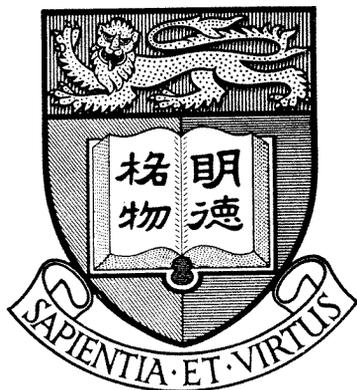


HKU SPACE Handbook on
Effective Teaching

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*This book was a gift
from*

Professor Cheng Kai-ming

Written by Dr. LEE Wai-choi, Eddy

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Message from Director

Dear Fellow Teacher,

Time and again - first with the rise of the computer and then the rise of the Internet - people talked about the obsolescence of the teacher in flesh and blood. And yet time and again these people were proved wrong. As one who has been engaged in the field of education for over 30 years, it is my conviction that no matter how technology advances, there is no substitute for the insights, inspirations, encouragements and loving care that a good teacher can bring to the learning experience of a student. A good teacher in flesh and blood will always be the greatest asset in any educational endeavour.

And there is no doubt that the greatest assets of the School of Professional and Continuing Education (HKU SPACE) are its teachers - and that means YOU! As an institution dedicated to providing education of the highest quality to various sectors of the community, HKU SPACE is always working on the improvement of teaching quality throughout the School. The publication of this handbook represents a small step in our continuing efforts in this direction.

Many of the skills mentioned in this handbook would have been practised by experienced teachers for years. But still I hope they will find things that are interesting and refreshing. For new-comers, there is a wealth of information in this booklet that could help them on their way to becoming excellent teachers. In any case, please give us your valuable feedback (see contact details in the Closing Remarks), so that future editions of this handbook can become even more useful.

Good reading!



Professor Enoch C.M. Young

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Introduction - What Makes a Good Teacher?



Many answers can be given to the question “What makes a good teacher?” Some of the standard ones are:

- 💡 Good academic/professional qualifications;
- 💡 A lot of teaching experience;
- 💡 Good teaching skills.

From the students’ perspective, however, the answers may be:

- 💡 Entertaining in class;
- 💡 Able to help me get good results in examinations or even lenient in his/her marking;
- 💡 Would overlook my occasional failure to hand in an assignment.....etc.

The main objective of this handbook is the improvement of *teaching skills*. No discussion on the merits (or otherwise) of the other answers given above will be made.

The point that has to be emphasised at the outset, however, is that teaching skills are NOT ENOUGH!

A truism that could not be over-stated is that a good teacher must be one who *loves* teaching. From this we can derive the following corollaries:

-  A good teacher is one who *loves* the subject he or she is teaching.
-  A good teacher is one who *cares* about his/her students, especially about how they are *learning/internalising* the skills/knowledge/concepts/attitudes which he/she is so *passionately* teaching.

In addition, a good teacher should have:

-  the sensitivity to interpret the inner thoughts, understanding and feelings of the students;
-  the reflective ability to interpret the pedagogical significance of the inner feelings mentioned above;
-  a sense of standards, limits, and balance that makes it possible to know almost automatically how far to enter into a situation and what distance to keep;
-  moral intuitiveness: the ability of instantly sensing what is the right or good thing to do. (van Manen, M., 2001)

On the other hand, it is our firm belief that even a good teacher as described above can benefit from gaining more knowledge about the skills of teaching. We hope you find this belief justified after reading this handbook.

The Major Characteristics of Adult Learners

Most of the HKU SPACE students are adults. It is therefore important to be fully aware of the special characteristics of the adult learner.

1. Relevance of the Learning

Adults come to class for a particular reason. They have to know *what* they are learning, and *why* they are learning it. They would be most motivated when their learning is relevant to their interests, their work, family life, financial management, or to a specific objective they may have. Remember: learning “irrelevant things” is one of the biggest turn-offs for them.

2. Personal Values and Pre-conceptions

Unlike children, adult learners already have a set of values and preconceptions about the world they live in. These may be highly articulated, or held subconsciously, or anywhere in between. During the teaching of adults, a teacher may often need to *challenge* these preconceptions, and yet be *sensitive* to the values (especially religious values) they hold and cherish.

3. Self-Image and Self-Esteem

The adult learner normally has a very definite and strong self-image. A good teacher should make use of this self-image – sometimes by challenging it subtly – to promote the learning process. Needless to say, self-esteem is a matter of great importance here. In general, if adult learners think they are being respected, they will learn that much better. Conversely, if they feel they are *losing face* or *being insulted*, they will not learn effectively.

4. Life Experience

A big difference between adult and non-adult learners is the wealth of experience the former group carries with them when they come to learn. Such experience can be both an *asset* and a *liability*. It can be an asset when it can be drawn upon to arouse their interest and facilitate understanding. It can be a liability when it leads to preconceptions which hinder the absorption of new knowledge and ideas. A good teacher will maximise the former effects and minimise the latter.



5. Fatigue

The best learning session should start by giving the class a jolt. This is especially important for adult learners who come to classes in the evening feeling *tired*, or are still *preoccupied* with various matters from their day (mostly in connection with their work). Stimulatory ‘arousal’ techniques will ensure that one gets the attention of the class and steers them into the mood for learning. (More of these techniques will be explored in Chapter 3.)

6. The Importance of Participatory Learning

A lot of research has shown that learning by hearing alone (say, in a lecture) is the least effective. Learning through hearing and seeing something is better, but learning by thinking something through and having hands-on experience of it is by far the best. While this type of “action learning” will benefit adults and children alike, it is particularly important for adults because as we grow older, our short-term memory becomes less reliable. For new knowledge and skills to take hold, the learners should be involved in a series of tasks that require active participation.

7. Surface Learning and Deep Learning

Biggs (1999) found that there are two main components of students' approaches to learning: surface learning and deep learning.

A student who adopts a surface approach sees the learning task as a means to achieve some other goals, sees aspects of the task as unrelated to each other, relies on memorisation, and attempts to reproduce the surface aspects of the task. This approach is driven by an extrinsic motive to gain a paper qualification or an award. A student who adopts a deep approach is interested in the learning task, searches for inherent meaning in the task, and attempts to integrate aspects of the task into a whole. This approach is driven by an intrinsic motive, to seek meaning, truth, and understanding.

Certain characteristics of the learning context have significant effects on students' approaches to learning. Perceptions of an overwhelming curriculum and a heavy workload are often related to a surface approach to learning. Teachers should create a learning context to promote a deep approach to learning. (Biggs, J. B., 1999).

8. The Need for Reinforcement and Consolidation

Reinforcement is crucial in any learning process, and again, this is particularly so for adults. Although one may be very eager for the students to learn new things, one should not forget that it is equally important to *consolidate* what the students have already learned. Frequent re-capitulations, reviews, discussions, exercises etc. should be undertaken as appropriate to achieve this purpose.

9. The Pace of Learning

A lot of research shows that adults learn best when there is *no time pressure*. In general, the older we are, the more we would prefer to sacrifice speed for accuracy in learning. We would also like to gather more information before making a response. Scores of experiments have shown that if adults are asked to learn something new under time pressure, the older they are, the more likely they are to become confused and to make mistakes. Where no clock watching is involved, there is no significant difference in performance. (Rogers, J. 1989)



10. Learning Environment and Teaching Aids

Environmental conditions such as temperature, humidity, ventilation and background noise level etc. all affect the effectiveness of the adult as a learner. For learners entering or beyond their 40s, due consideration must also be given to the fact that their acuity in both seeing and hearing will be on the decline. So it is important that a teacher's voice can be clearly heard even at the back of the classroom, that there is sufficient lighting for learners to take notes, and that the characters/graphics used when we are writing on the board, showing a transparency, or presenting a computer slideshow are large enough to be legible.

* * * * *

Needless to say, the above list is not meant to be exhaustive. Many characteristics mentioned are not entirely unique to adults. The main point to note, however, is the degree of relevance when they are applied to adult learners. Based on this observation, the term *andragogy* has been coined to represent the pedagogy of teaching adults, as distinct from the pedagogy of teaching children or young people.

The characteristics mentioned in this chapter seem to apply to "adults" as one age group. This is of course a gross simplification. A lot of research into the life-span of the physio-psychological development of adults has revealed that many characteristics undergo subtle changes at different stages of life. Detailed discussion of these changes is however beyond the scope of this booklet. You can consult the "Further Readings" section for more information.

Teaching Adults - the “Do’s” and “Don’t’s”

The “Do’s”

1. Do have an overall teaching plan;
2. Do try to find out your students’ backgrounds (e.g. age, educational background etc.);
3. Do be punctual;
4. Do dress appropriately;
5. Do be confident (Remember: your students do not know how nervous you are unless you show them!);
6. Do introduce yourself in the first meeting of the class;
7. Do be enthusiastic (Just think: if you are not enthusiastic about what you’re going to teach, why should your students be?);
8. Do understand and respond to the needs and expectations of the students;
9. Do regard the students as peers whose working/life experience may lead to valuable contributions to the class;

10. Do try to learn the names of the students and address them by name;
11. Do smile a lot and instill a friendly and yet stimulating learning atmosphere;
12. Do organise your teaching session systematically and maintain good time management;
13. Do vary your teaching methods; engage as many of the students' senses as possible;
14. Do include a break of 5 to 10 minutes if the session lasts over an hour;
15. Do encourage the students to express their views and respect different views and opinions;
16. Do acknowledge your ignorance regarding questions you cannot answer, and take up the task of finding out the answers (or invite the class to find out the answer together).

The “Don'ts”

1. Don't talk down to the students in a patronising manner;
2. Don't impose your opinion on the class;
3. Don't evade questions;
4. Don't lose your temper when handling difficult students;

5. Don't pretend to know everything;
6. Don't joke about sensitive issues such as religion, sex/gender, or cultural/ethnic matters etc.;
7. Don't engage in one type of classroom activity throughout;
8. Don't read out loud directly from your notes (unless you are quoting);
9. Don't restrict your attention to the "star students";
10. Don't cram too much content into one lesson;
11. Don't over-run for more than five minutes, as some students may have other engagements after the lesson.

Of course, the above lists are not designed to be definitive. You may well add items of your own, culled from your teaching experience.

Some of the "do's" and "don't's" will be further elaborated on in the following chapters.

Teaching Techniques I - Lecturing Skills

1. Review Teaching Plan

Review your teaching plan for the lesson at least 10 minutes before the class starts.

2. Check the Learning Environment

When you enter the classroom, first check whether the air-conditioning is turned too high or too low, and whether there is sufficient lighting for the students to take notes.



3. Kicking off with a Bang

Kick off your lesson with an “*attention-grabber*”. This can be a question, a provocative remark, a joke, a cartoon transparency, a short video, or a sound recording etc. This is important as adult learners who come to classes in the evening are mostly *tired*, or are still *preoccupied* with various matters from their day. Stimulatory ‘arousal’ techniques will ensure that one gets the attention of the class and steers them into the *mood for learning*.

4. Consolidate Previous Learning

Re-capitulate what the students have learned in the last session. Better still, approach the subject matter from another angle, and cast what they have learned in a new light. Ask the students for points that need clarification.

5. Outline the Objectives of the Lesson

Give an outline of the territory to be covered, and highlight the objectives to be achieved in the lesson to follow. This will raise the interest of the students as well as focussing their attention.

6. Variation of Classroom Activities

After the above introduction, you can now start your lesson in earnest. Remember that lecturing is only one type of classroom activity. Although it can be highly effective when well delivered, considerable research has shown that more effective learning can take place if lecturing is alternated with *other classroom activities* from time to time. (Please see Chapter 4 for a list of other classroom activities.) In any case, restrict your lecturing to *less than 30 minutes in one go*, so as to avoid “auto shut-off” by bored students.

7. Basic Presentation Skills

Here are a few tips on effective classroom teaching. Most of them are basic common sense, but it is surprising how many practitioners still fail to follow them. (Please also see Chapter 8 – The Effective Use of Teaching Equipment/Technology.)

-  Encourage the students to *come forward* and take up the front seats, especially if it is a small group and the classroom is large;
-  always ensure that your voice can be clearly heard, even by those at the back of the classroom; arrange for voice amplification to be set-up before hand if it is a large classroom;
-  do not talk too fast or too slow; maintain variations in the intonation and rhythm of your voice to make your speech captivating; use short pauses to create effect;

-  have frequent *eye contact* with the students - include all students and avoid restricting this to a few nearby students; however, avoid looking at any one student for a prolonged period of time (unless he or she is talking);
-  use suitable (and not over-exaggerated) *gestures* to emphasise the key points in your lecture;
-  avoid *distracting mannerisms* such as twirling your pen or jingling the keys in your pockets etc.;
-  also avoid verbal mannerisms (*verbal tics*) such as overuse of "Well", "OK", "You know", "Obviously" etc.;
-  avoid sitting and standing in the same place throughout the lecture; *change your posture and position from time to time*, including walking down the aisle among the students (do not overdo it, however, as this will become distracting to the students);
-  try to *face the class* at all times; avoid turning your back on the class for long stretches while writing on the chalkboard or whiteboard;
-  *ask questions from time to time* to involve the students in the learning process (see Chapter 4 for more details on questioning skills).

8. Use of Examples and Anecdotes

Use examples as much as possible to *illustrate* your point, especially for more abstract and complicated principles and concepts. Tell a “story” if you can, as people tend to remember *anecdotal information* more than information based on general principles.

9. Use of Mnemonics

A mnemonic is a memory-assisting device. One good example is the first aid check “ABC”, meaning “Always Breathing Circulation”. Another interesting example is the mnemonic invented by a Harvard astronomy professor for memorising the spectral types of stars:

O, B, A, F, G, K, M

(“O”-type stars are the hottest and bluish-white in colour; “M”-type stars are the coolest and reddish in colour. Our sun by the way is a yellowish G-type star.)

The mnemonic is “**O**h! **B**e **A** Fine **G**irl, **K**iss **M**e!” (Nowadays, the “G” should of course be either “Girl” or “Guy” to respect sexual equality.)

The use of mnemonics will help to make the learning fun and the memory stick. There is no doubt that the Harvard professor’s astronomy students would never forget the spectral types for the rest of their lives!

10. Perspective! Perspective! Perspective!

Just as real estate agents say that the three most important factors determining the value of a property are “Location! Location! Location!”, the three most important factors determining the value of one’s learning are “Perspective! Perspective! Perspective!” A good teacher is one who - instead of transmitting *disjointed knowledge* - can help students to get the bigger picture and put their learning into perspective.

The fact is that in this age of “information explosion” and “information overload”, the only way to stay on top is to adopt a *holistic* approach to learning. With this approach, where knowledge is *integrated* and not *fragmentary*, the more we learn, the easier it is to assimilate the new knowledge we acquire.

11. Time Management

It is assumed that you have a teaching plan - no matter how detailed or simple - before coming to class. A general suggestion is not to be over-ambitious or include too much in one lesson. Always allow time for questions and answers. Stick to the planned time allocation as much as possible, and yet be flexible if the situation warrants.

12. Issuing Hand-outs

Try to issue your hand-outs for the lesson *at the end of the lesson* instead of at the beginning. Otherwise the students will be reading the hand-outs throughout the lesson instead of listening to you. To prevent the students from madly scribbling notes (and again not listening to you), tell the students beforehand that future tests / exams will be fully based on the hand-outs to be issued later.

One way to stimulate the students both to listen to your lecture AND read the hand-outs afterwards is to deliberately leave out important information in the hand-outs in the form of blanks. Students are asked to *fill in the blanks* based what they have learned in the lecture.

It is also good practice to give the students some reading materials *to prepare for the next lesson*, but the amount should not be too much because as working adults, the students often cannot spare too much time for pre-reading.

13. Wrapping Up

A good wrap-up is as important for a lesson as a good kick-off, as people tend to have better memories of both the *beginning* and *end* of an event. During the wrap-up, try to *re-capitulate* what you have covered in the lesson, highlighting the key concepts and salient facts. To keep the students' interest, you can pose a question and ask the students to give you the answer in the next lesson. Lastly, you can give a "taste" of what will be covered in the next lesson.

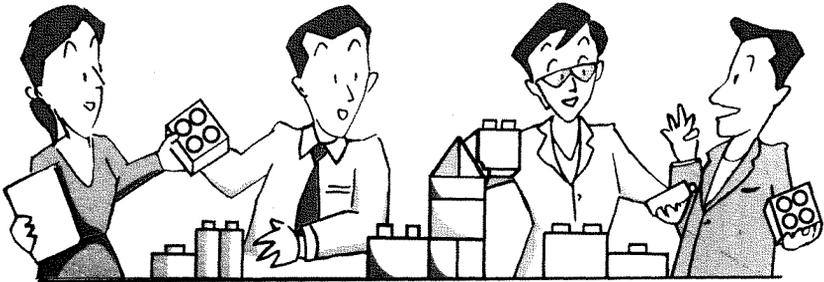
Teaching Techniques II - Interactive Learning Inside the Classroom

1. Classroom Teaching Methods

There are many classroom activities - apart from lecturing - that can be employed for effective teaching and learning. Some of these are:

- ✿ simple *demonstrations* conducted by the teacher;
- ✿ minor *experiments* (that do not require special equipment) conducted by the students (Needless to say, safety is always the primary concern for the above two activities);
- ✿ *questions and answers* as guided by the teacher;
- ✿ *class discussions* around certain questions or topics (e.g. what are your views on abortion, or euthanasia, or human cloning);
- ✿ *discussions* based on individual input (e.g. "list 3 objectives you want to achieve in attending this course");
- ✿ *discussions* after watching videos, listening to recordings, or reading articles together;
- ✿ *group discussions* followed by presentations (and then further discussions);

- ✿ presentations of results of either group or individual projects;
- ✿ case studies (preferably on real-life examples) using all or some of the above techniques;
- ✿ quizzes;
- ✿ debates;
- ✿ table-top group exercises in problem-solving;



- ✿ role-playing exercises;
- ✿ videotaping any of the above classroom activities and watching the replays for discussion and/or evaluation.

A detailed exposition on the skills for conducting each of the above activities would be inappropriate in this handbook. Instead, we will concentrate on the skills for conducting *discussions*, which form an essential part of many of the above activities.

Asking questions is often the start of a discussion, so let us start with the skill of asking questions.

2. Questioning Skills

Asking the students questions seems to be the simplest task a teacher can do. And yet the learning effectiveness of these “question-and-answer sessions” will differ markedly depending on how we have mastered the relevant skills.

Firstly, it is often not necessary to assign a special “Q&A” session in class. Questions can be asked at any time, and in fact, it is good practice to intersperse your lecturing with occasional questions.

In general, questions can be used to:

-  focus *attention*;
-  arouse *interest*;
-  enhance *inclusion* by drawing out the reticent learner;
-  obtain *student feedback* on the progression of the lesson;
-  assess the level of *understanding*;
-  assess the ability to *apply learned concepts and knowledge*;
-  stimulate and guide *thinking and reflection*;
-  explore different *viewpoints*;
-  promote discussion and *sharing*;
-  keep the discussion *on track*;
-  *summarise* progress and *consolidate* learning.

There are two main types of questions: open and closed. A *closed question* usually permits only one answer, like “In which year were telecommunications de-regulated by the U.S. government?” On the other hand, an *open question* has no single, definite answer. An example is “How, in your opinion, should the Internet be regulated?”

Both open and closed questions can be put to good use. But generally speaking, open questions lead to more reflexive thinking and hence offer a richer learning experience.

Here are a few tips in asking questions:

- ✓ in general, do not direct the question to a specific participant; direct it to the *whole class*;
- ✓ allow some time for the participants to think the question over;
- ✓ do not waste too much time waiting for answers though (30 seconds is about the maximum); if nobody responds to the question, *choose one participant* to give the answer;
- ✓ in picking the participant, try to select the more *passive and timid* participants rather than the more vocal ones;
- ✓ if the respondent speaks too softly, ask him/her to *speak up* so that the whole class can hear; repeat the answer for the benefit of the class if necessary;
- ✓ ask the respondent to *clarify and elaborate* if the answer is not clear or is incomplete;

- ✓ solicit *comments* on the given answer so as to involve the whole class and to draw out different opinions;
- ✓ avoid asking *multiple questions* in one go which may create confusion.

Remember: when you are asking questions, you are putting the spotlight on the students instead of yourself. This helps to take pressure off you and let you take stock of the progress of the lesson.

Note that due to their cultural upbringing, most adult learners in Hong Kong are not very out-spoken. A lot of encouragement and patience is usually required to bring out active responses from the class. The teaching and learning outcomes, however, are certainly worth the effort.

3. Facilitating Discussions

Discussion is one of the most powerful tools of teaching and learning. The transition from “lecturing to questioning to discussion” represents roughly

the move from the *didactic* to *rhetorical* and then to the *dialectic* mode of teaching and learning. All three modes are important, but for adult learners, it is obvious that the latter two modes carry special significance.



The best way to start a discussion is by asking a (preferably *provocative*) question. To conduct a fruitful discussion, the teacher should:

- 💡 abstain from imposing his/her opinion or conclusion on the class;
- 💡 respect the contributions of all participants by “*active listening*” (through facial expression and body language), and thanking the respondents ;
- 💡 use *body language* to encourage expression; this includes:
 - ✿ nodding;
 - ✿ smiling;
 - ✿ constant eye contact;
 - ✿ leaning forward;
 - ✿ raising eyebrows;
 - ✿ closing eyes momentarily in the way of deep thinking;
 - ✿ frowning (encourages clarification).
- 💡 use verbal cues to elicit further response; these include:
 - ✿ “Aha!”
 - ✿ “I see.”
 - ✿ “Really?”
 - ✿ “That’s interesting.”
 - ✿ “Is that the case?”
 - ✿ “Go on!”
 - ✿ “Do you really think so?”
 - ✿ “Tell me more about it.” etc.

- 💡 encourage the more *silent participants* to speak up (first by seeking their views directly, and then by body language and verbal cues);
- 💡 prevent one or two participants from dominating the whole discussion by asking for the comments of other participants;
- 💡 provide further information for reference in the discussion when necessary;
- 💡 play "*devil's advocate*" from time to time and deliberately raise radical/absurd ideas to stimulate thinking and debate;
- 💡 point out *factual errors* and *faults of reasoning* along the way;
- 💡 follow the flow of thinking of the participants, and yet keep the discussion *on track* by reiterating the main theme when necessary;
- 💡 maintain a *balance of views* by highlighting opposite viewpoints, especially if the discussion is overwhelmingly slanted in a certain direction;
- 💡 *summarise* progress from time to time;
- 💡 give a *wrap-up* at the end of the discussion session.

4. Problem-Based Learning (PBL)

A major theme running through almost all education theories is the need for integrating *theory* and *practice* (or "*practicum*" in educational jargon). In recent years, the importance of practicum has been elevated to new heights and embodied in the pedagogical movement of problem-based learning (PBL).

In a way, PBL is not much different from the case studies or table-top group exercises in problem-solving as mentioned at the beginning of this chapter. Carried to the extreme, however, PBL argues for the replacement of ALL didactic learning by problem-oriented modes of learning. A detailed exposition of the principles of PBL is beyond the scope of this booklet. You can find out more about it from the "Further Reading" section. As a teacher, it is up to you to decide to what extent should PBL be adopted in a way that is appropriate to the subject discipline you are teaching.

Although some PBL activities can be conducted inside the classroom, a significant proportion will have to be conducted outside, either in mock-up scenarios or in real life situations. Learning activities outside the classroom are the subject of the next chapter.

Teaching Techniques III - Learning Activities Outside the Classroom

Let us not forget that the best classroom in the world is the world itself.

It is obvious that for subjects like astronomy, geology, zoology, botany, ecology, anatomy etc, no amount of lecturing or discussion - no matter how well conducted - can replace the insights and understanding to be gained from studies in the real world. In the domain of arts and humanities, the same can be said for subjects like music, painting, sculpture, architecture, archaeology, psychology, sociology, cultural studies, health care etc.

The range of practicum activities is wide, and often depends on the subject under study. Examples are dissection for anatomy, stellar observations for astronomy, and field work for archaeology etc. However, there are three broad types of activities that are applicable to a wide range of subjects, and therefore deserve our special attention.

1. Field Studies and Visits

These may include:

- 🔑 field studies of geological formations or animal behaviour etc.
- 🔑 visits to famous paintings, sculptures and architecture etc.
- 🔑 attendance of arts performances such as music, dance and drama etc.
- 🔑 attendance of court proceedings and legislative council meetings etc.
- 🔑 visits to institutions like schools, hospitals, youth centres, prisons etc.
- 🔑 visits to facilities like power plants, observatories, container terminals, traffic control centers, earth-satellite stations, stock exchange centres etc.



The above list provides a sample of possibilities, and a teacher is limited only by his/her imagination (and resources of course) as to what meaningful visits and field studies could be arranged for the students.

To reap the full benefits of such field trips, there must be:

-  clear objectives as to what should be achieved;
-  good overall planning, including all logistical arrangements;
-  a contingency plan in case the activity is affected by adverse weather;
-  safety measures to guard against any possible hazards; in some cases, students should be insured;
-  good preparation of the students in terms of background knowledge and what to look out for;
-  a full evaluation of the achievements or failures of the field trip afterwards.

It should be noted that for some field trips, the evaluation should be done immediately afterwards; while for other types of trips, the teacher should allow time for the experience to sink in (or give some follow-up work to be done) before a full evaluation is undertaken. The teacher should choose a way which would achieve the best learning outcomes.

2. Study Projects

Project learning is one of the most effective modes of learning. Although it can at times be demanding on the learners, the *sense of achievement* as well as the *experience* gained can also be highly rewarding.

In a project, the learner either as an individual, or in a small group, would set out to achieve an objective using resources outside the classroom. The activities involved may include various ways of information gathering such as the field trips mentioned above, visits to libraries and museums, Internet searches, experiments, interviews, surveys etc., to be followed by data processing, analyses, report writing, presentations, or the actual construction of something.

Many of the guidelines given for visits and field studies above also apply to project studies e.g. clear objectives, concern for safety etc. One more thing that has to be noted, however, is *how much advice/guidance* should the teacher provide to the learner(s) during the course of the project.

- ✿ With too much advice, you may:
 - ✎ bias the direction of the project;
 - ✎ decrease the learners' initiative and innovativeness.

- ✿ With too little advice, there is the danger that:
 - ✎ the project will stray off course or
 - ✎ run into a dead end.

There is no doubt that for large projects, the teacher should monitor the progress from time to time. A good teacher is one who provides timely and sufficient advice to keep the project on track, but not to the extent of biasing the participants or stifling their own initiative.

3. Internship

In many subject areas, there is no substitute for the learning to be gained from hands-on experience and on-the-job training, or in short, from *apprenticeship*.

Nowadays, with the burgeoning of formalised education for every conceivable subject, “apprenticeship/internship” may seem a luxurious component to be added to an education/training programme. The fact is that in the past, apprenticeship was the major way of educating/training newcomers for many trades and professions.

Again, many of the guidelines for field trips and project studies are applicable to internship. Specifically, we have to make sure that:

- ✓ the intern has already acquired the basic knowledge, skills and attitudes required for the job;
- ✓ he/she has been briefed in detail on exactly what is expected of him/her.

In addition, we have to make sure that in case mistakes are made, this would not lead to significant harm either to the intern or the organisation he/she is working for.

There are in actual practice many different degrees of “internship”, ranging from simple attachment - with the intern “shadowing” somebody and doing nothing of significance, all the way to the intern functioning in an actual post, with the instructor/supervisor giving inspection only from time to time. The actual form of internship to be adopted would depend on the teaching strategy of the teacher on the one hand, and the arrangements that are acceptable to the participating organisation on the other.

Needless to say, the teacher and the supervisor in the participating organisation would have to work closely together to maximise the benefits to be gained from the internship.

4. Study Groups

Apart from the above three categories of learning activities, an important mode of learning outside the classroom is “group learning” via study groups. Apart from enhancing the learning process, the socialisation involved in group studies will also help to partially alleviate the “*loneliness*” experienced by many students in continuing education.

In the past, working adult students often found it hard to get together outside the classroom because of time constraints. With the rise in the use of email, the situation is now much improved.

The role of the teacher here is to encourage and facilitate the formation of such study groups. Once formed, they should be left on their own as much as possible.

5. Learning to Learn

Not all learning activities outside the classroom have to be directed by the teacher. On the contrary, the most important learning outside the classroom are often those initiated and undertaken by the students themselves.

Although a cliché, the wisdom in teaching someone to fish instead of giving him/her a fish each day is still the ultimate goal of any good teacher. And a *great teacher* is one who instills both the *passion* as well as the *skills* of "*learning to learn*", so that the students can continue to enjoy the fruits of learning for the rest of their lives.

Fundamentals of Student Assessment

A good teacher should be always aware of how the students are learning - how much they have learned so far, how deep their understanding of the subject is, how effectively they could apply the knowledge and skills taught, what difficulties they are facing in their learning process etc. *Assessing the students' learning outcomes* is therefore a crucial part of a teacher's job.

While *student assessment* can be used for a variety of purposes (e.g. placement, progression, certification), the present chapter will focus on its use to enhance teaching effectiveness. Emphasis will therefore be put more on the *formative assessment* (to be undertaken during instruction) rather than the *summative assessment* (to be undertaken at the end of the instructional programme) of student achievements.

Formative Assessment:

Formative assessment is used to collect evidence from time to time on student learning, with a view to promoting better learning during the course. Teachers can use methods such as probing questions, tasks, observations, quizzes, assignments etc. to assess the learning effectiveness. Assessment results can help the teacher to improve his/her teaching method(s) during the course.

Summative Assessment:

Summative assessment is often carried out through pen-and-paper tests and examination at the end of a teaching unit or semester. The main objective is to find out what a student has learned and how much has been achieved. Student performance may be reported in grades, marks or profile form. The overall assessment results may also be used to identify areas (both in curriculum and pedagogical designs) which need improvements in future courses.

1. The Basic Principles of Assessment

The basic guidelines in carrying out effective assessment are:

- ✓ The teacher should make sure that the curriculum has set out what students should achieve in terms of the learning targets and objectives. He/she should then make sure that these are clearly understood by the whole class;
- ✓ Appropriate assessment methods should be selected/ designed to match the specific learning objective; *multiple indicators* should be used where possible to assess each objective;

- ✔ Students should be given clear guidelines and sufficient time to prepare for the assessment;
- ✔ Teachers should be aware of the *limitations* of the assessment methods during the interpretation of results;
- ✔ Students should be helped to understand their strengths and weaknesses in learning, and to know what they should try to achieve next, and how best they might do this. They improve their learning based on feedback from teachers.

Some of these points are elaborated below:

A. Different dimensions of assessment

In terms of learning objectives, the students could be assessed on a variety of levels and dimensions such as

- 🔑 Factual knowledge;
- 🔑 Cognitive understanding;
- 🔑 Analytical power;
- 🔑 Reasoning skills;
- 🔑 Problem-solving skills;
- 🔑 Evaluative/judgemental skills;
- 🔑 Creative thinking skills;
- 🔑 Physical skills;
- 🔑 Artistic skills....etc.

The assessment method used should match the specific objective one has in mind.



B. Limitations of different assessment methods

In terms of limitations of the assessment methods, one should be aware of the problems of reliability and validity:

Reliability - how reliable are the assessment results in reflecting the student's overall competence in the area being tested? (e.g. high scores obtained by a certain student in a multiple choice test may be a fluke.)

Validity - how valid are the inferences to be drawn from the assessment results? (e.g. even if the results are not due to a fluke, high scores in a grammar test may not imply that the student has good writing skills.)

C. Quality marking

It could not be over-stressed that a major objective of assessment is to promote better learning among the students. With this in mind, one should:

- 💡 mark with an aim of helping students to find out what they have learned well and what they have not learned so well, and tell them how to make improvement;
- 💡 to achieve the above objective, do not mark with just ticks, crosses, grades and marks. Concise explanatory comments should be given to inform students why some answers scored high marks, while some answers did not;
- 💡 try to use subject-specific marking criteria in line with learning targets set for the assessment tasks.

2. Conventional Assessment Methods

Often referred to as the paper-and-pencil methods of assessment, the conventional assessment methods include the following major categories.

A. Short Answer Questions

This is a simple way to test basic knowledge and understanding on a certain topic. Still, one should be open-minded and refrain from adopting a unique “model answer” when marking the tests. Credits should be given to students who offer different but sensible answers.

B. Selected Response Tests

The simplest form is the binary choice (basically “true/false”) questions. The more common form is the multiple choice questions. The merit of this assessment method is its objective and quantifiable nature. The drawback is that it does not allow the self-expression of the student either in terms of ideas, viewpoints or the underlying thinking process. However, there is no doubt that a well-designed multiple choice test can reveal a lot about the breadth and depth of understanding of the students in a relatively short time. The construction of a high-quality multiple choice test is a fine art, and is beyond the scope of this booklet.

C. Interpretative Exercises

In this method, a set of information is presented to the students, and questions are asked in relation to the information given. This is a very powerful method to test the understanding and analytic power of the students, not just on a single issue, but (if the exercise is well-designed) on a wide array of issues within a certain subject domain. For example, questions concerning a debate on the location of a new international airport could test the students’ understanding of human geography, urban planning, environmental protection, meteorology, aviation, tourism, project management, and even international finance.

The problem with this method is that the construction of good exercises (“scenarios”) is very labour-intensive. In addition, the teacher has to be both knowledgeable and open-minded, as there may be multiple - even unorthodox - answers to a single question. (The closer the “scenario” is to “real life”, the greater the possibility of multiple answers.)

Barring the multiple answers problem, methods A to C above usually have well-defined answers and therefore a definite marking scheme. These are therefore called *objective* or *standardized* tests of student achievement.

D. Essays

The merit of essay writing is that students can be assessed on their *deep understanding, higher-order thinking, integrative power, analytic and reasoning skills, evaluative ability, creativity, as well as on their linguistic and communicative aptitudes*. The drawback is that it is very time consuming both for the students and the teachers. As a result, the areas that can be tested within a certain period of time are quite limited.

In setting an essay-type test, the teacher should ensure that the students understand clearly what is expected of them. Correspondingly, the teacher should have a detailed marking scheme (say, on aspects such as “depth of understanding”, “coherence of argument”, “rhetorical skills”, “innovative ideas”, “clarity of exposition” etc.) according to which the essays are to be marked.

Still, due to the subjective nature of the marking of essays, one should not give options of essay titles for the students to choose, as the gradings of essays with different themes are very difficult to compare.

3. Alternative Assessment Methods

Starting from the 1980s, there has been a movement calling for the development of *alternative assessment methods* which can more accurately reflect the students' competence.

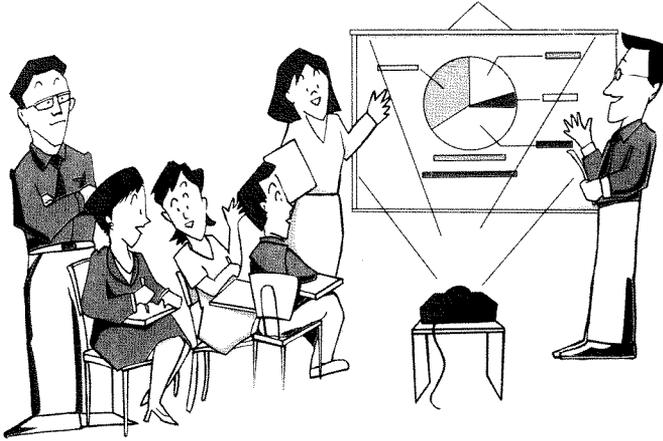
A. Performance-based Assessment

Also called *competence-based assessment*, the underlying philosophy of this approach is that we should move from testing "what the student knows" to "what the student can do with what he/she knows". Assessment techniques should also be *multi-dimensional* to cater for the *multiple intelligences/multiple talents* of different students.

The techniques commonly used include:

-  Demonstration of a skill e.g. driving a car, repairing a machine;
-  Construction of a product e.g. an architectural model, a website;
-  Conducting an experiment;
-  Undertaking a mini-research project;
-  Mounting a mini-exhibition;
-  Giving an oral/multimedia presentation;

- 🎤 Directing/performing in a play or musical presentation;
- 🎤 Attending a mock recruitment interview;
- 🎤 Writing a project proposal;
- 🎤 Compiling a portfolio of one's past achievements...etc.



The last example is becoming an increasingly important assessment technique in recent years, as a properly done *Portfolio Assessment* can help to reveal the learning status of a student not just at one point in time, but along a much longer timescale. It is already used by some universities/faculties in the admission of students.

As performance-based assessment need not be tied to any fixed test/exam schedules, it is closely related to the idea of *continuous assessment*, in which the behaviour/performance of the students are continuously monitored. Under this philosophy, the day-to-day performance of the students - say, their keenness and contributions to class discussions - should also be included in the assessment process.

B. Authentic Assessment

This is an extension of the performance-based assessment concept, with the added requirement that the performance should be on “*real life*” problems under “*real life*” situations as much as possible. This is a reaction to the phenomenon that many students who performed very well in class fared poorly in the workplace. Similar to problem-based learning (PBL) as mentioned in Chapter 4, a lot of discussion - and debate - has been generated among educators. Those interested can consult the relevant works listed in the Further Readings section.

4. Integrating Instruction with Assessment

Student assessment is a huge and complex subject. Major topics not covered in this brief introduction include:

-  Pre-instructional assessment;
-  Grading schemes;
-  Statistical analysis and interpretation of standardized test scores;
-  The problems of *norm-referenced vs criteria-referenced* assessments;
-  Testing of reliability and validity;
-  *Peer assessment*;
-  *Self-assessment*.

Interested readers can find out more about these topics by referring to the Further Readings section.

In the present context, the point to be emphasized is that good classroom assessment should form an integral part of the students' learning process. Firstly, the student should be able to advance his/her understanding of the subject during the assessment process. More important still, they should come to understand better their strength and weaknesses in their learning process. Secondly, the assessment results provide valuable *feedback* to the teacher as to how the students are learning. The teacher could thus modify the curriculum, teaching methodology or teaching style to enhance learning effectiveness. In short, it is only by *integrating instruction with assessment* that the best learning outcomes could be achieved.

Handling Difficult Participants

From time to time, we will encounter participants who are difficult to handle. These can be divided into the following broad categories:

1. The *heckler* who constantly interrupts and harasses a speaker by posing deliberately inconvenient questions and comments.
2. The *nit-picker* who is always complaining and criticising.
3. The *chatterbox* who can't stop talking once started.
4. The *braggart* who always boasts about his/her knowledge.
5. The *whisperer* who is always talking with the ones sitting next to them.
6. The *silent participant* who never speaks up or participates in any class activities.



7. The *bored participant* who fidgets and yawns frequently.
8. The *sleeper* who nods off, falls asleep, and even snores loudly.

The above descriptions are of course simplifications. We can in fact find student who possesses more than one of the above traits. In addition, a student can be detached, shy, timid, nervous, irritable, sullen, cynical, over-bearing, abrasive or even down right nasty. Although the chance of encountering a really difficult student is rare, a good teacher should always be prepared.

As a general advice,

- ✿ Never lose your temper;
- ✿ Try to be understanding; take into account that the students come from all walks of life, and may have encountered difficult experiences earlier in the day before coming to class;
- ✿ Always prevent confrontational situations from developing;

In particular, the following strategies are recommended in the handling of different types of students: -

- ✿ For the *heckler*,
 - ✍ find merit, express agreement, move on;
 - ✍ throw the question back to him/her e.g. "You've obviously done something on this. Can you tell us what your views are?";

- 👉 deflect the question to the rest of the class for comments
e.g. “How do the rest of the group feel?”;
 - 👉 wait for a mis-statement of fact, and then throw it out to the class for discussion;
 - 👉 in general, enlist other participants as your “defenders”;
 - 👉 use humour or self-depreciation to defuse belligerent comments.
- 🌸 For the *nit-picker*,
- 👉 try to find out the exact nature of the complaint, and address the issue as best you can;
 - 👉 emphasise that the purpose of your presentation is to be positive and constructive;
 - 👉 highlight the constraints you are facing;
 - 👉 use peer pressure to stop the complaints from interrupting the lesson.
- 🌸 For the *chatterbox* and *braggart*,
- 👉 Wait until he/she takes a breath, thank, refocus and move on;
 - 👉 Find merit, express appreciation, move on;
 - 👉 Slow him/her down with a *tough question*;
 - 👉 Jump in and ask the rest of the class to comment.

✿ For the *whisperer*,

- ✎ Stop talking until the whisperer looks up, and ask his/her permission to continue;
- ✎ Alternatively, ask whisperers to *share* their discussion with the whole class;

✿ For the *silent participant* and the *bored participant*;

- ✎ Ask them questions; *simpler* ones for the silent and timid participants, more *challenging* ones for the bored participants.

✿ For the *sleeper*,

- ✎ Leave them alone if they are not disturbing the class; they may have had a very tiring day;
- ✎ If the snoring is disturbing the class, ask their neighbours to wake them up; *engage* them with simple questions, and keep them awake with constant *eye contact* and further *questions* if necessary.

(Some of the above material is adapted from John Townsend's "The Trainer's Pocketbook"; see Further Readings.)

The Effective Use of Teaching Equipment / Technology

We have been using technology in teaching for a long time. But students cannot learn from technology alone, they learn from thinking. Technology can contribute to student learning if it is used as a tool and an intellectual partner that can help students to think.

1. The Chalkboard

Although the chalkboard is used less and less nowadays, it can still be found in many classrooms. If you are to use it,

-  ensure that you have an ample supply of chalk;
-  make sure you have the eraser handy;
-  as many chalkboards nowadays have a plastic instead of wooden surface, and the grip between the chalk and the board is not very good, make sure that your lines are bold and clear enough for easy viewing even by those at the back of the classroom;
-  divide the chalkboard into two or three columns, so that you can erase previous writing in a phased manner.

2. The Flip Chart

If you are using flip charts,

- ✓ move the stand to a position where the charts can be clearly seen by the whole class;
- ✓ make sure you have an ample supply of paper and markers;
- ✓ make sure that the markers are not dry;
- ✓ use thick or medium-point markers; never use fine-tipped markers;
- ✓ use at least two bold colours;
- ✓ write with big and clear characters;
- ✓ give a title to each chart;
- ✓ use bullet points instead of full sentences;
- ✓ add graphics to enhance attractiveness;
- ✓ remove sheets and post them onto the chalkboard/whiteboard for comparison/discussion if necessary.

3. The Whiteboard

If you are using the whiteboard,

- ✿ make sure that you have an ample supply of markers;
- ✿ make sure you have the eraser handy;

- ✿ make sure that the markers are not dry;
- ✿ use bold colours like dark blue or bright red; avoid using light colours like yellow and orange;
- ✿ divide the whiteboard into two or three columns, so that you can erase previous writing in a phased manner;
- ✿ make good use of the magnetic property of whiteboards for “animated” presentations or the posting of charts and posters etc.;
- ✿ if you are going to make use of the magnetic property of the whiteboard, make sure you have an ample supply of magnetic buttons/clips.

4. The Overhead Projector

Even in this computer age, the overhead projector (OHP) is still one of the most effective teaching aids in the classroom. A well-prepared OHP presentation can often be more effective than an ill-prepared computer slideshow.

Here are some tips in the usage of an OHP:

Preliminary setting

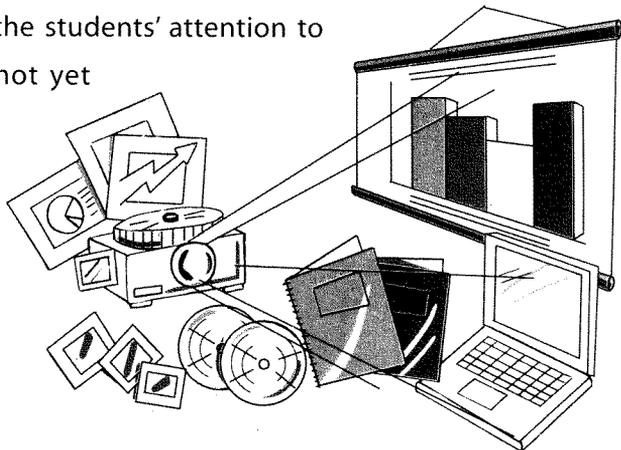
- 💡 make sure that the lighting near the teaching podium is *dimmed* to allow easy viewing of the screen contents;

- 💡 move the OHP sideways if necessary to ensure that the projection falls on the *centre of the screen*;
- 💡 vary the distance between the OHP and the screen to *maximise* the size of the projection (Remember: the image is enlarged by moving the OHP away from the screen, not towards it!);
- 💡 make sure that the projection does not deviate too much from a square shape; use a book underneath the OHP to adjust the *tilt* of the machine if necessary;
- 💡 make sure that the OHP is *in focus*; (sometimes, because of the tilting angle, when the upper part of the projection is in focus, the lower part will be out of focus, and vice versa; do turn back and look at the screen from time to time and adjust the focus when necessary);
- 💡 try to make sure that no one's view is *obstructed* by you and/or the OHP machine (nothing much can be done, of course, if the classroom is full);

Use of Transparencies

- 🔑 make sure that your transparencies are *well prepared* and stacked in the *correct order* before use;
- 🔑 *number* your transparencies to facilitate subsequent retrieval;
- 🔑 ensure that the markings on the transparencies are *bold and clear*, avoid using light colours like yellow or orange;

- 🔑 do not just photocopy your typed notes directly onto the transparencies, as the text will not be legible at the distance of the audience; if you have to use your notes, either *increase the font size*, or *enlarge the image* via the photocopier;
- 🔑 to enhance readability, *underline the keywords/phrases* with a colour marker, or if typed notes are shown, highlight them with a blue or green (but not yellow as it is too faint) fluorescent magic marker;
- 🔑 give a *title* to each transparency;
- 🔑 use *graphics* to enhance attractiveness;
- 🔑 do not cram too much information onto one transparency; use at most *two thirds* of the area of the transparency;
- 🔑 to use the overhead projector effectively, one should *cover the transparency initially and only reveal what is being discussed in a step-wise manner*; this will avoid diverting the students' attention to contents not yet discussed;



-  use a small weight (say, a rubber eraser) to prevent the transparency or the cover paper from *slipping off* the machine;
-  to achieve better expositions, you can *lay one (or more) transparency in succession on top of another* to good effect;
-  to refer to specific points on the transparency, you can either (1) use a long pointer or laser pointer and point to the screen, or (2) place a pointed pencil or ball-pen on top of the transparency and vary its position as you go along. The second method is better as you will be *facing the class* all the time;

Other points of notice

-  when you are not referring to the projected information for a period of time, *turn the OHP off* so that the students will not be distracted by the image on the screen;
-  make sure that you know how to switch to the *spare light bulb* if the one you are using burns out (this is usually accomplished by turning a simple switch on the machine);
-  make sure the power cord of the OHP is placed in such a way that no body could easily *trip* over it;
-  at the end of the lesson, just turn off the bulb but not the power of the OHP; the cooling fan should be kept running to *cool off* the machine.

5. The Visualiser

The digital visualiser is becoming increasingly popular, and has in some places replaced the overhead projector as the main teaching equipment in the classroom. The major advantage of the visualiser over the OHP is that it can magnify and project the image of a physical object (e.g. a silicon chip or a snuff bottle) for the whole class to see. Another great advantage is that we can directly show the graphics and photographs in any books/magazines, without the need to capture the images beforehand (either by taking 35mm slides or scanning them into a computer).

The resolution of the first-generation visualiser was rather poor. Later models have shown significant improvement, but the picture quality is still inferior to that of a well-made 35 mm slide. Another point to note in using a visualiser is that the angle of lighting has great impact on the quality of the image projected. Try to adjust the angle to obtain the best effect as well as to avoid glare reflections from glossy pages.

6. Computer Slideshows (PowerPoint Presentation)

Much of the advice for the running of computer slideshows is similar to that for OHP usage, including the following:

- ✿ make sure that the lighting is *dim enough* for easy viewing of the projected image (the dimming requirement is usually higher than in the case of the OHP, as the brightness of the image from the video projector is usually not as high as that from the OHP);

- ✿ use *large font size and bold colours*;
- ✿ use *bullet points* instead of full sentences;
- ✿ call up the bullet points *one by one* rather than showing them all in one go;
- ✿ add *graphics* to enhance attractiveness.

Other points to note include:

- ✿ avoid using *annoying slide change sound effects*;
- ✿ use *multimedia techniques* (i.e inclusion of still pictures, audio clips, video clips, animations etc.) creatively if you are proficient in IT skills;
- ✿ include *hyperlinks* to relevant web sites (make sure beforehand that the classroom has Internet connection);
- ✿ if your presentation is brought along in a diskette, *upload* it to the hard disk of the classroom computer first; this will lead to speedier control of the slideshow;
- ✿ if you are using the 6-in-1 PowerPoint print-outs of the slides, hand them out *at the end of the show* instead of at the beginning; otherwise the participants will be reading the print-outs instead of listening to you;

- ✿ Alternatively, you can use the 3-in-1 option and disseminate the print-outs beforehand, so that the participants can add their own notes during the presentation (the dim-out setting is however a problem for such note taking).

Lastly, one should be aware that a multi-media slide show can be over-done, and too many graphics, animations and sound effects may distract the students from the important objectives they are meant to learn.

7. The 35 mm Slide Projector

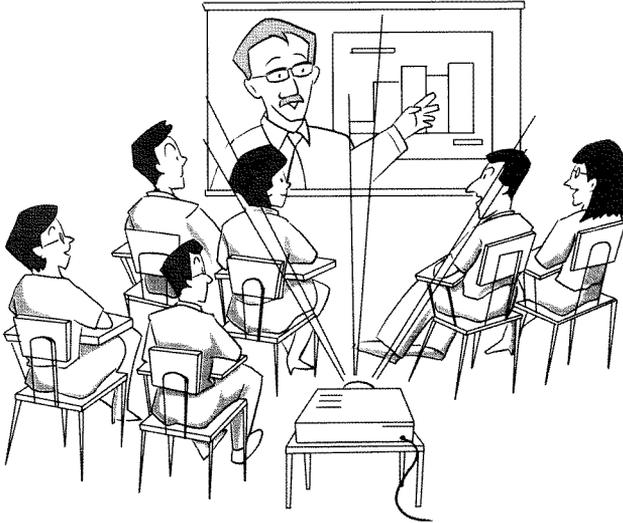
- ✿ to be used only when you need to present *very high quality pictures*; otherwise either use the visualiser or scan the pictures into the computer and incorporate them into a computer slide show (the one drawback of a 35mm slide show is the total black-out that is required to bring out the best effect; people tend to fall asleep in such black-out environments);
- ✿ *pre-arrange* your slides at home, and arrive at the classroom early for the insertion of the slides into the projector's slide tray;
- ✿ make sure that the slides are *inserted correctly* (Remember: there are eight ways of inserting a slide, and only one of them is correct!);

- ✎ adjust the distance between the projector and the screen so as to maximise the size of the projected image (as mentioned in the section for overhead projector, remember that the image is enlarged by moving the projector away from the screen, not towards it!) ;
- ✎ make sure that the projected image is *in focus*; because of the expansion of the celluloid under high temperature, you may have to adjust the focus from time to time (even for an auto-focus projector!).

8. Various Audio-Video Equipment

Audio-video equipment such as cassette tape/MD/CD players for audio, or VCR/DVD players for video can all be put to good use in a lesson. Make sure that you know how to operate the machines before you go to class, and beware of possible *infringement of copyrights*.

For the cassette deck and the VCR, make sure that you have *rewound/forwarded* the tape to the desired position before playing.



9. E-Learning Technologies

The rise of the Internet has opened up a whole new world for education in general, and for adult education in particular. The use of the Internet for learning is a huge topic that deserves a book in its own right (and volumes have in fact been written). Here in this booklet, we can only highlight the main teaching and learning activities that can profitably be undertaken using the Internet. These include:

- ✓ Internet searches/*surfing*;
- ✓ Email communications (student-teacher or student-student);
- ✓ Lecture delivery via *video-conferencing*;
- ✓ Lecture delivery via *video-streaming*;
- ✓ *Newsgroup discussions* (world-wide in nature);

- ✓ Discussion boards/*Bulletin Board Systems (BBS)* (normally with local emphasis);

(The above two types of communications are normally asynchronous i.e. not conducted in real-time)

- ✓ *Chat-groups* or *Chat-rooms* (synchronous communications);
- ✓ Internet games (although most of them are non-educational);
- ✓ Pre-designed, interactive learning packages;
- ✓ Self-evaluation exercises;
- ✓ Self-administered tests and examinations.

In a well-designed “learning platform”, there can also be many other useful functions such as

- 💡 posting of school notices;
- 💡 dissemination of class and exam timetables;
- 💡 management of personal schedules;
- 💡 issuing of lecture hand-outs;
- 💡 handing in of assignments;
- 💡 viewing of past exam papers;
- 💡 conducting of opinion surveys;
- 💡 construction of personal homepages;

💡 organisation of student association activities etc.

Most of the above functions are now available in the SPACE Online Universal Learning (SOUL) learning platform. The platform has been developed to serve both our students and our teachers. You can get a rough idea of its capabilities by taking the guest tour from the following website (click “Guestpage” and then “New Visitor”):

<http://www.soul.hkuspace.org>

If you are going to use the SOUL platform in your teaching - which we strongly recommend - please contact the HKU SPACE staff responsible for your programme. Or you can contact the SOUL Project Team at *webmaster@hkuspace.org*.

A final remark is that like all teaching technologies, IT is a means, not an end. The use of IT is meaningful only if it actually facilitates or enhances student learning.

A Brief Introduction to Educational Theories

Practitioners are usually suspicious of theorists. Teachers are no exception. Many teachers feel that they can go about their business very well without knowing a single theory of education. However, the fact is that in most cases, many of our values and assumptions which determine our approaches to teaching are actually influenced by a certain school of thought (or a mixture of different schools of thoughts) without our knowing it. As a reflexive practitioner, it is therefore wise to learn about the basics of these “hidden influences”.

The problem here is that being a highly normative subject, *educational theories* and *educational philosophies* are notoriously difficult to disentangle. Compounded with this is the failure of many theorists to agree upon the definition of a theory, and hence on exactly how many theories there are in a certain area of study. In view of these problems, the following can only be regarded as a very broad-brush overview of the landscape of educational studies.

1. General Education Theories

A. Behaviourist Theories

Based on the psychological theory of *behaviourism* of J.B. Watson and B.F. Skinner, the emphasis is on the *change in overt behaviour* of the learner achieved via various *stimuli-responses* and *reinforcement* mechanisms. Although largely discredited as a science of human behaviour since the 1970s, the relevant techniques are still widely adopted in the field of education and training.

B. Cognitive Development Theories

Based on the theory of cognitive development of Jean Piaget and W.G. Perry et al, the emphasis is on the (genetically predetermined) *stages of cognitive development* of a person, and the best teaching/learning strategies that could maximise the learning at each stage. Related theories include the *Gestalt learning theory* and *information processing theory*.

C. Humanistic Theories

Based on the humanistic psychology of Abraham Maslow and Carl Rogers, the theory posits that given the right environment, people have a natural tendency to learn and to improve themselves. The essence of learning is *self-actualisation* and *personal development*. This theory lays the foundation of the "*individualisation*" and "*student-centred*" approaches in modern education philosophy. A related theory is the *theory of recognition*.

D. Social Learning Theories

Championed by Albert Bandura and Julian Rotter et al, the theory stresses the importance of *social interactions* (in particular observations and imitations) as the source of all learning. Studies on the process of learning should therefore concentrate on the complicated interactions (involving elements such as “expectancies” and “reciprocities”) of the learner with his/her *social environment*.

E. Constructivist Theories

Based on the education philosophy of John Dewey and then on the works of L.S. Vygotsky and P.C. Candy et al, this theory sees learning as a process whereby the learner *constructs meaning* out of their own *experience*. The social constructivists go one step further and argue that “Teaching and learning, especially for adults, is a process of *negotiation*, involving the construction and exchange of personally relevant and viable meanings.” (Candy, 1991)

F. Critical Theories

Based on the Marxist *critique of modernity* and later on the *post-modern philosophies* of Foucault and Lyotard, this approach rejects the view of educational theory as an “applied science” and sees it instead as a form of “moral discourse” which is historically located, culturally embedded, and ultimately shaped by *power* and *ideology*. In its extreme stance, education is seen as an institutionalised “*colonisation of the mind*”.

It is important to note that the six types of theories as presented above are neither exhaustive nor mutually exclusive. Many theories in fact overlap with one another. In a way, they are just emphasising different aspects of a complicated phenomenon. The same applies to the theories of adult learning described below. (The following is adapted partly from Merriam and Caffarella, 1999.)

2. Theories of Adult Learning

A. Malcolm Knowles' Theory of Andragogy

First put forward in 1968, the concept of andragogy - in contrast to *pedagogy* with its emphasis on the teaching of children - represents a milestone in the theory of adult learning. The main thesis is that adults have distinctive *characteristics* which require special considerations in the design and implementation of their learning. This concept has since become the foundation of many other theories of adult learning.

B. Patricia Cross' CAL Model

The "characteristics of adults as learners" (CAL) model as advocated by Cross extends Knowles' theory of andragogy to incorporate the effects of *aging*, *life phases* and *environmental settings*. Thus the CALs are divided into two categories:

Personal Characteristics

-  Physiological - Aging
-  Psychological - Developmental stages
-  Sociocultural - Life Phases

Situational Characteristics

-  Part-time versus full-time learning
-  Voluntary versus compulsory learning

It can be seen that the above analysis enriches Knowles' concept and let us see the landscape of adult learning in greater detail.

C. McClusky's Theory of Margin

The propensity and efficacy of learning in adulthood is seen as determined by the "*margin in life*", which is defined as the ratio between "*load*" and "*power*". The "*load*" of life is the various demands of livelihood, and the "*power*" is the resources one has for tackling the load. The merit of this theory is to focus our attention on the barriers and the support relevant to adult learning.

D. Peter Jarvis' Theory of Learning Process

In Jarvis' model of adult learning, changes in social experience may elicit the following nine responses, only six of which lead to learning:

- | | | |
|-------------------------|---|-----------------------------------|
| ✿ Presumption | } | - <i>do not lead to learning;</i> |
| ✿ Non-consideration | | |
| ✿ Rejection | | |
| ✿ Preconscious | } | - <i>non-reflective learning;</i> |
| ✿ Practice | | |
| ✿ Memorisation | | |
| ✿ Contemplation | } | - <i>higher forms of learning</i> |
| ✿ Reflective practice | | |
| ✿ Experimental learning | | |

The *dynamics* among these nine responses in different *social settings* determine the progression pathways of adult learners.

E. Allen Tough's Theory of Self-directed Learning

This theory highlights the importance of *self-directed learning* as a major mode of adult learning. Three types of models have been proposed by subsequent scholars, each with its own set of assumptions and recommendations as to how to promote this type of learning:

- 🔑 *Linear Models* - the learning is generally well-planned, and the learners move through a series of steps to reach their learning goals;
- 🔑 *Interactive Models* - most self-directed learning actually takes place in an opportunistic and episodic manner;
- 🔑 *Instructional Models* - the best results would come from the skillful integration (with concerted efforts both by the teachers and learners) of self-directed learning with formal instructional programmes.

F. Mezirow's Theory of Transformative Learning

Based on Paulo Freire's education philosophy, Mezirow contends that learning is ultimately a process of "*reality/meaning construction*" and "*perspective transformation*". The key steps are: changes in life experience, critical reflection, discourse, and social action. Going beyond Knowles' theory of andragogy, the conclusion is that a good teacher is one who can facilitate the above process.

3. Work-Based Learning

In recent years, the theory and practice of Work-Based Learning (WBL) are becoming increasingly popular in the field of continuing and professional education. A major component of this approach is Accreditation of Prior Experiential Learning (APEL).

The basic tenet of the WBL/APEL concept is that throughout our lives, a substantial part of our learning in fact takes place not inside classrooms, but in the *workplace*. In addition, learning does not only involve the acquisition of skills and knowledge passed down to us, but also involves the *creation of new knowledge and new skills* through our interaction with the ever-changing working environment.

However, a major problem with the above mode of learning is that the knowledge so acquired or created is in the form of “tacit knowledge” possessed by the practitioner. That is to say, the knowledge and experience reside only in a particular individual, and this often in a semi-conscious and unarticulated manner. A large portion of this knowledge will disappear when the individual retires or is transferred to another post. What is more, the knowledge is mostly fragmentary, and often highly contextual, thus lacking applicability across a wide range of situations.

The objectives of Work-Based Learning are therefore to:

- ✓ Turn the “tacit knowledge” of the practitioner into “*explicit knowledge*”;

- ✓ Turn the “contextual knowledge” of the practitioner into “generalised knowledge”;
- ✓ Assist in the *codification* of the above “generalised explicit knowledge,” so that it becomes easily accessible by others;
- ✓ Foster those mentalities and skills which are conducive to the creation of knowledge in the workplace;
- ✓ Create new knowledge - new insights into old problems, new ways of thinking and problem-solving, new techniques to enhance productivity etc.

In a typical WBL programme, learners will be encouraged to assess reflexively the nature of their jobs. They would also be provided the theoretical background to analyse their professions in general. Apart from the *systematisation* and *codification* of their extant and tacit knowledge, they would be asked to select a specific area in which they would undertake - under the guidance of an academic supervisor - an in-depth project study. It is hoped that such a study would lead to new insights and generate new knowledge and ideas.

Needless to say, while helping the practitioner to obtain an academic qualification (a Bachelor, Master, or even Doctoral degree), this new mode of study is also extremely useful in the creation of a *Learning Organisation*. In this way, we can have a win-win situation which is beneficial both to the organisation and the employees.

Closing Remarks

Teaching is a demanding and yet highly rewarding endeavour. We hope this handbook can help you in undertaking this task.

The education of adults is a huge topic, on which substantial research has been carried out in the past several decades. A booklet of this nature must, of necessity, leave out many interesting topics. Some of these are:

- 💡 curriculum design;
- 💡 formulation of teaching strategies;
- 💡 student feedback and evaluation;
- 💡 quality assurance procedures;
- 💡 variation in *learning styles* among different students;
- 💡 the matching of *teaching styles* to *learning styles*;
- 💡 cognitive psychology and lifespan development;
- 💡 the integration of *emotive* and *cognitive* learning;
- 💡 Problem-Based Learning methodologies;
- 💡 Work-Based Learning methodologies;
- 💡 *Distance Learning* methodologies;
- 💡 *On-line Learning* behaviour ... etc.

Even for the areas covered in this booklet, we are sure that we have not included all kinds of good practices. For example, you may have developed better ways of dealing with a certain type of difficult student. If so, please contact us so that your valuable insight can be shared with others in future editions of this handbook.

It is clear that the suggestions made in this handbook are for general guidance only. This is because different subject disciplines may require different pedagogical approaches. In addition, as a teacher, you probably have your own distinctive teaching style, and may therefore find some of the suggestions more applicable than others.

On the issue of overall quality assurance, HKU SPACE has set up a comprehensive quality assurance system, and this handbook forms a part of the system. Please refer to the HKU SPACE Quality Assurance Manual (abridged version) for details. Please also read the Guidance Notes for Part-time Teachers for other administrative matters.

An old Chinese saying states that “The teachers and the learners will grow together”. While we are sure you would agree with this gem of wisdom, we hope you would also agree that how much a teacher will grow depends very much on how reflexive that teacher is on his/her teaching practice. Apart from the publication of this handbook, HKU SPACE also conducts staff development seminars/workshops for our teachers on a regular basis. We hope that all these will help you in the reflection of your good practice, and make an already good teacher even better!

Please send your comments or suggestions to us :

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Further Readings

Note: The reading list here is deliberately more comprehensive than that required for a handbook on effective teaching. The reason is to allow interested teachers to delve deeper into the fascinating world of adult education studies.

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Internet Resource Links

1. ERIC Database: Teaching Methods
http://ericir.syr.edu/cgi-bin/res.cgi/Teaching/Teaching_Methods
2. Centre for the Advancement of University Teaching (CAUT), The University of Hong Kong
<http://www.hku.hk/caut>
3. Teaching Effectively in Higher Education in Hong Kong
<http://teaching.polyu.edu.hk>
4. Centre for Research in Distance and Adult Learning (CRIDA), The Open University of Hong Kong
<http://www.ouhk.edu.hk/cridal>
5. Adult Learning Theory: A Resource Guide
<http://odin.indstate.edu/level1.dir/adultlrn.html>
6. “Do Teachers Really Use Teaching Tips?” in Web Tools Newsletter, 26 March 2001, The City University of Hong Kong
<http://webtools.cityu.edu.hk/news/newslett/teachingtips.htm>

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