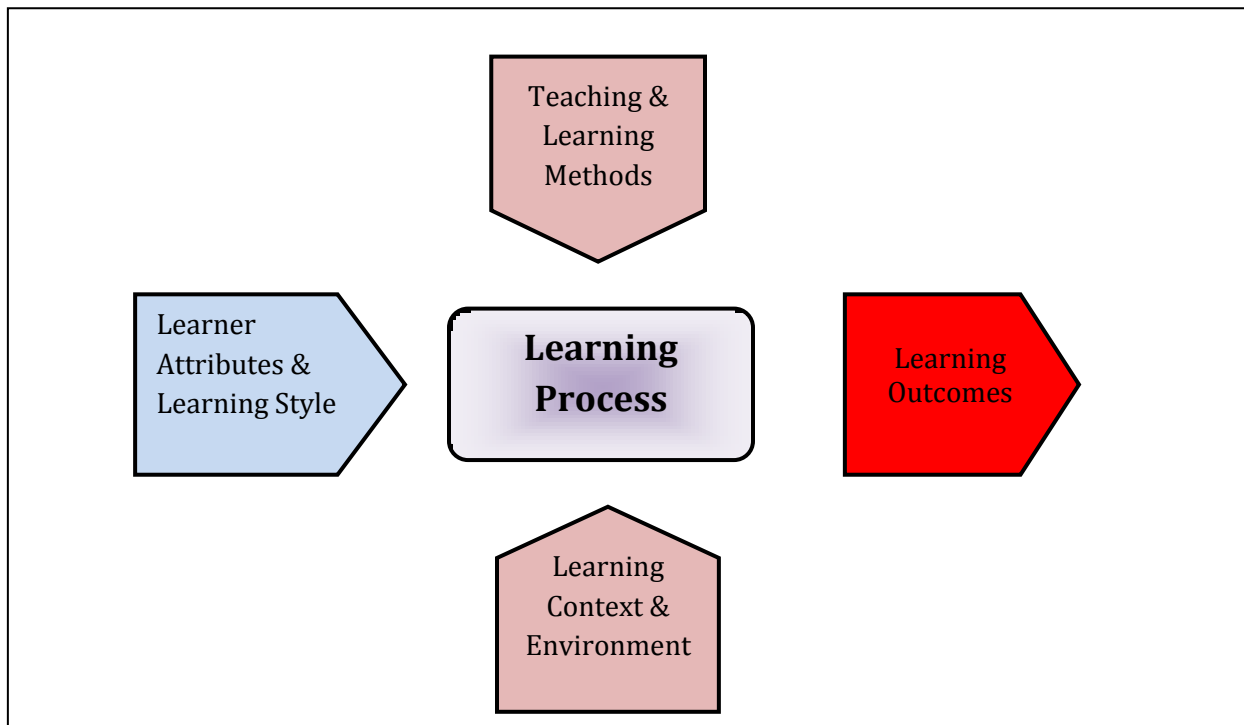
What is the best way to learn about (eg. diseases of the skin, consulting with mentally impaired patients, research methods in general practice, practice management)?

What is the most effective teaching method for students to learn practical skills?

How much impact does the physical learning environment have on the quality of learning?

These are potentially the beginning of more specific theories about teaching and learning. Once we start speculating about possible causes and effects or methods and outcomes, we are in the business of hypothesising and theorising. The medical education literature includes many examples of work addressing these sorts of questions.

What elements contribute to the learning process? – A conceptual framework.



This simple diagram shows a conceptual framework depicting the relationship between the main elements in teaching and learning. As you can see there are at least 3 broad categories of variables which influence the quality, type and quantity of learning outcomes.

Here's a short listing of the some of the variables that could be included under each category:

Learner Attributes and Learning Style:

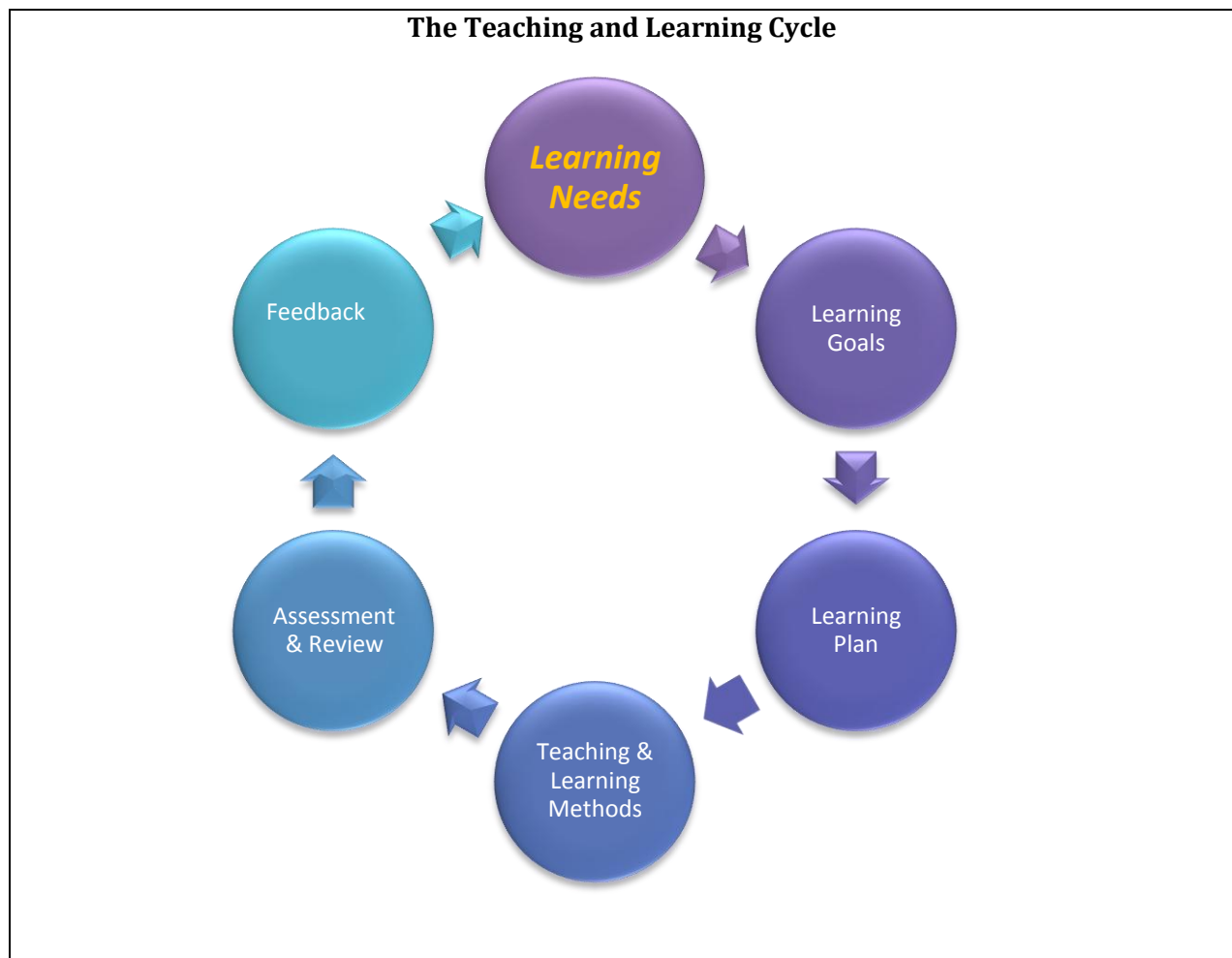
- a) attributes
- b) learning style

Learning Context and Environment:

- a) the immediate physical environment
- b) social and cultural context
- c) stakes and consequences

Teaching and Learning Methods:

- a) self-directed learning
- b) computer and web-based learning
- c) one to one teaching
- d) small group methods
- e) large group methods



This diagram shows another perspective: it's a process model of the steps involved in teaching and learning and is particularly relevant for an adult learning environment.

Activity 5.2



Nothing so Practical as a Good Theory.

Because of experiences you had as a student during your medical degree or even earlier, you possibly have speculated about things that impact on learning for the better or worse.

- With reference to the first model consider each of the 3 main groups of variables impacting on the learning process which in turn leads to learning outcomes.
- In the context of GP training, develop one or two questions/speculations about the relationship between an aspect of each variable and the learning process and/or outcomes. Here's a possible example:

Registrars whose preferred learning style is rote learning achieve better results in the examination.

- Referring to the second diagram why do we say that it is particularly relevant for adult learning? How would the diagram look if it was depicting the teaching and learning cycle in a traditional undergraduate program?
- How do the 2 diagrams fit together and help explain teaching and learning?

LEARNER ATTRIBUTES



"I get very excited when I learn a new concept!"

What factors influence the motivation to learn?

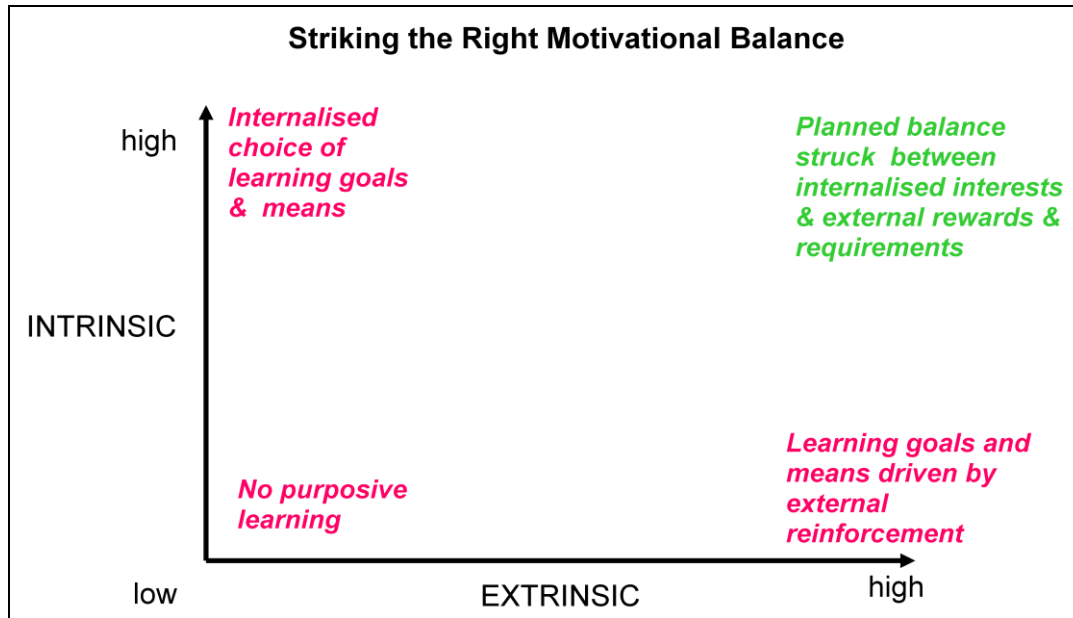
All learners have a mix of motivations to learn and adult learners in particular have many demands on their time. This bears heavily on what they focus on in their learning, how they approach learning and when and where they can do it. A useful schema for thinking about motivation to learn is:

INTRINSIC (internalised motivation)
Interest in subject/content
Interest in methods/approaches
Learning challenges

EXTRINSIC (achievement oriented motivation)
Incentives/rewards
Consequences/examinations
Other life demands

How a registrar's motivational balance pans out across these factors will have a strong influence on their attitude to their own learning and training requirements more generally.

The following diagram depicts the consequences that flow from different motivations to learn.



What different learning styles need to be taken into account?

People have different learning styles and this has consequences for the way teaching is received. Some learners seem to prefer having as much information poured into them as they can possibly fit in so that they can memorise it – the so-called “jug to mug” model of learning. Some learners seem most comfortable when dealing with concrete information and specific examples rather than abstract generalizations. Some learners are most engaged when dealing with practical problems or learning practical skills. Some learners seem to look at situations in novel and creative ways whereas others prefer more structured approaches.

Here are two well known schemas for thinking about learning styles:

1. Approaches to learning:

a) Surface approach

Learning primarily motivated by desire to pass requirements and a fear of failure with the emphasis on acquiring information, memorizing and reproducing it when required.

b) Deep approach

Learning motivated by an interest in the subject matter and a desire to make sense of new material, challenge assumptions, and an inclination to accept generalizations only when there is sufficient evidence

c) *Strategic approach*

Learning motivated by desire to achieve at high standards and compete with and do better than peers by informing themselves about requirements and organising their learning using a mix of *surface* or *deep* approaches.

(Suggested references:

Biggs J. Student approaches to learning and studying. ACER. 1987.

Entwistle N. Et al (eds) The experience of learning. Scottish Academic Press. 1998.)

2. *Kolb’s Learning Styles Inventory*

People approach learning in two dimensions :

- I. Perceptual dimension - How they think about things
 - Abstract Conceptualization (AC) - learning by thinking
 - Concrete Experience (CE) - learning by feeling
- II. Processing dimension – How they do things
 - Active Experimentation (AE) - learning by doing
 - Reflective Observation (RO) – learning by watching and listening

These dimensions give rise to four learning styles, each of which represents a combination of two of the four learning modes at the ends of the two dimensions, as follows:

	(Active Experimentation) Doing	(Reflective Observation) Watching
(Concrete Experience) Feeling	Feeling & Doing (Accommodator)	Feeling & Watching (Diverger)
(Abstract Conceptualising) Thinking	Thinking & Doing (Converger)	Thinking & Watching (Assimilator)

Accommodator – Feeling & Doing

A preference for hands-on experience, active learning, carrying out solutions, trial and error, flexibility, sharing information with others, class discussion, debates, presentations, group activities. A dislike for structure and authority figures.

Converging – Thinking & Doing

A preference for finding practical uses for ideas and theories, evaluating consequences and selecting solutions, following detailed sequential steps, hands-on activities, being given clear objectives with a logical sequence to activities.

Diverging - Feeling & Watching

A preference for imaginative, innovative activities, generating a wide range of ideas, discussion, being sensitive to feelings, identifying problems and gathering information, being personally involved in the learning experience, and group activities.

Assimilating – Thinking & Watching

A preference for abstract ideas and concepts, creating conceptual models, designing experiments, problem solving, considering alternative solutions, reading, reflection, theories, analyzing quantitative information, and structured activities.

(Suggested references:

Honey P. & Mumford A. The Manual of Learning Styles. 1982.

Kolb D. Learning Styles Inventory. McBer and Company. 1985.)

For those who are interested you can locate a self assessment tool to identify your learning style at the following website:

http://www.marcbowles.com/sample_courses/taa/TAA_dip/taa3/Readings/Assessment&Learningguide_KolbLSI.pdf

Our registrars are likely to include all these various sorts of learning styles. The challenge for MEs is to be aware of registrar learning styles and seek to adapt their teaching accordingly.

What is meant by adult learning principles?

The educational literature provides much evidence to conclude that, as a generalisation, adults are more independent and self-directing in their learning than school or university students. Depending on their age, they have accumulated a great deal of life experience, and this is a rich resource for further learning. However adults are more likely to have a multitude of demands in their everyday lives and as a result they will value learning that can be integrated effectively with these demands. Adults also tend to be more interested in learning arising from immediate challenges and/or problem centred stimuli rather than more academic subject centred approaches.

What is so important about self-directed learning?

In GP training and medical education more generally much emphasis is placed on self-directed learning. It is an underlying goal of medical education to produce doctors who are committed to continued self-directed learning. Self-directed learning does not just happen by itself – it always occurs within a context (eg. a learning environment such as GP training) and it needs to be nurtured through systematically designed learning experiences to facilitate it. This clearly works best for registrars whose motivation to learn is strongly internalised.

The literature on self-directed learner attributes suggests that they have higher levels of:

- Self acceptance/confidence
- Internalised motivation
- Openness/curiosity about experience
- Flexibility/willingness to explore new learning
- Internalised self reflection/evaluation of learning

Self-directed learning emphasises different skills to more didactic learning. These skills include:

- Analytical skills
- Critical reflection and evaluation skills
- Planning and goal setting skills
- Multiple learning skills
- Information seeking and retrieval skills
- Interpersonal skills

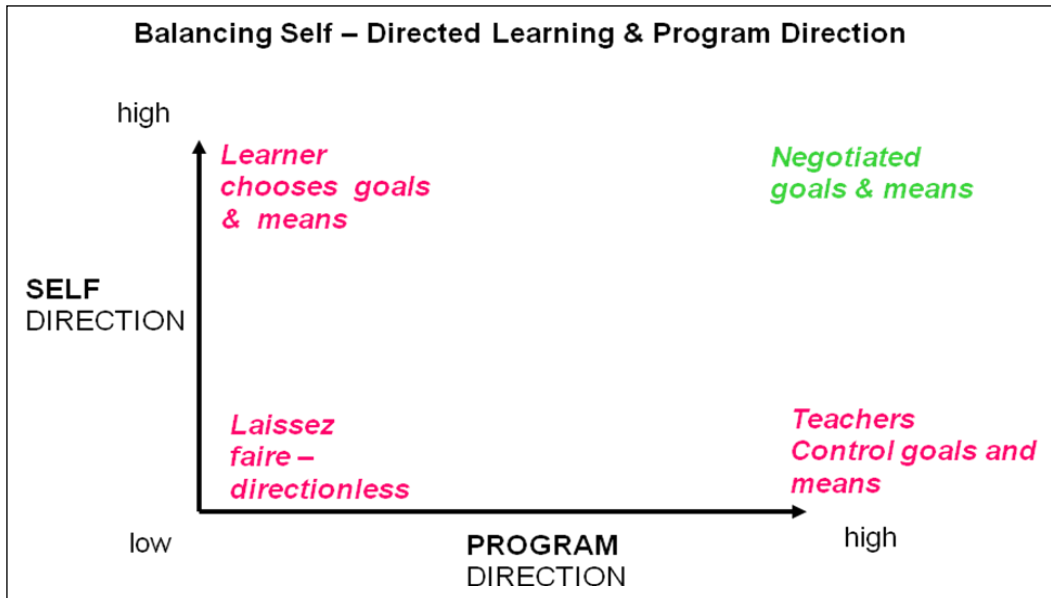
What are the implications of this for planning our educational programs?

Armed with a reasonable level of understanding of the characteristics of the learning environment and process in GP training, factors influencing the motivation to learn, different learning styles, adult learning principles, and self-directed learning, the ME can turn to the question of how this is put into practice in planning RTP educational programs.

In the real medical education world there is always a need to strike a balance between the training requirements and standards as set by the Colleges, GPET and RTPs (ie. program direction) and the needs, interests and preferences of registrars (ie. self-direction). While it is likely that the new ME may not take a central role in planning the program of educational activities undoubtedly opportunities to participate will soon arise. There should be documentation which describes the main features of the RTP's educational program. Once again, our "six honest serving men" provide a useful framework to check off that essential details are not neglected. Refer to *Tool 5.1: Essential Elements of Educational Programs*

MEs and registrars alike must work within the structure, and curricula and assessment requirements of the program. However within this structure there is considerable freedom for registrars to choose their own learning goals and approaches to learning. The process for marrying program requirements and self-directed learning aspirations occurs through consultation between MEs and registrars about their learning plan.

The following diagram depicts this:



Why are learning plans emphasised so much in GP training?

The learning environment of GP training is a mix of broad program structure and direction within which registrars as adult learners have significant opportunities to exercise self-direction. This means that there needs to be a mechanism by which program requirements and individual registrar needs and interests are reconciled. Learning plans serve this purpose.

A learning plan is a document developed by the registrar in consultation with GP supervisor/medical educator which describes:

- The learning needs they have compared with what they are expected to know and be able to do
- The goals they have set to meet their needs
- The learning activities they will undertake to achieve these goals in the timeframe available
- How it will be known and demonstrated that they have satisfactorily performed the learning activities

Learning plans often get criticised because they are seen as unnecessary paperwork (although through GPRime this is no longer true). However they are an integral part of self-directed learning (as opposed to unplanned ad hoc learning). The ME role is to:

- nurture and reinforce their use as part of the education and training process – cannot be just left to happen
- participate in training for MEs and supervisors to ensure a consistent approach
- emphasise the importance of the skills and attitudes learning planning develops in itself

- integrate learning planning closely with maintenance of a learning portfolio (hand in glove relationship)
- ensure a collaborative, negotiated approach is used in developing learning plans to achieve best match between GP registrar needs and goals and program goals and requirements

Activity 5.3



Your Attitudes to Teaching and Learning

A useful exercise is to do an inventory of attitudes to teaching and learning in your group. This has the potential to give team members a clearer understanding of their attitudes both collectively and individually. You could use *Tool 5.2: Learning Preferences Self-Assessment Tool* for this purpose.

It is suggested that you:

1. Initially use it do a self rating
2. Invite other MEs to use it to rate themselves
3. Also ask a group of registrars to rate themselves
4. Collate the results
5. Hand back the forms to each person who completed the survey
6. Report the results at a meeting
7. Discuss in terms of:
 - Overall patterns
 - Differences between individuals (individual results compared against averages)
 - Implications for the ME role and for how the RTP conducts its program

To bring this module to a conclusion it is appropriate to draw out the implications of the educational theory and concepts discussed above in terms of principles of teaching.

TWELVE GUIDING PRINCIPLES FOR TEACHING IN GP TRAINING

Here are some guiding principles for MEs to follow in their teaching. This will provide a basis for looking at various teaching methods in the remainder of this module.

Improved learning outcomes will occur where the teacher has:

1. demonstrated exemplary behaviour as a medical educator and a professional role model
2. communicated clear goals and/or a vision of desired learning outcomes
3. adequately demonstrated or modelled to learners desired skills or behaviour
4. provided an adequate foundation of basic knowledge and skills to enable learners to carry out desired behaviours
5. engaged the learner as an active contributor to the educational process
6. ensured that the learning experiences are closely related to understanding and solving real life problems
7. taken into account the current knowledge and experience of learners when introducing them to new learning situations
8. provided opportunities and supported learners to use self-direction in their learning
9. provided guided practice with adequate timely constructive corrective feedback
10. enabled learners to practice new skills using self assessment, constructive feedback from peers and formative assessment from teachers
11. ensured that learners have been given adequate opportunity to reflect on their learning
12. provided opportunities for learners to analyse and assess their own performance and reflect on ways of improvement

WHAT THIS MODULE THINKS IT HAS DONE



What Have You Done????!!

Use the following list to check off whether these things have worked for you:

You should:

- Have an improved understanding of the factors influencing teaching and learning
- Better understand your own and others' learning motivations and styles
- Be able to explain why learning plans are important in an adult learning environment
- Be able to apply sound educational principles to planning and preparation for teaching
- Be more self-aware of your own attitudes to teaching and learning

If you agree that you have achieved these outcomes give yourself a tick or a hug.

If you disagree maybe you have some thoughts on how this module could be improved.

Whether you agreed or disagreed any feedback you have would be welcome.

You could post this feedback through AMEN's GPRime website.

TOOLS OF TRADE

Tool 5.1



Essential Elements of Educational Programs

Use this tool to assist in the planning of educational programs or reviewing the documentation of existing programs.

The documentation of any educational program or program component should include description or explanation of the following:

WHAT:

- Are the areas of the RACCGP and ACRRM curricula it addresses
- Are the overall learning objectives – the knowledge, skills and attitudes or competencies to be acquired
- Are the topics to be covered
- Are the assessment requirements

WHY:

- Is it important to provide this program
- Is it planned and organised the way it is
- Are the various specified topics and sessions included

WHEN:

- Is it conducted (timing, duration)
- Are particular topics taught (ie the sequence of topics)

HOW:

- Will it be conducted and taught (teaching methods)
- Does it articulate with other parts of GP training (training attachments, other meetings)
- Does it assist registrars to fulfil their learning plans
- Are the assessment requirements met

WHERE:

- Is it conducted

WHO:

- Runs and contributes to the program
- Provides specialist expertise

Tool 5.2



Learning Preferences: Self-Assessment Tool

This tool is designed to enable you to rate the importance you attach to key aspects of teaching and learning. Rate yourself on each item by circling a number along the scale of:

1 = Most Important through to 5 = Low Importance.

	Most Important			Low Importance	
	1	2	3	4	5
1. Subject matter as an influence on my motivation to learn	1	2	3	4	5
2. Teaching methods and approaches as an influence on my motivation to learn	1	2	3	4	5
3. Incentives and rewards as an influence on my motivation to learn	1	2	3	4	5
4. Obtaining recognition eg a qualification or certification as an influence on my motivation to learn	1	2	3	4	5
5. Being able to fit in around my career, family and other life demands as an influence on my motivation to learn	1	2	3	4	5
6. Developing my own learning goals and planning my own learning methods	1	2	3	4	5
7. Focusing on real life problems and practical approaches in the learning process.	1	2	3	4	5
8. The emphasis should be on the knowledge and skills to be learned, presented by experts in a clear, well structured and detailed way	1	2	3	4	5
9. The skills of critical reflection, information searching and retrieval and planning and goal setting should be strongly emphasised	1	2	3	4	5
10. Learning plans are needed to provide a framework for self-directed learning within the context of formal training program	1	2	3	4	5