



IMPROVING YOUR QUALITY OF TEACHING

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The Content

- ☑ **Quick Start ~ A Call for Self-Reflection**
- ☑ **Teaching Tips ~ Applying The Seven Principles for Good Teaching in Undergraduate Education**

Kick-Starter...

Calling all Engineering Graduates!!

If you are a final year mechanical, electrical, telecommunications or computer engineering student apply for the “Engineering Graduate Careers Program”.

Impress us with your:

- * Well developed communication and team skills
- * Aptitude for developing positive business partnerships
- * Ability to ‘look outside the square’
- * Aptitude for independent problem solving
- * Strong interpersonal and organising skills
- * Enthusiastic and proactive approach

You will need to demonstrate a strong academic record and be in your final year of study for an engineering degree.

Quick Start – A Call for Self-Reflection

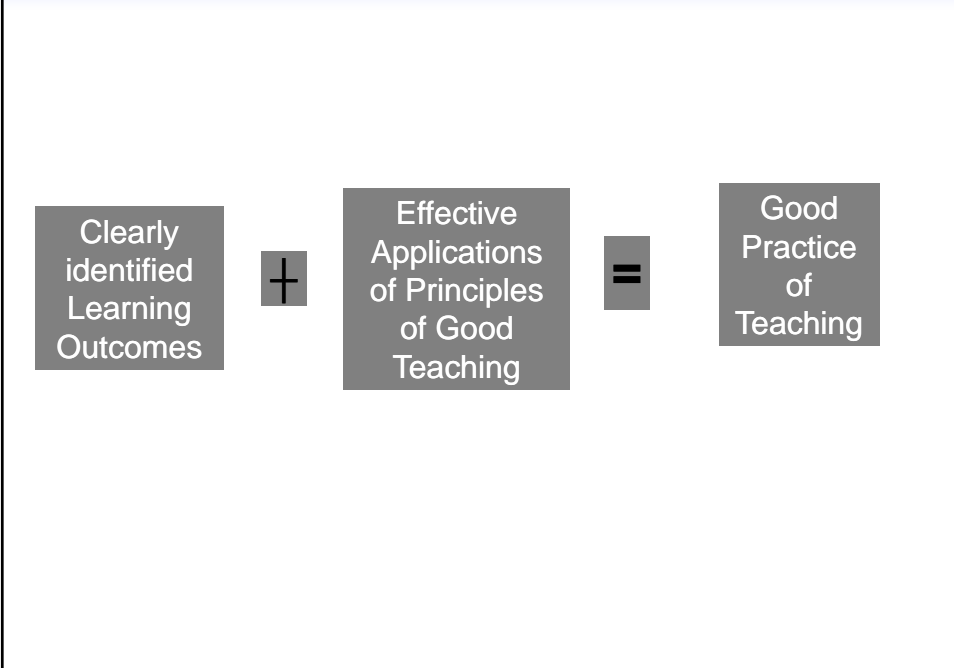
The ultimate goal of good teaching is to produce graduates who are:

- highly knowledgeable in his/her area of specialization
- technically competent in his/her area of specialization
- well equipped with traits sought by most of the employers-to-be:
 - effective communicator
 - good team-worker
 - effective problem solver
 - highly adaptable
 - ever willing to learn new things
 - high self-esteem
 - ethical with integrity
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Quick Start – A Call for Self-Reflection



Quick Start – A Call for Self-Reflection



Contoh Hasil Pembelajaran:

Di akhir tiga sesi eksperimen ini, pelajar akan:

1. Mampu mengaplikasikan penggunaan multimeter untuk menguji “continuity”, “leakage”, mengukur voltan arus (terus dan ulang alik) dan mengukur rintangan.
2. Mengaplikasikan teknik “soldering” untuk menyambung dawai dengan klip buaya dan sebagainya.
3. Mampu mengendalikan peralatan makmal mengikut disiplin seperti mikroskop, “water still”, “water deioniser”, centrifuge, “steam steriliser”, “ticker timer” dan sebagainya.
4. Mampu menyediakan bahan kimia seperti larutan asid, iodin, air kapur, larutan fehling, penunjuk bikarbonat dan sebagainya.
5. Boleh menyepadukan segala aspek kemahiran proses sains asas dan bersepadu dalam mengendalikan eksperimen.
6. Boleh mengaplikasikan kemahiran berkomunikasi dalam membenteng setiap laporan dengan berkesan.
7. Mampu melakukan ubahsuaian eksperimen agar lebih efektif atau merekacipta eksperimen baru.
8. Menjalankan eksperimen PASCO dengan penyepaduan kemahiran saintifik.
9. Mengaplikasikan “KBKK” dalam kerja amali.

THE ESSENTIALS FOR GOOD PRACTICE OF TEACHING

- Knowledgeable and technically competent in his/her area of specialization**
- Basic pedagogical knowledge and teaching skills**
- Positive attitude towards teaching profession**



TEACHING TIPS SERIES

**APPLYING THE SEVEN
PRINCIPLES FOR GOOD
PRACTICE IN UNDERGRADUATE
EDUCATION**

(extracted from Chikering, A.W., and Gamson, Z.F.
Applying The Seven Principles for Good Practice in
Undergraduate Education. *New Directions for Teaching
and Learning*. No. 47, Fall 1991. San Francisco: Jossey-
Bass Inc.)

Teaching Tips – Seven Principles for Good Practice in Undergraduate Education (Chikering, A.W., and Gamson, Z.F, 1991)

1. **Good Practice Encourages Student-Lecturer Contact**
2. **Good Practice Encourages Cooperation Among Students**
3. **Good Practice Encourages Active Learning**
4. **Good Practice Gives Prompt Feedback**
5. **Good Practice Emphasizes Time on Task**
6. **Good Practice Communicates High Expectations**
7. **Good Practice Respects Diverse Talents and Ways of Learning**

Good Practice Encourages Student-Lecturer Contact

Frequent student-faculty contact in and out of classes is the most important factor in student motivation and involvement. Faculty concern helps students get through rough times and keep on working. Knowing a few faculty members well enhances students' intellectual commitment and encourages them to think about their own values and future plans.

- I make a point to talk with my students on a personal level and learn about their educational and career goals.
- I seek out my students who seem to be having problems with the course or miss class frequently.
- I advise my students about career opportunities in their major field.
- I share my past experiences, attitudes, and values with students.
- I know my students by name.
- I make special efforts to be available to students of a culture or race different from my own.
- I serve as a mentor and informal advisor to students.

Good Practice Encourages Cooperation Among Students

Learning is enhanced when it is more like a team effort than a solo race. Good learning, like good work, is collaborative and social, not competitive and isolated. Working with others often increases involvement in learning. Sharing one's own ideas and responding to others' reactions improves thinking and deepens understanding.

- Beginning with the first class, I have students participate in activities that encourages them to get to know each other.
- I use collaborative teaching and learning techniques.
- I encourage students to participate in groups when preparing for exams and working on assignments.
- I encourage students from different races and cultures to share their viewpoints on topics discussed in class.
- I create "learning communities", study groups, and project teams within my courses.
- I encourage students to join at least one organization on campus.
- I distribute performance criteria to students so that each person's grade is independent of those achieved by others.

Good Practice Encourages Active Learning

Learning is not a spectator sport. Students do not learn much just sitting in classes listening to teachers, memorizing pre-packaged assignments and spitting out answers. They must talk about what they are learning, write about it, relate it to past experiences, and apply it to their daily lives. They must make what they learn part of themselves.

- I ask students to present their work to the class.
- I ask my students to relate outside events or activities to the subjects covered in my courses.
- I encourage students to challenge my ideas, the ideas of other students, or those presented in readings or other course materials.
- I give my students concrete, real-life situations to analyze.
- I encourage students to suggest new readings, projects, or course activities.

Teaching Problem Solving?

Teaching Well-Defined Structured Problems

versus

Teaching Real-Life Ill-Defined Problems

Good Practice Gives Prompt Feedback

Knowing what you know and don't know focuses learning. Students need appropriate feedback on performance to benefit from courses. In getting started, students need help in assessing existing knowledge and competence. In classes, students need frequent opportunities to perform and receive suggestions for improvement. At various points during college, and at the end, students need chances to reflect on what they have learned, what they still need to know, and how to assess themselves

- I give students immediate feedback on class activities.
- I return exams and papers within one week.
- I give students evaluations of their work throughout the semester.
- I give my students written comments on their strengths and weaknesses on class assignments.
- I discuss the results of class assignments and exams with students and the class. I encourage students to suggest new readings, projects, or course activities.

Good Practice Emphasizes Time on Task

Time plus energy equals learning. There is no substitute for time on task. Learning to use one's time well is critical for students and professional alike. Students need help in learning effective time management. Allocating realistic amounts of time means effective learning for students and effective teaching for faculty. How an institution defines time expectations for students, faculty and administrators, and other professional staff can establish the basis for high performance for all.

- I expect my students to complete their assignments promptly.
- I clearly communicate to my students the minimum amount of time they should spend preparing for class and working on assignments.
- I help students set challenging goals for their own learning.
- I encourage students to prepare in advance for oral presentations.
- I explain to my students the consequences of non-attendance.
- I meet with students who fall behind to discuss their study habits, schedules, and other commitments.
- If students miss my class, I require them to make up lost work.

'Learning Time to Be Spent' on Learning

(strongly depending on the nature of subjects as well who you are)

Rough Guideline:

No. of Credits/ Workload	Normal hours of lecture per week	Recommended 'Learning Time' outside class
2	2	4 - 6
3	3	6 - 9

Good Practice Communicates High Expectations

Expect more and you will get it. High expectations are important for everyone - for the poorly prepared, for those unwilling to exert themselves, and for the bright and well motivated. Expecting students to perform well becomes a self-fulfilling prophecy when teachers and institutions hold high expectations of themselves and make extra efforts.

- I encourage students to excel at the work they do.
- I give students positive reinforcement for doing exemplary work.
- I encourage students to work hard in class.
- I tell students that everyone works at different levels and they should strive to put forth their best effort, regardless of what level that is.
- I help students set challenging goals for their own learning.
- I publicly call attention to excellent performance by students.
- I revise my courses to challenge students and encourage high performance.
- I work individually with students who are poor performers to encourage higher levels of performance.
- I encourage students not to focus on grades, but rather on putting for their best effort.

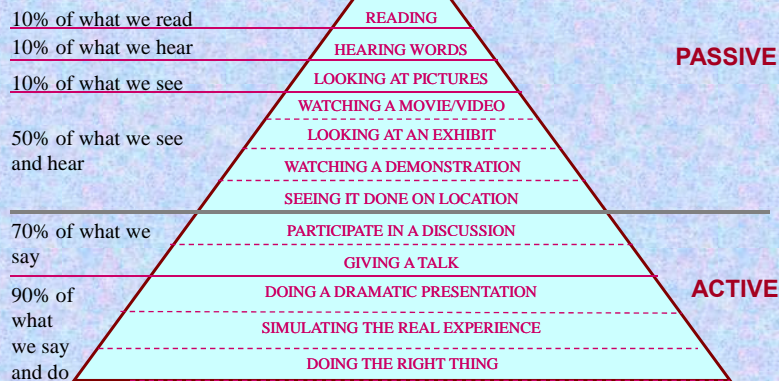
Good Practice Respects Diverse Talents and Ways of Learning

There are many roads to learning. People bring different talents and styles of learning to college. Brilliant students in the seminar room may be all thumbs in the lab or art studio. Students rich in hands-on experience may not do so well in theory. Students need to opportunity to show their talents and learn in ways that work for them. Then they can be pushed to learning in new ways that do not come so easily.

- I encourage students to speak up when they do not understand.
- I use diverse teaching activities and techniques to address a broad range of students.
- I select readings and design activities related to the background of my students.
- I provide extra material or activities for students who lack essential background knowledge or skills.
- I integrate new knowledge about women, minorities, and other under-represented populations into my courses.
- I have developed and use learning contracts and other activities to provide students with learning alternatives for my courses.
- I encourage students from different races and cultures to share their viewpoints on topics discussed in class.
- I use collaborative teaching and learning techniques and pair students with lesser abilities with students with greater abilities.

THE CONE OF LEARNING

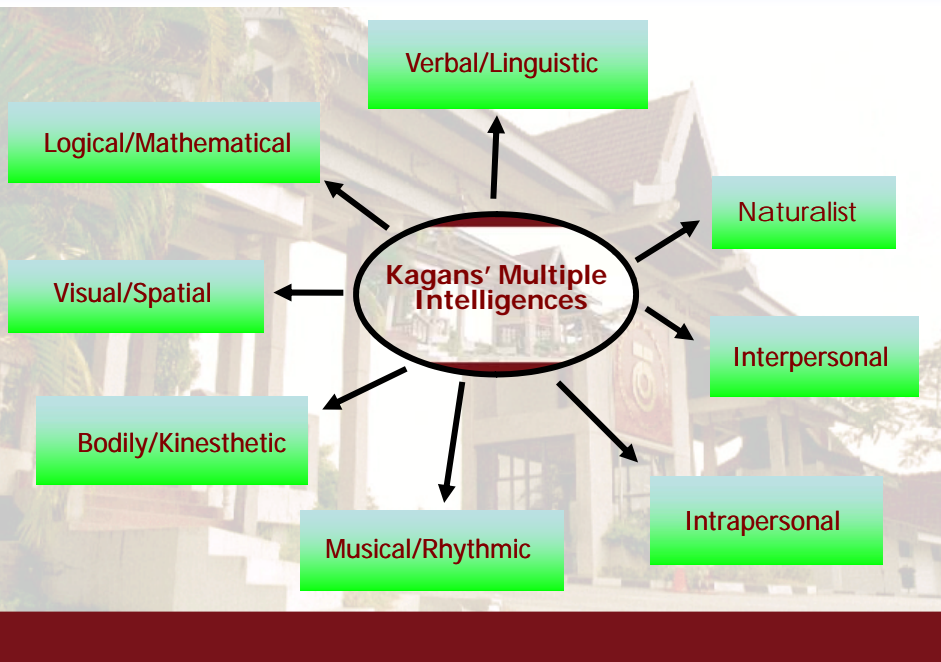
AFTER TWO WEEKS WE TEND TO REMEMBER...



Adapted from: Edgar Dale, Audio Visual Methods in Teaching



National Training Laboratories in Bethel, Maine



Change of Paradigm of Learning

Hierarchical Learning

Problem-Based Learning

