



## A Global Shift in Education

A very powerful and radical worldwide movement is taking place in the area of education and training, which is strongly supported by international bodies, like the World Health Organisation, Organisation for Economic Cooperation and Development (OECD), and European initiatives such as the Copenhagen Declaration on Europe (2002). The movement is towards an emphasis on learning as a life-long process and as preparation for the work place.

Achievement of competence, applied knowledge base, personal and intellectual development and core transferable skills are increasingly being seen as the most desirable attributes of a learner completing any third level programme.

Within the European context, the Copenhagen Declaration on Europe (2002), signed by ministers of education from over 30 countries, is important from our perspective, in that it set out a programme for enhanced co-operation in vocational education and training in Europe. The aim of this initiative was to promote trust, transparency and the recognition of competencies and qualifications, which in turn aims to support labour mobility and life-long learning.

The Irish response to this agreement was the establishment of the National Qualifications Authority of Ireland (NQAI) and the development of a national qualifications framework. It is a radical development that seeks to introduce a new approach to the meaning of an award, based on learning outcomes i.e. what a person with an award knows, can do and understands.

An interesting concept that has evolved over the last 20 years is *education for capacity* which was initially developed to put pressure on higher education to be more relevant to the economy. It cre-



ated a new concept of education to enable people to participate effectively in a changing and diverse society. It is proposed that *education for capability* is about having confidence in one's ability to take effective action, to explain what one is about, to live and work effectively with others and to continue to learn from one's experiences. It suggests finding as many ways as possible to give students experience of being responsible and accountable for their own learning.

A recent OECD report entitled "*The University Challenged - A Review of International Trends and Issues with Particular Reference to Ireland*" - (Skilbeck 2001) identified examination bound conventions of the "right" answer and fostering of rote learning as potential weaknesses in our educational system. Emphasis, it claimed, should instead be placed on: problem-solving; teamwork; oral communication; search for information from multiple sources; self and group directed initiative.

The report stated the frequently cited attributes of a successful entrant to the graduate market as: flexibility and adaptability to new challenging environments; problem-solving capabilities especially in team settings; analytical capacity including ability to produce written reports; creativity and initiative; communication skills.

Before we consider our position in this global educational shift, let us first look at physical therapy education; what is it and what our primary aims are.

Firstly physical therapy is an applied science, which requires the integration of science and clinical practice. As such we (IPTAS) are responsible for ensuring that our graduates can apply scientific principles to health problems, especially those involving the musculoskeletal system. We must facilitate students in working out what is causing the problem and in deciding what to do about it. Not only should our students acquire knowledge and understanding of physical therapy, but they must also engage in human interaction and hands-on skills. They must essentially integrate the head, the heart and the hands.

So how do we ensure that our graduates can apply scientific principles to health problems? One solution is to move from a theory-centred approach to an application-centred approach and to develop more positive links between what is taught and what is practiced. The following are the recommendations

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# The Big Debate: Traditional Vs. Progressive

## *A Global Shift in Education*

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Firstly, select the subject matter necessary for understanding those health problems that graduates will come across. This includes all the relevant knowledge of basic science necessary to comprehend those problems and their management. Therefore what the teacher transmits in subject matter is useful only to the extent that it helps the student to deal effectively with patients and their problems. Secondly, present the subject matters within its application to explanation of those health problems. This involves guiding the student on how to use the knowledge in situation as close to reality as is practical.

Finally he suggests we examine students through their ability to manage the health problems i.e. how effective are they. As clinical educators we are primarily directed at capacity for work. Learning for capacity for work takes place more effectively by doing the work, examining that work experience closely to elicit exactly what was involved, by searching for explanatory ideas from basic science and by integrating experience, reflection and explanation into working knowledge of what to do best next time. Essentially clinical education and specifically in our case physical therapy is primarily informed common sense. Clinical practice is also laden with uncertainty, therefore students do not benefit from an educational system that is organised around formal textbook style. How useful is it to encourage students to respond to a predefined problem in a ritualistic and stereotyped way? Utilising creative intellect to seek solutions to each problem would appear to be more fruitful.

The physical therapist of the future should be someone with self-understanding who can cope with uncertainty and challenge taken-for-granted practice rather than someone who has an unquestioning and uncritical perspective.

Cox, K., 1987. *Knowledge which cannot be used is useless. Medical Teacher. 9 (2) 145–154.*

Skilbeck, M., 2001. *The University Challenged. A Review of International Trends and Issues with Particular Reference to Ireland. The Higher Education Authority. 68-69.*

Some key issues lend themselves to discussion in the *traditional* versus *progressive* educational debate. These issues include choice of subject matter; presentation of subject matter; teaching tasks; student behaviour; student learning tasks and educational goals. The following has been extracted from *Knowledge That Cannot Be Used Is Useless (Cox) 1987*, and presents a brief account of the core values inherent in both sides of the debate.

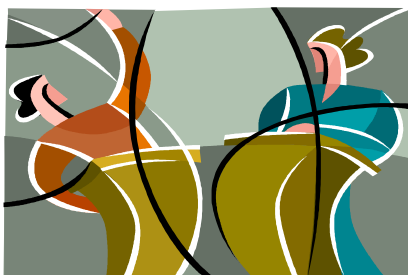
**Subject matter.** Should the learning of basic sciences precede attempts at applying them to practice or should practice take priority in deciding on the subject matter? The central concern of the physical therapist is to work out what is wrong and what to do about it. Would it therefore make sense to work backwards from the clinical problems to explore which aspects of science can help explain the phenomena and guide practice. Teaching basic sciences prior to applying it assumes that the knowledge will be remembered and transferred to clinical situations. Both assumptions are unsupported. In fact numerous studies have shown that forgetting is massive and rapid (Blizard et al 1975, Blunt & Blizard, 1975) and transfer of basic science learning to clinical situations is less evident than is re-learning of the same information in clinical situations. (Bordage & Allan, 1982)

**Presentation of subject matter.** Should the teacher as “expert” present a logical and coherent picture that makes sense to the naïve student or could the activities of struggling to elucidate and explain clinical problems be more effective in helping students to access usable science in the future? Will basic sciences be more used by students after graduation if they have discovered how to bring it into their practice than if they were required to learn it for its own sake? Is the memory of what they worked out for themselves (under guidance) more effective in helping them work out similar problems in the future?

**Teaching tasks** - Are teachers agents through which knowledge and skills are communicated or agents who manage the content and sequence of the student’s learning, guiding students through a series of experiences, intellectual and practical? Is the teacher best used for plan-

ning, organising and evaluating the progress of students learning from the realities of illness and disease, rather than controlling and examining around sets of facts, concepts and principles?

**Student behaviour** – Should students in general be obedient and receptive or questioning and exploring? Time is short. Subject matter huge. Ambiguity is confusing for those who are getting their heads around topics for the first time. Teachers are there to ensure that the basics are grasped, even if it requires some oversimplifications here and there. It is up to the student to get on with the study!



Are teachers thereby providing answers to questions the students never asked? Do we learn more thoroughly and remember longer when we try to think more deeply, when we discuss the areas we don’t understand, when we question what doesn’t seem to fit? What can we discover for ourselves? What must we be told? At what stage?

**Students learning task** - learning means acquisition of what is already in books and in the heads of the teacher or learning means ability to use knowledge and skills in the real world. This raises the issue of surface and deep learning with acquisition of knowledge being strongly linked to surface learning and application of knowledge linked to deep learning.

**Educational goals** - existing knowledge is the end of education with examinations certifying the students grasp of existing knowledge and skill or existing knowledge is a means not an end. In this situation, examinations certify the students competence in using existing knowledge and skill in working out clinical problems and deciding what to do.

Cox, K., 1987. *Knowledge which cannot be used is useless. Medical Teacher. 9 (2) 145–154.*

# Encouraging Discussions in Large Groups

Discussion that takes place in groups is often unstructured. This means that anyone can speak at any point, while the others in the group listen. The lack of structure may provide freedom to discuss any points raised. However, many of the problems that arise in discussions in large groups are due to a lack of structure. In small groups ( $\pm 6$  people), a tutor can overcome the problems that may arise due to the lack of participation of some students or the dominance of others. With larger groups a tutor's facilitation skills are not enough to overcome these problems. The best way of overcoming these problems is to either break the group into smaller groups or to break the discussion topic into more manageable tasks or to do both!

This article will highlight some of the more common ways of encouraging group discussion in larger student groups by breaking the group into smaller groups.

## Buzz Groups, pairs and triads

Buzz groups are small groups of two or three students formed to discuss a topic for a short period of time. Buzz groups are a good way to start off a class or input on a particular topic. For example an anatomy class might be asked to break into buzz groups to list the bones in the body. This could form the introduction into a class dealing with the skeletal system.

Pairs (2s) and triads (3s) are good for encouraging interaction, as it is very difficult

for a student to remain silent when 'their partner' has stopped sharing. Sharing in a small group also builds confidence for sharing in the larger group. If your purpose for using pairs or triads is to involve everyone and to 'energise' a session, either method will work. However, if you want to get students to discuss a difficult question or reflect on a challenging case study, it is better to use triads, as they tend to remain more focussed. Pairs tend to get side-tracked more easily and also give up more easily – the third person in the triad takes on an 'observer' role and keeps an eye on the task at hand.

Buzz groups can also be used to 're-energise' a class where a difficult topic or an awkward situation seems to have brought the lesson to a halt. For example a first year class who have to massage fel-

low students for the first time may become awkward and lose focus.

guide your thinking on the group size. Rounds can be used at the beginning of the session, during the session or at the end of the session.

At the beginning of the session a round

*‘Let the topic guide your thinking on the group size’*

## Guidelines for using rounds

1. Students should be allowed to “pass” when it is their turn. Reflective learning types may need time to think about the question posed.
2. Round can be as short or long as you like; 20 seconds per person for quick input to longer rounds if you want people to reflect on a particular subject.
3. Rounds are a good way of encouraging reflective practice in students. A group of 4 or 5 students sharing in a round are more likely to share feelings than asking for students to share in a big group.
4. It is useful to write up the first part of a statement or sentence on the flip-chart and ask students to complete it in a round e.g. “A question I would like answered today is...”

could be used for students to share what their expectations of the sessions are. E.g. “I hope that at the end of today’s session I will be able to correctly apply ....”

During a session a round could be used to give students an opportunity to comment on how the session is working for them. E.g. “I think we could get through this material more effectively if we....”

At the end of a session a round could be used to establish how students intend applying what they have learned. E.g. “What I intend working on now is...”

In the next IPTAS News I will look at Syndicates and Co-operative Groups (also called “Cross-overs”).

I wish to acknowledge using a handout I was given while working on a UCD training project to guide my thinking, but am unsure of the exact source of the handout.

*By Lynda Oosthuizen*



for a student to remain silent when 'their partner' has stopped sharing. Sharing in a small group also builds confidence for sharing in the larger group. If your purpose for using pairs or triads is to involve everyone and to 'energise' a session, ei-

low students for the first time may become awkward and lose focus.

Breaking the class into buzz groups to reflect on how they feel may help to overcome the awkwardness and help students to realise that they all feel the same!

## Rounds

Rounds involve giving each student in the group the opportunity to speak in turn. Sitting in a circle facilitates this process as the turn can then be passed around the circle. The group can be as big or small as you like. It is more comfortable for people to share deeper thought and feelings in a smaller group, so let the topic

## Guidelines for using buzz groups

1. Change the composition of groups at regular intervals i.e. unless there is a specific reason for keeping groups the same, do not just 'let them turn to their immediate partners'.
2. Assign numbers to people to make up random groups. E.g. for groups of three assign a number from one to three to each student in the room then get all the ones to get together, all the twos etc. (Obviously the number in the group needs to be divisible by three!)

# Why Are We Considering Change?

Since IPTAS' inception in 1989 we have consistently strived to achieve excellence in the provision and execution of the physical therapy course and service provided to our clients. This has always necessitated change. Those changes have been gradual, enabling both the college and staff to gain confidence in providing these services.

Now with a rapidly changing educational landscape the time seems right to align the programme closely with the levels achieved in mainstream university education.

We believe that this is a standard that would help our graduates be competitive in the workplace and duly acknowledges their effort and achievement in completing the programme.

Attempting to achieve degree standard will also provide us with an opportunity and an impetus to work towards the high quality of course

provision to which we aspire.

Achieving this would also prepare our future professionals for what may become a regulated environment. That we should aspire to degree standard is in itself testimony

*“These are not just administrative exercises but will require everyone’s involvement”*

to the progress made to date. It also calls for further development of the content, method of course delivery and assessment of our students. A wider range of skills will be required including communication, critical thinking, problem solving,

accessing and managing information and managing and developing oneself.

Managing and developing oneself incorporates the ability to be self-directed and engage in life-long learning, demonstrate integrity and ethical practice, reflect effectively and work collaboratively.

Quality assurance procedures must be put in place to ensure that standards are achieved and maintained. These are not just administrative exercises but will require everyone's involvement. We must do what we say we are doing.

Teachers will be required to continuously monitor the quality of the teaching and learning experience and the extent to which learning outcomes have been achieved.

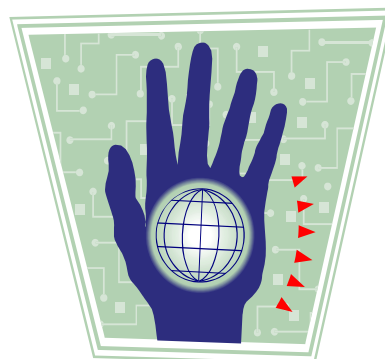
While it may sound daunting, we do have the determination and expertise to be successful in this process.

# Progression Through The Course

Mapping progression through the course from novice to competent graduate is a process and one that takes account of a number of issues.

I will attempt to elucidate some of these issues in the hope that 'progression' as a concept will be seen as one requiring considerable attention.

We will consider some of the stages trainees go through in their journey



towards becoming competent practitioners. Brief consideration will be also given to knowledge progression. From a practitioner point of view, the Dreyfus model (Dreyfus & Dreyfus, 1980, Dreyfus 1981) suggested a five stage development

process from novice to expert in any professional field. The authors described the stages that adults go through when learning new tasks. They suggest that most of us begin by following explicit, often written rules such as might be contained in a handbook or guide.

At the other end of the spectrum they suggest that most of us perform expertly without reference to explicit rules at all.

Rather we base our expert performance on intuition and experience. The distinction they make is between *knowing that* (based on rules) and *knowing how* (based on experience).

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# Five Stages: From Novice to Expert

**The five stages** are as follows: 1. Novice 2. Advanced beginners 3. Competent, 4. Proficient 5. Expert. As an undergraduate programme we aim to enable our graduates to achieve competence therefore only the first three stages apply.

*“A successful outcome is deeply satisfying ”*

Much of the following description is attributed to Benner (1984) who applied the Dreyfus model of skills acquisition to

## Stage 1 – novice

The beginner is taught specifically ‘how to’ regardless of the context e.g. apply Swedish massage to back, conduct active movements of shoulders. He is given rules or guidelines to determine what to do when certain

*“Experience is not the mere passage of time ”*

things occur. According to Benner, the beginner student wants to do a good job but lacks any coherent sense of the overall task. He judges his performance mainly by how well he follows learned rules. According to Benner, “the novice is unable to use discretionary judgement. These first rules allow for accumulation of experience but soon they must be put aside to proceed”.

## Stage 2 – Advanced beginner

Benner states that performance improves to a marginally acceptable level only after the novice has considerable experience in coping with real situations. The advanced beginner learns, not by rules but by experience.

This experience seems immeasurably more important than any form of verbal description. Novice and advanced beginners recognise learned components and apply learned rules and procedures. As a consequence they feel little responsibility for outcome.



According to Benner, the novice and advanced beginner can take in little of the situation – it is too new, too strange. The advanced beginner needs help in setting priorities as they cannot yet sort out what is most important. Clear guidelines are essential.

## Stage 3 – competence

Competence requires choosing an organising plan and making decisions, not just following rules. The competent performer after wrestling with the question of the choice of a plan, feels responsible for and thus emotionally involved in the product of his choice..

An outcome that is clearly successful is deeply satisfying and leaves a vivid memory of the chosen plan...

Disasters likewise are not easily for-

gotten. According to Benner, the competent practitioner is better organised.

Finally, Benner states that experience is not the mere passage of time and longevity. It is the refinement of perceived notions and theories by encountering many practical situations

*“Clear guidance is essential at all times”*

that add nuances or shades of differences to theory. Professional skills can be developed by increasing the number and complexity of roles and activities, facilitating students to act in a wide range of situations and becoming less dependent on support or advice.

## Knowledge Progression:

Knowledge develops from the basic recall of facts, to comprehension, application, analysis, creative thinking

*“The competent practitioner is better organised”*

and critical thinking (evaluation). We would therefore expect senior students to operate at a higher intellectual level than their junior counterparts. Without this level of progression, intellectual development is stilted, often leading to frustration on the part of the student.

*Benner, P., 1984. From Novice to expert. Excellence and Power in Clinical Nursing Practice. Menlo Park, CA: Addison—Wesley Publishing Company, page 13.*

# Emphasis on Student's Learning

Assessment is a powerful instrument in student learning and greatly influences the approach a student takes towards a learning task. For example, a written paper that requires the student to list symptoms or causes will result in a rote or superficial learning approach. On the other hand a written paper or assignment that is based on a real-life case requiring students to interpret something or devise a plan, will result in students preparing for the assessment by searching for deeper meaning, resulting in deep learning.



All assessment methods will place a particular emphasis on students thinking skills and should be borne in mind during the design process. Assessment tasks should be chosen for their congruence with the learning outcomes and the broad programme goals. Otherwise, we cannot evaluate the effectiveness or otherwise of our teaching, learning and assessment strategy.

Assessing the quality of a student response as opposed to the quantity of it should be encouraged. It is important to acknowledge however that qualitative assessments are subjective and are a value laden process. Therefore providing clear standards of expected student performance, known as standard-based performance is vital. This is presently being achieved with some assign-

ments, for example in rehabilitation, reflective practice, ergonomics and learning contracts. Working closely with colleagues becomes important to ensure that other assessors would, in so far as possible, reach the same conclusion in correcting and assessment. This is known as benchmarking and can be developed beyond the faculty to include tutors from similar programmes in other institutions.

For effective learning to occur, students need interwoven formative (no allocated mark, lots of useful

*“The main aim is to develop highly competent practitioners”*

feedback) and summative (marks allocated) tasks. The key for formative assessment to be effective is that the results achieved must be used to adjust teaching and learning. This in educational terms is called scaffolding and can be reduced as the student progresses.

Effective early communication of assessment tasks is necessary, particularly with our style of course delivery. This enables students to plan and work towards satisfactory completion.

Finally, in order to facilitate the development of autonomous learners who can identify their learning needs and act on it, self-directed learning tasks and self-assessment should be incorporated into the teaching, learning and assessment strategy.

## Problem-based Learning

Evolved from innovative health science curricula introduced in North America over thirty years ago as a response to the acknowledgement that the intensive pattern of basic science lectures followed by an equally exhausting clinical teaching programme was rapidly becoming an ineffective and intrusive way to prepare students, given the explosion in medical information and new technology and the rapid changing demands of future practitioners. Its main aim is to develop highly competent practitioners who will continue to learn effectively throughout their lives.

Barrows, one of the major contributors to the field of problem-based learning (PBL), defines PBL as “...the learning which results from the process of working towards the understanding of, or resolution of, a problem.” (Barrows & Tamblyn, 1980).

PBL demands a sound understanding of the knowledge students have researched and explored and an ability to critique information. It offers opportunity to engage with complexity and helps students both to see ambiguity and to learn to manage the ambiguities that prevail in professional life. To engage in PBL the curricular content must be organised around problem scenarios rather than subjects or disciplines.

Students work in teams or groups to solve or manage those situations but are not expected to acquire a predetermined series of “right answers”.

Instead they are expected to engage with the complex situation presented to them and decide what information they need to learn and what skills they need to gain in order to manage the situation effectively.

PBL facilitates the development of important abilities such as flexibility, adaptability, problem-solving and critique.

*Boud, D., Feletti, G., 1999. The Challenge of Problem-Based Learning*

# Assessing Procedures and Techniques

*The following text contains excerpts from the Student Assignment Handbook (Morgan et al., 2004)*

Rarely, in higher education, are skills assessed in isolation. They are usually performed in their professional context and involve significant prior knowledge and understanding of the purpose and application of the skills.

Often assessments will include attitudinal factors in the performance e.g. showing due care, diligence and application of the skill. It may also include some component of self-reflection, assessment of strengths and weaknesses and areas to be improved.

Student performance must be assessed against explicit standards of performance so that there is no ambiguity regarding the minimum level of competence required and what the student has actually achieved.

In addition to actually performing a procedure, it may be expected that students explain why the procedure

*“Ability to master tacit knowledge will have a significant impact upon student performance”*

is appropriate in such circumstances, what other procedure may be relevant and how the procedure may differ according to changed circumstances.

As students develop expertise, it is usually appropriate to assess multiple procedures and techniques in concert with each other or as part of a decision-making scenario, so that a more holistic picture of competence can be gained.

## **Tacit Knowledge – What is it?**

Tacit knowledge relates to the development of the requisite intuition and savoir-faire to flourish within a professional community. Usually these forms of knowledge are acquired indirectly by students through observation and modelling. They may be very subtle in nature and often unconscious even to teachers, yet the ability to master tacit knowledge



will have a significant impact upon student performance.

Tacit knowledge provides a challenge to assessors to ensure that key qualities, attitudinal attributes and skills expected in the performance of a task are well explained to students, or that they are modelled and their underlying norms and values are discussed openly.

## **Devising a Clear Picture of What’s Being Assessed:**

Decisions need to be made about the type of techniques or procedures being assessed and the level of performance. These are based on the assessors understanding of the appropriate cumulative development of skills over the course of study.

Some techniques may only need to be assessed once during a pro-

gramme. Other more complex tasks should be cumulatively developed over a whole programme. Expected gradations of ability over time need to be well communicated to students.

## **Integrating Skills with Underpinning Knowledge and Understanding:**

Performance of techniques without being able also to provide a rationale for use, common variations and other under-pinning knowledge, is of limited use.

## **Ensuring The Most Authentic Conditions Possible:**

There is little point in developing professional abilities unless they are transferable to the workplace. It is worth ensuring that the most authentic conditions are made available to students for practice and assessment.

Individual improvement and common mastery may not be necessary

*“Peer and self-assessment provides opportunities that help students monitor their own progress”*

for all students to achieve a common level of competence.

Peer and self-assessment provides opportunities that help students monitor their own progress and provide constructive feedback to others.

It is important from a professional point of view that students learn to gauge their own progress in the acquisition of skills and to benchmark their progress with others in the group.

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# Assessing Procedures and Techniques

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Criteria and standards must be very explicit and well communicated to students for meaningful judgements to be made.

Clinical assessment provides ideal opportunity to assess skills in context

Problem-based exercises can also be employed for the demonstration of competence, the advantage being that the student can perform the skills in context.

So while skills are the focus of the task, there is also a significant element of analysis and relating theory to practice.

## Implications for Teaching Procedures & Techniques

Competence is acquired through practice. The principal challenge for teachers is to provide maximum opportunities for practice with individual feedback upon developing expertise.

- There may be no absolutes or external measures of acceptable competence. This is particularly the case if the skill is assessed at different points across a programme with staged development of expertise. In this instance, teachers will be required to exercise professional judgement about what is appropriate and at what stage.

- Transferability of skills is a key issue. If the conditions under which the skill is assessed is not particularly lifelike, the likelihood of its transfer to real-life situations may be questionable.

- There is much tacit knowledge in the competent performance of procedures and techniques. It is important for teachers to be able to articulate all the qualities of performance upon which judgements will be made and to ensure that these are adequately taught or modelled during practice sessions.

*Morgan, C., Dunn, L., Perry, S., O'Reilly, M., 2004. The Student Assessment Handbook. New Directions in Traditional and Online Assessment, 133-142.*

## Development of Communication Skills Through Assessments

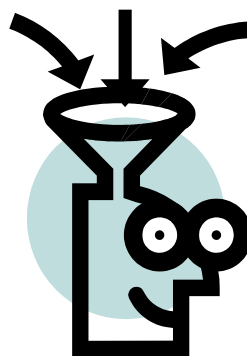
Effective communication evokes understanding of what the originator has attempted to impart (Moore 1993.) Oral and written communication skills are integral to the demonstration of effective learning and to effective clinical practice. In order to facilitate the development of these essential skills we must ensure clearly stated learning outcomes for each stage of the course and align our assessment tasks accordingly. Therefore the assessment task effectively guides students in developing the required skills. Numerous methods are available, each of which emphasise different skills. The following is a brief overview:

**Oral presentation** skills require practice with feedback and more practice, and a clearly explained or negotiated marking criteria with standards made explicit.

Simulated professional practice which assesses students' interpersonal communication skills greatly enhances

those skills and prepares them for their work with clients.

Assessment of class participation encouraging high-quality student contribution through discussions and debate



can play a large part in student's own learning and that of fellow students.

**Essays**, while providing a vehicle for students to demonstrate their understanding, critical thinking and problem-solving ability, can be extremely useful in developing students written communication skills. Of course, guidelines should first be provided and followed up with feedback to

help students improve their performance in future assessment tasks. **Report writing** is also a required skill with emphasis on structure, format and style of language.

**Clinical practice journals** can help develop skill in both the interpersonal aspect of communication and honest self-reflection.

**Mentoring of junior students** could facilitate skills development in negotiating, developing rapport, listening, assertiveness, respects, effective expression of thoughts and feelings, honesty in coaching and feedback.

**Demonstrating techniques** encourages reflection on each step involved, preparing students for effective participation in learning groups and providing clients with clear, systematic advice on how to carry out tasks, such as exercises or applying ice.

**Posters** can encourage students to develop an ability to encapsulate ideas to express knowledge, understanding ideas in a creative and succinct way.