PSG CARE

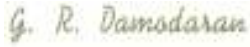
CENTER FOR ACADEMIC RESEARCH & EXCELLENCE

Orientation Program – July 23, 2016

Foreword

"The faculty is the heart of an educational institution. The PSG Institutions have been served by a faculty of devoted and progressive men and to them should go much of the credit for the high standing and reputation of the Institution. There is however no limit to the progress of the prestige and usefulness of an institution and it is the faculty that could gear its energies and abilities to the noble task. The faculty should be engaged in continual planning, implementation and evaluation of approaches and techniques of teaching and guidance."

Prof. G.R. Damodaran



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The PSG & Sons' Charities Trust

The PSG & Sons' Charities is one of India's oldest charitable organizations and was created in 1926 to promote education at all levels without any reservation on the basis of sex, caste and creed; develop technical education to empower the youth; create corpus or donations and charities for the poor and deprived sections of the society. This was quite an amazing vision for the essentially agrarian family from Peelamedu. The four PSG brothers – Shri. PSG Venkatasamy Naidu, Shri. PSG Rangasamy Naidu, Shri. PSG Ganga Naidu and Shri. PSG Narayanasamy Naidu – willingly and voluntarily divided their inherited ancestral properties into five parts, reserving the one fifth portion to create a charity to achieve their noble vision.

The Trust was set up with an initial capital of 2 Lakhs. Guided by the vision and principles established by the founding fathers, the Trust has created over 29 educational institutions of academic excellence ranging from Kinder garden to Doctoral Studies across Arts & Sciences, Engineering & Technology, Medical, Management and more that have grown into centers of excellence and have several national and global collaborations to their credit.

PSG Institutions are one of their kind because they do not compete with other educational institutions. Rather they believe in cooperating and networking. Nobel Laureate Rabindranath Tagore, one of India's premier visionaries, visited Sarvajana School, on the invitation of the Trust and sang Jana Gana Mana along with the students of the school. The flagship institution, under the Trust, PSG College of Technology is an autonomous institution under UGC and recently celebrated its Diamond Jubilee. The PSG College of Arts & Science, started in 1947 was one of the first arts and science colleges conferred with Autonomy in the State of Tamilnadu, India. It was awarded the status of Center for Potential Excellence status by UGC and it is the only one under Bharathiar University to get this status. Since the Trust is one of the oldest institutions in the country, it inevitably brings experience to the running of the institutions under it. The PSG Institutions recruit the best educators in the industry and due to an excellent interface with various industries, have vibrant placement records. They also lay considerable stress on innovation – of the curriculum, teaching methods, amenities available to the student etc. Over the last eight decades, PSG Institutions have nurtured and contributed selflessly to society and the nation. The PSG Institutions have given

- Eighteen Vice Chancellors to Universities of National repute
- Over 1000 CEOs of leading companies
- 125 Principals, Directors, Founders of several leading engineering and management institutes

- 10000+ entrepreneurs of national and global stature in technology and many award winning innovators
- Leading scientists for national projects in defense, aerospace and technology
- Several political leaders including ministers
- Internationally acknowledged academics and deans in leading universities in the Americas
- Padma Sri Awardees (Padmasree Narain Karthikeyan, Dr. Vasagam, Shri G. Govindarajan and Padmasree Rajshree Pathy), Padma Bhushan Awardees (Padma Bhushan Shiv Nadar) and many Distinguished Alumni

Giving back to the society, especially bringing in the marginalized into the central space of education and social development is what the founder members believed in. This legacy stays and continues to weave the success stories of each institution under the PSG Trust.

Trustees

Dewan Bahadur PSG Rangaswamy Naidu (1926 - 47)

"Help others to equal you as otherwise you will remain alone," is the famous statement of Rangaswamy Naidu that sums up his life's mission.

Dewan Bahadur Rangaswamy Naidu was a man of vision was quite evident in the way he went about giving a shape to the commitment the family had made to education, technology development and growth of religion in the region. Soon after the Charity was established in 1926, he sought permission to set up an industrial training institute supported by the Charity, which eventually was started in 1929 with around 24 students.

Sri. PSG Ganga Naidu (1947 - 48)

Ganga Naidu, younger brother of PSG Rangaswamy Naidu, worked as the Chief Executive Officer of the Trust and ably assisted his elder brother who managed the Trust funds. He took over as the Managing Trustee after the demise of his brother. A go-getter and a powerful organizer, Ganga Naidu was a man for all seasons.

He was the key person who helped found the PSG Arts College (PSG College of Arts and Science) and had to weather a lot of resistance before putting his plan into action. He even donated half a million rupees from his personal funds, a tidy sum for setting up the college, to prove his commitment.

Sri. G.R. Govindarajulu (1948 - 1972)

The value system enunciated by the PSG brothers continued in the next generation with the induction of G.R. Govindarajulu Naidu, son of Dewan Bahadur PSG Rangaswamy Naidu, in 1948, as Managing Trustee. GRG was very young when he took over the responsibilities of the *fifth* brother. GRG's long and impressive leadership for almost 24 years (1947 - 72) saw the *fifth* brother flourish and move into different directions in fulfilling the original commitment of empowering the poor through education and ending deprivation of a section of the society due to the social evils of caste and creed.

Professor G.R. Damodaran (1972 - 78)

G.R. Damodaran (GRD), though elder to G.R. Govindarajulu, stepped into the shoes of his brother only in the year 1972 after spending a considerable amount of time as the Principal of PSG College of Technology and Director of PSG Institutions.

GRD was a great visionary who was considered as the doyen of all the managing trustees that ever presided over the PSG & Sons' Charities. During his lifetime, he remained not only an academic par excellence who networked globally with top-notch universities, but also a social worker and an iconic politician representing Coimbatore in both the Parliament and in the State Legislature.

GRD dedicated his entire life to the cause of the Trust and, through that, to technical education. In the process, he created a huge cross-section of technically qualified human resource, which led to the rise of every kind of industry around the Coimbatore region. The PSG College of Technology is standing testimony to the prowess and latitude of GRD's vision.

GRD boldly ventured to implement an autonomous system in PSG Tech as early as 1976 (Polytechnic) and 1978 (College). He gave directions and suggestions to re-orient technical education in the country as the chairman of the Polytechnic Reorganization Committee. GRD was also a sort of pioneer to establish alumni association in his colleges. He started the old students association in as early as 1956, which later became the PSG Tech Alumni Association. Today, PSG Tech Alumni Association is a model for all institutions.

The need for systematic management education was felt by GRD even in the early sixties. The PSG Trust upgraded the Department of Management Studies into a full-fledged Institute of Management in 1994.

Sri. G. Varadaraj (1978 - 90)

G. Varadaraj, GV as he was popularly known, son of PSG Ganga Naidu, was an acknowledged humanist. He followed GRD as the Managing Trustee in 1978, when the *fifth* brother had to its credit eight institutions, which included the original Sarvajana School, PSG & Sons' Charities' Industrial Institute, PSG Polytechnic College, PSG High School at Vedapatti, the primary school at Peelamedu, PSG Arts College (PSG Arts and Science College), which that was started in 1947, PSG College of Technology in 1951 and the PSG Metallurgy Foundry Division that stood on its foundations in 1974.

By the time GV ended office as the soul of the *fifth* brother in 1990, he had founded six new PSG institutions, two of them in the field of medicine – PSG Institute of Medical Sciences and Research was started in 1985, and PSG Hospitals in 1989.

Sri. G.R. Karthikeyan (1990 - 2000)

G.R. Karthikeyan took over as the Managing Trustee in 1990 after the sudden demise of G. Varadaraj. Karthikeyan was the first representative of the third generation to become the Managing Trustee. He focused on the expansion of PSG Medical College as he felt a strong need to provide education in paramedical services. During his tenure, he started PSG College of Nursing and PSG College of Physiotherapy.

Being an alumnus of the PSG MBA Programme himself, he upgraded the Department of Management Sciences into PSG Institute of Management in order to take advantage of the economic liberalization that was happening in India in the 1990s.

He provided PSG Institute of Management functional autonomy in 1994. Thus he helped PSG to diversify its activities in the promotion of management education in the region.

Sri V. Rajan (2000 - 2005)

V. Rajan took over as Managing Trustee on November 16, 2000. He was the younger son of Founder Trustee PSG Narayanaswamy Naidu. From the beginning he concentrated on the development and growth of PSG Institute of Medical Sciences and Research. He visualised the growth of the PSG Hospitals and drew a master plan for the hospital. New building with modern facilities came up during his tenure. The bed capacity was increased and post-graduate programmes in different specialities were introduced.

Sri. G. Rangaswamy (2005 - 11)

G. Rangaswamy took over as a Managing Trustee in November 2005. He was instrumental in internationalizing education in PSG Campus. He visited many universities in the U.S. and interacted with the alumni.

His first initiative in international collaborations was to revive the MoU with Toledo University. He personally visited the University of Toledo and met the President, Deans of various Departments and signed a contract to offer MBA Programme at PSG Campus.

When more and more international collaborations started, Rangaswamy thought of developing an exclusive independent institute to look after the international programmes. The PSG Institute of Advanced Studies was started with the objective of promoting inter-institutional collaborative research and international collaborative programmes.

Also, a state-of-the-art nano-technology centre was started, focusing on applied research, bringing all the PSG Institutions together. Through the PSG Institute of Advanced Studies, an MBA in collaboration with Toledo University and Hof University, Germany, are offered for the past few years.

Sri. L. Gopalakrishnan (2012 – present)

L. Gopalakrishnan took over as a managing trustee in May 2012. Like his predecessors he also gives importance to quality education. His belief is that research is the base to improve the quality of teaching.

To this effect, he has initiated lot of activities to improve research among the faculty members. He has offered scholarships to full time research scholars and created PSG Distinguished Professor Fellowship.

A Centre for Excellence, one each, was established at PSG College of Technology and PSG Institute of Medical Sciences and Research. A hospital was started at Karadivavi. He also visited the U.S. and Europe to establish collaboration with various universities.

He was the key person behind the launch of "Vishnugranthi". The centre was opened in 2013, to provide life education to children with special needs to help them lead a quality life. It focuses on children between the age of 2 and 15 years with cerebral palsy, autism, Down Syndrome and mental retardation.

Keeping in mind the Trust's commitment to improve society through education and research, he realized the importance of intertwining teaching and research to elevate people to the next level. It is with this aspiration he established the PSG Institute of Technology and Applied Research in 2014.

He wanted to improve the quality of education in PSG Institutions and established PSG Centre for Academic Research and Excellence on 1st October 2015. PSG CARE indentifies the various training needs of faculty and organizes training by resourcing experts in that field and help faculty improve and implement modern teaching technology in PSG Campus.

The PSG Institutions

Primary Education

1924 PSG SARVAJANA HIGH SCHOOL

1943 PSGMIDDLE SCHOOL, VEDAPATTI

1943 PSG PRIMARY SCHOOL PEELAMEDU

2002 PSG CHILDREN'S SCHOOL

2005 PSG HIGH SCHOOL VEDAPATTI

2008 PSG PUBLIC SCHOOL

Higher Education

1939 PSG POLYTECHNIC COLLEGE

1947 PSG COLLGEGE OF ARTS AND SCIENCE

1951 PSG COLLEGE OF TECHNOLOGY

1985 PSG INSTITUTE OF MEDICAL SCIENCES & RESEARCH

1986 PSG INDUSTRIAL TRAINING CENTER

1989 PSG CENTER FOR NON-FORMAL AND CONTINUING EDUCATION

1994PSG COLLEGE OG NURSING

1994 PSG INSTITUTE OF MANAGEMENT

1998 PSG SCIENCE AND TECHNOLOGY ENTREPRENEURIAL PARK (STEP)

1999 PSG COLLEGE OF PHYSIOTHERAPY

2001 PSG COLLEGE OF PHARMACY

2006 PSG INSTITUTE OF ADVANCED STUDIES

RESEARCH

1989 PSG CENTER FOR SPONSORED RESEARCH AND CONSULTANCY

1998 PSG TIFAC CORE IN PRODUCT DESIGN AND COMMERCE

2013 PSG CENTER OF EXCELLENCE FOR INDUSTRIAL TEXTILES

2013 PSG CENTER FOR SUSTAINABLE DEVELOPMENT FOR SMEs

Health

1951 PSG RURAL HEALTH CENTER

1989 PSG HOSPITALS

1993 PSG URBAN HEALTH CENTER

2003 PSG OFFSHORE HEALTH CARE MANAGEMENT SERVIES

INDUSTRY

1926 PSG INDUSTRIAL INSTITUTE

1974 PSG & SON'S CHARITIES METALLURGY AND FOUNDARY DIVISION

SOCIETY

1995 PSG MANAVAR ILLAM

2013 PSG VISHNU GRAAANTHI

Faculty Development

2015 PSG Centre for Academic Research and Excellence

Valuable tips for teachers: from Professor G. R. Damodaran

Teaching is a dynamic occupation. Teachers should constantly and consciously be engaged in self-development and in improving their course instruction. They should go about this in a systematic manner.

1. They should endeavor to acquaint themselves with all the facilities available in the College such as equipment in laboratories and workshops, reference and library material, models, charts, slides, films and film- strips for use in his course.

2. They should study the vast body of literature available on principles of education and techniques of instruction.

3. They should try to keep in touch with the latest advances in their field and with professional journals.

4. They should prepare lesson-plans for each unit of the course based on a clear understanding of the objectives of each topic and sub-topic of their course and the means best suited to achieve effective teaching and learning of it such as lecture, guest lecture, discussion, class project, audio- visual instruction, hand-out, field trip, demonstration, laboratory, short review quiz, tutorial etc.

5. They should evaluate their instruction by requesting constructive criticisms from colleagues and opinions from students. A number of model lesson-plans and instructor evaluation sheets are available in educational references.

Need for Tutorial Guidance :

The teacher's work does not end within the class room. The teacher has the responsibility of moulding the character and developing the personality of the student. The teacher should, further, help the student to gain confidence in surfacing, analyzing and solving his problems himself. These problems may be psychological, economic or academic. Such problems, if left unsolved, may lead to anti-social behaviour, frustration and loss of confidence and creativity.

To be of assistance in such situations the teacher must not only have a keen insight into student behaviour and competence to suggest solutions, but also the ability to foster a close

and sympathetic relationship with the student. Teacher- student relationships based on mutual understanding and respect for the student's individuality could help to encourage students to confide in teachers and accept guidance from them in personal matters.

This then is the objective of the Tutorial System of the Institution. In this system each teacher gets the opportunity to get into close contact with a limited number of students and is expected to bring about an atmosphere of trust and cordiality in which the wards would turn to him for guidance or counsel whenever they are faced with any kind of problem.

Prof. G.R. Damodaran

THE FIRST DAY OF THE CLASS

A successful first day can be a key component of a successful quarter.

The first day of class is your opportunity to present your vision of the class to prospective students. It is helpful if you can introduce yourself as a scholar and educator and provide insights into how you will teach the class and what you will expect them to contribute to the learning process.

It is an opportunity for you to establish expectations, set the tone and to get to know your students. When the students come to the first class, they are eager to know what will be taught in the course, what the instructor will be like, what will be required of them and how they will be evaluated.

In addition to providing detailed logistical information, begin the quarter by getting students involved. On the first day consider ways to involve your students in a discussion of course content.

Try modeling or practicing strategies and methods you plan to use throughout the quarter. Consider that several of your students may be "shopping" for a schedule the first week of classes. They may be looking for a class that will fill a particular time slot, include a particular learning environment (i.e. lab-based or lecture style), or a class with a certain workload to balance the demands of their other courses and extra-curricular responsibilities. Thus, students will appreciate a clear roadmap of what you will require of them over the course of the semester.

You may also want to model, as specifically as possible, the classroom environment you intend to foster during the class. For example, if they will spend a good deal of time doing group work over the course of the semester, you may want to break them into groups the first day.

Keep in mind that the first day of class sets the tone for the whole course. This is the best opportunity you have to establish your expectations for student achievement and behaviour. Take advantage of the fact that most students will be looking for signs to indicate what the course will offer for them, and will therefore be highly attentive. Therefore, be careful to communicate to students not only your high expectations for them, but also your .commitment to and support for their learning.

Avoid de-motivating statements such as, "This course will be a tough one and in the last semester many students have failed in this subject". Such statements tend to discourage the students. Instead, use language that encourages students: "This course will challenge you, but I know you are capable of doing it."

One excellent exercise on the first day is to administer a "pre-test" or "preliminary knowledge survey" on topics you will be covering during the semester. The purpose of this activity is two-fold. First, it allows you to see what prior knowledge or understanding students have, and second, it gives students a chance to reflect upon what they need to know to succeed in the course.

The following is an approach that may help you to structure the first class and remove some of your anxiety:

- If you want to achieve an informal style, arrive early and begin to know your students. This will help you relax and help your students get to know you. If you prefer a more formal style, wait until the appointed hour and then enter the classroom.
- Once you begin speaking, try to speak slowly. Remember to slow down the speed of your speech and focus your attention on what you want to get across instead of how you are saying it or how you appear. If you are afraid of speaking in front of a group, think that you are not the only person like that. You will overcome it slowly as you take 1 or 2 classes.
- Begin by introducing yourself and write your name on the board. You might go around the classroom and ask for names, programme, city of origin, and the like. Remember that the students are at least as nervous as you are. Locate each name on the register and familiarize yourself with the students' names.
- Let your students know that you are organized. Give them the following information: the required text, the number and dates of mid-term examinations, information about lab or homework assignments, guidelines for term papers or class projects, a breakdown of how the course grades will be determined, the time and date of the final examination if already fixed, whether exercises to be completed are available, and other information of interest.
- Briefly sketch the kind of material that will be presented in your class and the kinds of activities required of them throughout the semester to give students an idea of what to expect from your course.

- Be enthusiastic! Enthusiasm comes from confidence, excitement about the subject, and pleasure in teaching. Your facial expressions and smiles, attentiveness to students, movement away from the podium or chalkboard, and eye contact that is long enough to observe students' expressions will all demonstrate your enthusiasm. Other ways to express enthusiasm include using vocal inflections (raising the voice and lowering of voice) to emphasize the points, and being willing to listen to students and to express interest in their contributions and discussion.
- Finally, ask if there are any questions regarding the course, its requirements, or your role within it. Be sure to pause long enough for the students to reflect and formulate questions.

By planning a focused and dynamic first day you will give students a better sense of the course overall.

Planning for a Course Plan

Planning for a course involves

- Understanding the basis for planning:
  - Type of class : UG/PG Programme
  - Discipline : Engineering / Technology / Science / Humanities / Managements etc.,
  - Size of the class : Number of Students pursuing the course
  - Nature of the subject : Core (Compulsory) / Basic / Advanced / Elective
- Framing of learning objectives
- Choosing appropriate Instructional Strategy
- Selection of Learning Resources

Organizing the Course

Good organization is important in all phases of instruction, from curriculum development to determining presentation format. Organizing a course does not mean putting together a collection of lectures, discussions and handouts. From the syllabus to the final examination, every aspect of the course should focus on defined educational goals, the most important of which is the level of learning you expect students to achieve.

Identifying Learning Objectives

The logical step in organizing a lecture, discussion, laboratory, or a course is establishing an expected level of performance. It could be possible to fix a level based on the existing level of students, which could be identified by administering a simple test. General aptitude of the class may be enquired with colleagues who had already handled a class in the previous semester. In the case of first year students, you need to go by other indicative sources of information such as the composition of class, qualifying examination, average percentage of marks in the qualifying examination, place of study, medium of instruction etc.

Learning

It's not easy to describe exactly what learning is. One way of explaining about learning is

to consider what we do to learn (the process) and what results from that (the outcome). How will the students be different as a result of this learning process (lecture, discussion, laboratory, or course)? The answer to this question becomes your objectives.

Bloom (1956) has proposed a taxonomy of learning objectives which move from lesser to greater levels of abstraction and complexity in the thinking process. Instruction can be organized around one or more of these objectives:

- **Knowledge** – recall of previously learned material
- **Comprehension** - understanding of the material and ability to explain it
- **Application** - ability to use what has been learned in other situations
- **Analysis** - separating the content into its different parts to understand the relationships between them
- **Synthesis** - combining parts to form a new whole idea
- **Evaluation** - making judgments on the value of material for specific purposes

A College/ University course should aim at teaching more than the simple task of recalling facts. By sharing information about these levels of thinking about subject matter content with your students, you can help them to become more reflective learners.

Lectures facilitate learning at the lower end of the taxonomy, **knowledge, comprehension, and application,** while discussions, problem-solving, writing, and other more interactive teaching strategies tend to facilitate higher- order objectives-analysis, **synthesis, and evaluation.** Your choice of teaching strategies should reflect the levels of thinking and learning in which you want students to be engaged.

After determining your objectives, your next step in the planning process is to decide how to evaluate the extent to which students have mastered each objective

- If your objectives are clearly defined, it is easy to evaluate them. For example, if one of your objectives is to have students learn to apply principles in subject area/topic to new situations, then the evaluation process could present an unfamiliar case or collection of new data. Students would tie asked to identify how the principle learnt can be applied, and what the product or outcome of the application would look like.
- If another objective is for students to evaluate the relative validity of multiple interpretations of an event, you can test their mastery by providing several contrasting

interpretations and ask students to apply the criteria they have learned for assessing relative validity.

- It is important to be aware of the fact that some of the objectives you identify for your course will deal with course contents. You will need to determine how much material students can realistically cover in a 16-week semester. Students learn more and have better retention of information and skills when the instructor limits the scope of material covered.
- A well-focused course that provides a sound intellectual challenge will be more successful and lead to greater student achievement than a course whose main goal is to "expose" students to lots of information / material. Make sure that all materials selected help students master a specific course objective.
- Contents that do not have an explicit purpose within the framework of your objectives should not be included in the syllabus. If, after further thought and reflection, you decide the material is important and should be included, you will need to revise your objectives to reflect this change.

Selecting Appropriate Instructional Strategy that fits Objectives

The teaching strategies you select will depend directly on your course objectives.

- If you need to cover 50 years of research in 16-weeks, and your primary goal is that students be able to recall the facts, you will probably use the "lecture and test" approach.

- If you want your students to be capable of applying course material, you will not only have to present factual material through readings and lectures, but also show them how to develop generalizations from the background knowledge (discussion, study problems and assignments).

- In addition, you will need to provide them with multiple opportunities to apply newly learnt principles in new situations (laboratory experiments, term-end papers, case studies, small group projects, and examinations).

- For students to learn and remember a concept, they must see an example (and possibly even multiple examples), gain knowledge of the generalization, and apply the concept through an application activity that is as close to the real world as possible.

- Matching instructional strategy to course objectives is an important part of the planning stage.

To help you select the appropriate teaching strategy compatible with your objectives, ask yourself some of the following questions:

- When should I tell students certain information and when should I let them discover for themselves?
- When should I lecture and when should I hold a discussion or other activity?
- When should I show students how to do something and when should I encourage them to try it themselves?
- When should I ask students to do something alone and when should I ask them to work together in a group (collaborative learning)?
- When should I respond to students' questions (give information) and when should I encourage other students to respond (give opportunity for students to practice skills)?
- If I see someone make a mistake in a lab, when should I correct the mistake and when should I let the student discover her/his own mistake?
- When should I review concepts orally and when should I use handouts?
- If I need to show students a lot of formulae or graphs, should I derive or draw them during class or prepare handouts/overhead transparencies before class?
- When should I rely on my own expertise and when should I seek outside sources (Video tape programmes, guest speakers, etc.)?

By considering such questions, you can begin to formulate strategies and techniques that match the objectives you set for the course.

Summary

The planning stage of instruction consists of four steps

1. Select course objectives and determine the level of mastery you expect students to attain;
2. Decide how to assess student learning;
3. Choose an appropriate ,sequence in which to present your objectives; and
4. Select materials and instructional strategies that will help your students reach the level of mastery you set for them.

Encouraging Meaningful Discussion in the Classroom

Discussion is an instructional activity that has uses in classes of all sizes and disciplines. Students can and should talk to each other and the teacher even in a large class, as well as in small to medium-sized classes. Good discussion give students an opportunity to formulate principles in their own words and to suggest applications of these principles; they help students become aware of and define problems presented in the lectures; they can also increase students' perception to other points of view and alternative explanations.

Leading a discussion requires skills different from lecturing. The goal of a discussion is to get students to talk purposefully about the topic or exercise, and in this context your role becomes that of a facilitator. You moderate the- discussion rather than convey information. If you want to' hold a discussion, don't do all the talking yourself; don't lecture to the group or talk to one student at a time. Remember that the discussion isn't just a matter of your communication with your students; it's a chance for your students to share their ideas and experiences. Many teachers overlook this potential and end up trying to carry the whole conversation themselves. Remember that as long as you're speaking, the students cannot.

Preparing for Discussion

Some teachers have an unfortunate misunderstanding about the amount of preparation that discussion requires. Many teachers assume that you can "just walk in" to the classroom and begin useful discussion. It is as if they think that, with a basic understanding of the subject, they can rely upon their students to fill 40 or 50 minutes with questions and answers. However, a good discussion takes a great deal of prior planning and review of the subject matter.

Decide How Much Time You Want to Spend

Do you want this discussion to be a five-minute break in the middle of a lecture? Two minutes at the beginning of class to be sure they read the assignment? Or will you spend the entire class period having the students develop their own ideas? Any of these might be appropriate, depending on what your goal for the discussion is.

Develop a Clear Goal for the Discussion

Knowing the content to be covered is not enough. Telling the Chapter heading your students will read is not enough. If you've only thought as far as, "I want students to know," you haven't thought through enough about what needs to be taught. You should be able to articulate what the students will be able to do with the information or ideas. Far example, you might want students to be able to tell point or arguments for and against any topic about which they have read.

Give a problem relevant to the Topic

Having a clear goal in mind makes it much easier to plan a discussion. You know what you want students to get out of the discussion. But it is not enough. So, give your students an open-ended problem to solve, a task to complete, a judgment to reach, a decision to make, or a list to create- something that needs to be addressed and discussed.

Select an Activity to Frame the Problem

Many discussion activities can be used in the classroom. You want to choose one that will help your students meet your goals for the discussion. The more specific you can be in assigning the task, the more likely your students will be able to succeed at it. Some possible tasks are as follows:

- Think and share the idea with another student,
- Brainstorming,
- Small groups activity/discussion
- Case analysis, and
- Role-playing

Choose a Group Method

Vary groups by size, method of selection, and duration.

By size: Two to six members in a group is ideal. Smaller groups (two or three) are better for simple tasks and for reaching consensus. Also, students are more likely to speak in smaller groups. Larger groups of four or five are better for more complex tasks and for generating lots of ideas.

By selection: Randomly assigning students to groups avoids the problem of friends wanting to get off track. For long-term groups, you may want to select the group based on certain attributes or skills or by interest in the topic, if different groups have different tasks.

By duration: Whether the group is just for this activity or for the entire semester. Stop the discussion groups while they are still hard at work; next time, they will work doubly hard. Long-term groups allow students to practice collaborative skills and make stronger bonds, but sometimes they get tired of each other.

Choose a method to share the outcome of the group discussion

Many techniques can get students to share what their smaller groups have done with the entire class: verbally, on flipchart, blackboard or overhead projection. And you don't have to hear from everyone; calling on a few groups at random to report works quite well.

Summarize the main points:

The most important part of a discussion is the time to summarize and synthesize. Most of learning in discussion happens during reporting; so don't squeeze it in-a rule of thumb is to use one-third of the total discussion time for reporting after the group discussion.

You can use the reporting activity to correct any incorrect notions or ideas. You can add any points that students neglected but that are important. You can pick which student reports from each group, though you should tell them in advance that you plan to do this. This makes everyone in the group responsible. You don't have to hear from every group, but can instead choose a few at random. When groups start repeating the ideas, it's time to stop and tell them to add only new point, if any.

Facilitating Discussion

Establish a safe atmosphere to encourage participation, in which students feel comfortable with one another and safe from harsh judgment. No one wants to feel that his or her remark will be put down or put off. Students are also sensitive to what they think you really want. (e.g. Does he want a discussion or a chance for an extended monologue? Does he say he wants disagreement and then gets defensive when someone challenges him?). Your students will try to read you so that they can respond appropriately. Be careful while you are giving any clues to them.

Create the expectation of participation by arranging the room so that students can see one another's faces. Devise ways so that, students have something to say early in the semester. If discussion is to be a large component of the course, the discussion can start on the first day of classes itself.

Set clear expectations. Provide clear directions for the discussion activity. Explain that your role is facilitator rather than presenter of information. Students should address their comments to one another, not to you. Avoid dominating the discussion by becoming the expert. When they try to put you back in the authority role, throw the question back to the group.

Pose a problem to solve, a question to answer, a task to complete, or a role to play. Don't just name a topic and hope a discussion will follow.

Monitor the discussion by listening and observing. Be sure that students understand the assignment. Help any group that begins to wander, not by providing the answer, but by initiating a line of inquiry to restore focus, even within a free-ranging discussion.

Summarize the discussion; sometimes a faltering discussion can be put back on track or shifted away from a thoroughly explored subtopic to another aspect of a main topic. Always summarize and synthesize at the end of the session. You may use this time to add any points to the discussion that the students overlooked.

Assessing Student Learning

We typically assess student learning in terms of their grades on quizzes, tests, and papers. But this kind of assessment comes too late—it gives us no chance to adjust our teaching in order to improve students' content mastery or skills. An alternative approach emphasizes how assessment can help us improve our teaching.

The Principles of Learning Assessment

Principle 1: Assessment should be linked to our learning objectives. To properly assess student learning, you need to know what you want your class to accomplish: The content you wish to convey and the skills you want to nurture.

Principle 2: Assessment requires an instructor to be highly specific about what outcomes to assess. You need to spell out objectives that are clear and precise, and not vague or allusive.

Principle 3: The objectives need to be student-focused rather than instructor-focused. Focus on the learning resulting from an activity rather than on the activity that you assign.

Principle 4: The learning outcomes need to be measurable.

"Real-Time" Assessment

If we are serious about enhancing student learning, we want to know what content and skills students have mastered and which they are struggling with. Here are some ways you can assess student learning in "real time" so that you can adjust your teaching to student needs:

1. **Observation**

You can learn a lot just by watching students at work. Break them into small groups and give them a problem and see how they grapple with it.

2. **Think Aloud**

   Give students a problem and have them articulate what they are thinking as they attempt to solve it.

3. **Diagnostics**

   A "one minute" paper or a problem or a quiz can offer an efficient way to diagnose student strengths and deficiencies. But also consider more creative alternatives:

   • In a humanities class, you might ask the students to convert the text into a screenplay or to construct a "FaceBook"

   • You might also ask students to serve as "apprentice scholars"

4. A Survey A survey allows students to speak for themselves and assess their own areas of competence and deficiency.

Papers and Tests as Learning Opportunities

The main purpose of assessment is summative: To grade students' performance. But instead of simply thinking of our assignments as evaluative, we might also think of ways that they can promote student learning.

The key is to specify our learning objectives and share our grading criteria—by providing students with sample papers or essay answers and with a grading rubric, the standards that we use in evaluating their work.