



Staff Development Center

Wayamba University of Sri Lanka

**Effective Teaching Through
Innovative Techniques**

Selected Topics

Edited by

Udith Jayasinghe, Ph.D

Ajith Jayaweera

Effective Teaching Through Innovative Techniques

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Editors : Udith Jayasinghe, Ph. D
Ajith Jayaweera

Authors : K. Vivehananthan
Nisha Palagolla
Hiranya Wijenayake
Sandareka Habaragoda.
Chandana Jayathilake
Chaminda Dassanayake
Dumindu Samanwickrama

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Computer Application Assistant
Faculty of Agriculture & Plantation Management
Wayamba University of Sri Lanka

Page Setting : Priyanka Sandamali
Technical Assistant
Dept. of Agribusiness Management

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Wayamba University of Sri Lanka
Makandura, Gonawila (NWP)
Sri Lanka

Telephone : +94 60 231 5376

Fax : +94 31 229 9246

Foreword

It gives me a great pleasure to write a foreword to “Effective Teaching through Innovative Teaching Methods” which is to be released at the Certificate Award Ceremony of the Certificate Course of Staff Development conducted by the Staff Development Centre (SDC) of the Wayamba University of Sri Lanka.

In the short history of the SDC, it played a role which is quite satisfactory and extremely encouraging. It was always in the forefront taking a pro-active role in meeting training needs of academic, administrative and non-academic staff. These training programmes, workshops, seminars and other activities undoubtedly contributed significantly for the improvement and enhancement of staff performance in many areas. The primary function of the SDC is to organize and conduct the as CCSD as this programme has a very direct impact on teaching, assessment, research and curriculum development of the Faculties, resulting in improvement of performance of academics.

The SDC has always been looking for new technologies and methods to make their programmes different and unique. The articles submitted by teacher-trainee participants, discussing an effective and simple approach to make the teaching-learning process more effective, lively and interesting, are very commendable. I believe a collection of these articles would be very useful for any academic to make his teaching techniques more effective and acceptable to students.

My greetings to Staff Development Centre of the Wayamba University of Sri Lanka for its initiative and use of novel techniques which made this whole training programme an invaluable one for participants.

Prof. T .S. G. Fonseka

The Vice Chancellor

Wayamba University of Sri Lanka

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Preface and Acknowledgment

Having inspired by the positive responses and constructive criticisms we received for the book titled: “*Novel Approaches in Teaching in Higher Education: Selected Topics*”, we have decided to disseminate the valuable information we possess with regard to teaching technologies and methodologies to prospective readers in the form of another text. This particular book explores various such technologies and methodologies available for a University Lecturer as well as for any teacher who involves with teaching for adults or students at the high school level so that he/she can make us of which to enhance the process of teaching and learning.

It contains seven articles in these aspects, which were written by Probationary Lecturers from National Universities of Sri Lanka who were trained under the “Certificate Course of Staff Development” (CCSD) conducted by the Staff Development Centre (SDC) of the Wayamba University of Sri Lanka and accredited by the University Grant Commission of Sri Lanka.

The core of first article is to evaluate the theoretical aspects related to teaching - learning process. It highlights that students can be made more successful if the teacher would be able to match his/her teaching style to the learning styles of students. The second article talks about effective teacher - student interaction in the classroom and its importance in active learning. It insists that teaching is something that every teacher does, and at many times, it occupies the greatest amount of most teachers’ time, but they rarely achieve the expected learning outcomes of teaching, because most teachers are not aware of the effects of effective classroom interaction on students’ learning.

Effective teaching is considered as one of the most important strategies to produce knowledgeable and skillful students. The third article of this book discusses about importance of integrating

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belief system and disposition, knowledge, practices and skills for this purpose as all of which play a key role in transferring knowledge to obtain a behavioral change of students.

It is important that a teacher learns to use a variety of teaching technologies and methodologies in order to cater for the range of learning needs and requirements of students by utilizing the resources available in most class environments. While discussing the importance of relying on traditional form of lectures for teaching, the fourth article has also presented some alternative measures to enhance the quality of them.

The fifth article explores some key strategies a teacher can use to engage his/her students effectively in the lecture hall, including well planned lectures, brainstorming sessions, group work and fruitful discussions. The advantages and disadvantages of each method as well as ways and means the teacher can make use of them so as take the students out of the passive role and place the students in an active for effective learning in the lecture hall are discussed.

Getting feedback in teaching is remarkable for achieving desired outcomes. Classroom assessments play an imperative role in this exercise as a formative approach. The purpose of sixth article is to make aware the teachers about classroom assessment techniques and associated issues in a realistic framework, and to provide an idea about the concept of mastery learning.

The seventh article is unique in its nature as it talks about the ways and means that Buddhism can be used to enhance the process of teaching and learning. Through a number of examples, it shows how the teachings of Lord Buddha can be used in this respect.

Although a large number of people us immensely to publish this book on time, we would like to convey our very special thanks

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to, first, **Prof. T. S. G. Fonseka**, the Vice Chancellor of the Wayamba University of Sri Lanka for his continuance guidance and support extended to us. While extending our sincere gratitude to the **authors of seven articles** published in this book, we do not forget the good work of **all Probationary Lecturers** participated to the *Certificate Course in Staff Development (CCSD) – 2007/08* conducted by the Staff Development Centre (SDC) of the WUSL by submitting articles written on various topics for consideration in publishing in this book. Also, a special thank goes to all **Resource Persons to the CCSD** who taught these and many others aspects of teaching and learning to these authors. Finally, we thank very much to **Mr. Kapila Ranaraja**, the Computer Application Assistant and **Ms. W. A. P. Sandamali**, a Technical Assistant to the Dept. of Agribusiness Management in the WUSL for their untiring efforts, including page setting and cover page designing. Finally, we must say that “*Excellence is not an Accident*”, but a lot of work carried out “without taking into account of opportunity cost of time and money”.

Udith Jayasinghe, Ph.D

Ajith Jayaweera

Staff Development Centre (SDC)

Wayamba University of Sri Lanka

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“TEACHING” AND “LEARNING”: STYLES, IMPORTANCE AND APPROACHES

Kalaivani Vivehananthan

*Dept. of Biotechnology
Faculty of Agriculture and Plantation Management
Wayamba University of Sri Lanka, Makandura, Gonawila
(NWP)*

Conceptions of Teaching and Learning

Teaching and learning practices in a university urgently need improvement as we (faculty) face difficulties with the diverse activities of present students. Though we enjoy satisfaction through our teaching, there are some basic questions unanswered. Why students do not achieve maximum output? Why some of the students do not perform well in their examinations? The purpose of this article is to answer these questions by providing certain information to be analyzed, and finally, it would lead to identify the methods and activities involving in teaching to improve the quality of learning which would match the learning styles of the diverse groups of students.

Reviewing my experiences in teaching and learning in the university system as a Lecturer and a Student nearly twenty years, I see many bottlenecks in both teaching and learning processes. In addition, I understand that the communication between the teacher and the learner is a two ways process where

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the message conveyed by a lecturer is easily digestible to the students while students are prepared to accept the transferred knowledge in such a way to trigger the activity of learning. Hence, these parties should get prepared mentally and physically with the educational background to participate in this active process.

There is no use if the teaching activities do not result in learning or if the learning is lacking in quality. Teachers need to know how to employ the most effective teaching and learning strategies to enable learners to trigger their learning activities. Therefore, identifying the modes in which students learn best becomes useful in two ways: first, in helping students to understand and become aware of how they themselves learn and study best (metacognition) and second, in helping lecturers to achieve a more holistic approach in selecting and designing teaching strategies, lessons and assessment strategies. Understanding how learning and teaching styles influence student's learning will reflect the quality of learning process. The previous research has demonstrated, for example, that the relationship between teaching and learning style is a factor in the success of university level students.

Learning Style: Types and Importance

Learning and Learning Styles

The way in which anyone goes about learning is a relation between the person and the material

being learned. Ellis (1985)¹ described a learning style as the more or less consistent way in which a person perceives, conceptualizes, organizes and recalls information. There are many ways of learning styles which differ from individual to individual. Where do learning styles come from? The student's learning styles will be influenced by their genetic make-up, their previous learning experiences, their culture and the society they live in.

Learning style is a concept that can be important at this moment in universities, not only in informing teaching practices but also in bringing to the surface issues that help faculty and administrators think more deeply about their roles and the organizational culture in which they carry out their responsibilities.

Types of Learning Styles

There are three major types of learners: (1) Visual, (2) Auditory, and (3) Tactile/Kinesthetic. While most individuals without disabilities can learn using any one of these styles, most people have one for which they show a stronger affinity. When teaching an unknown group it is necessary to consider all possible styles and approaches to learning so that every individual's needs can be met. Therefore, there is a need for using visual/audio/kinetic/practical

¹ Ellis, R. (1985). *Understanding second language acquisition*. Oxford, England: Oxford University Press.

learning aids as well as the traditional written or spoken word.

The students, in fact all individuals, are most effective when they learn in the style that suits them the most. Though there are controversial ideas, research continues to build a strong case for the impact of learning style upon acquiring and mastering knowledge. When mismatches exist between learning styles of most students in a class and the teaching style of the lecturer, the students may become bored and inattentive in the class, do poorly on tests, get discouraged about the courses, the curriculum, and themselves, and in some cases they change to other curricula or drop out from course etc. As a result, the lecturer has to face the problems of low test grades, unresponsive or hostile classes, poor attendance and dropouts.

Enhancing Teaching for Learning Styles

How do these different types of learning styles play out in the typical classroom? Generally the students in university level are active, sensing, visual, sequential learners as opposed to reflective, intuitive, verbal, global learners and specially the student's thought and activities in current world is entirely different from the previous generation. However, lecturing is the most traditional method to deliver instructions about the subject matter to the students which is in practice commonly in our university system. Therefore, in short, there is a disconnection

between teaching style of the teacher and the learning style of the learner.

If a teacher becomes aware of the importance of learning styles, he can take necessary steps to improve his students who fail to respond to teacher's instruction. Even a method appropriate for most students may be ineffective for other students who could learn more easily with a different approach. The method of teaching, the ways of representing information, personality characteristics of teachers will not only affect the learning processes but also different learners differently. In general, present learners are active and they prefer to involve actively in the learning process rather than learning through lectures only. Therefore, lecturer should give importance to the learning process through active learning which will lead to successful achievement in learning.

Learning Approaches and Active Learning

We must fix clearly in our mind the concept of approach to learning for better teaching. The concept of approach describes a qualitative aspect of learning. It is about how learners experience and organize the subject matter of a learning task. Is it a change in behaviour or understanding? Is it a process?

Orientations to Learning

There are four different orientations to learning. First, “*behaviorist learning*” takes place when there is a response which follows a specific stimulus. It is a result of environmental factor. Behaviorism focuses on repeated behavior which eventually becomes a habit. There are two groups of behaviorist: (i) Contiguity Theorist - who combines stimuli with movement. In this theory rewards or punishment does not have any role in learning, and (ii) Reinforcement Theorists – focuses on response which is followed by reinforcement. Second, the “*cognitive orientation to learning*” is based on act or process of knowing where the gestalt turned to the individual’s mental process while the behaviorists looked to the environment. Instead of acquiring plans and habits, learners acquire plans and strategies and prior knowledge is important. Third, the “*humanistic orientation*” to learning can be seen as a form of self-actualization where the learner is active. Forth, the “*social/situational orientation*” – explains that people learn from observing other people.

Promoting Active Learning

The research has proved that active learning is an exceptionally effective teaching technique where the learners learn more material, retain the information longer and enjoy the class more where the knowledge is disseminated among the learners rather than on their own. The learners actively

engage with the learning process rather than just sitting and dreaming in a fixed chair. They must talk about what they are learning, write about it, relate it to past experiences and apply to it to generate new findings in an innovative way which is required to their daily lives as well as to the society. There is no hard and fast definition of active learning. It may vary for different subject area, different groups of learners etc.

Teachers in today's world want to move from passive learning to active learning and also find better ways of encouraging active learning to improve the overall quality of teaching and learning. We as teachers realize that we are working in surroundings that our teachers would not have recognized our learning style at that time. We are also stepping into the global shift as a teacher to a new way of creating and using knowledge towards the different learning styles of the present generation of learners in the modern world. The former generation followed mostly the traditional teaching methods such as lectures, but the learners today is involving active learning which they like the most. Rather than simply receive the knowledge, they prefer if we give an opportunity to take more interactive relationship with the subject matter of a course to encourage them to generate new ideas related subject matter.

Therefore, it is an interesting and important task to analyze the ways how to achieve successful learning activity for the different learning styles by

way of introducing the teaching activity to become an effective, excellent and a scholarly teacher.

What is Teaching About?

Teaching is the activity of facilitating learning. Also, it is a professional activity. The range of professional duties performed by teachers is wide and extensive. Initially there should be thought and proper planning. Simply “thinking” is not adequate. The challenging part is to merge “thinking” and “doing”. The promotion of active learning starts from thinking about course aims and objectives. The clear idea about aims and objectives provide a sound foundation for decisions about the content and the structure of a course and it will reflect the appropriate teaching, learning and assessment strategies which require the most for the fruitful active teaching-learning process. At the heart of a teacher's role is the promotion of learning for all students in a class. Finally, there are modes other than that of knowledge transfer, which can play a more effective role in the triggering of learning. Hence, an excellent teacher needs to go beyond excellent lecturing or excellent knowledge dissemination.

Who is an excellent teacher? What is excellent teaching? How do we distinguish excellent teaching from merely satisfactory teaching? When does teaching become unsatisfactory? It is true that if we focus on what the teacher does in the classroom, excellence can result from many diverse activities

leading to effective teaching. There is no single definition of excellent teaching in terms of what the teacher does. A teacher should facilitate the development of high quality learning in students and help them to become independent lifelong learners. Then only the excellent teacher becomes an effective teacher in the society.

The teacher should have certain skills to address the learning issues. Such as a teacher should have subject knowledge. i.e. he should well verse in the subjects he teaches. In addition, he should know teaching skill to create clear, logical, and explicit lessons for the subjects he teaches. Moreover, teacher should have the ability to assess the students how much they understand, and then use this assessment to plan future teaching and learning activities to have the high expectations for all the students of whatever class, race, gender to motivate them. In short, teachers need to be effective role models for the learners they teach.

Effective Teaching for Active Learning

The students of younger generation are adapted in a system which is active. Generally students do not like to be bored. They learn best through multiple approach or activities. Since students have a range of learning styles, co-operative learning strategies and holistic reading methods work well with these learners. A teacher should use his imagination which gather from various ways for his

own development from previous experience in teaching, training courses of staff development, discussion with other colleagues on the professional activity etc. Teachers should develop themselves and improve the quality of teaching and learning on a continuous basis. The quality of student's learning depend on different ways in which the design of courses and the strategies used to teach and assess students can help to promote active learning.

There are number of ways to stimulate active learning, including: (1) Involving students in retrieving information by themselves, (2) Allowing students to explore their personal interest, (3) Leaving students to have group discussion and/or activities, (4) Encouraging students' to use their imagination and initiative to solve the problems, (5) Give an opportunity to involve in creative and innovative activities

Routinely, there are exercises to evaluate the level of understanding of the subject by following an assessment strategy through out the course and /or at the end of the course or at the end of the examination by grading. Why can't we assess our student's learning style at the beginning of the course? Numerous researchers have tackled the problem of how to measure learning styles. Nowadays many of their questionnaires are available on the web to evaluate the style of learning of an individual. For example: "Learning style and self-assessment tests", "A learning style survey for college" etc. If a teacher

wishes, he can also generate his own questionnaire or ask students to go for a online learning style assessment and ask them to share the results with the teacher. Once done, the teacher could modify the style to accommodate the student's style of learning. Evaluation of the course is also needed to find out if the course works properly. Through which, teacher would be able to make judgments about the strengths and weaknesses and the overall effectiveness of the course, and making decisions about how to improve it further.

Modern Learning Environment to Improve Learning Activities

Lectures should not be a formal lecturer and should reflect the reality and the lively environment in the classroom leading to foster learning. Goals of the subject should be clear. Lessons should be structured and teacher directed. Information should be presented in sequential steps. In addition, it needs to be presented in an interesting manner using attractive materials. Requirements should be spelled out. Multiple approach should introduce through multiple activities, for example, introducing the course content through discussion or problem-solving activities, inviting students to explore issues through role play, enhancing lectures with visual aids, getting students to involve practical activities to have hand-on experience and taking students out to change the classroom environment to explore experience in the field etc.

Thinking about learning styles of all the learners in a classroom can lead a teacher to think about different ways of teaching to fulfill the learning requirement of all the learners. An effective teacher needs to vary techniques and to have plenty of teaching methods using different teaching aids and learning activities that can be drawn upon from moment to moment or from time to time to facilitate maximum learning for as many students as possible.

The better approach is to propose a hypothesis first by thinking about teaching methods and activities which suit the range of learning styles of learners from diverse group, then design certain pathways to synthesize valuable learners, further optimize the required condition to explore efficient workers and monitor continuously to maintain the quality of learning then understand the mechanism of the teacher-learner process leading to control the learning activity. The fine tune of this mechanism will definitely generate creative and innovative graduates in this educational system.

**EFFECTIVE CLASSROOM INTERACTION AS
AN APPROACH TO PROMOTE ACTIVE
LEARNING**

W. W. Nisha C. K. Palagolla

*Dept. of Accountancy & Finance
Faculty of Management Studies
Rajarata University of Sri Lanka, Mihintale*

Classroom Interaction and Active Learning

Classroom interaction has been widely recognized as one of the most crucial factors influencing on the quality of education. An interactive classroom is one in which students are allowed to actively participate as equal partners in the Teaching - Learning Process. A growing body of research has made it clear that the overall quality of teaching and learning is improved when students have ample opportunities to clarify, question, apply and consolidate new knowledge. Effective teacher – student and student – student interaction in the classroom, therefore, play particularly an important role where it is expected to engage students actively in higher-order thinking tasks such as analysis, synthesis and evaluation than just passively listening. Active learning is a general term for a form of learning that occurs when the learner is directly involved with the lesson being learned.

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The patterns of classroom interaction have been extensively valued as a critical ingredient in the students learning process. Moreover, it is obvious that interaction serves a variety of functions in the educational transaction. However, the main purpose of any instructional interaction is to change the learners' behavior towards educational goals. Interaction in general can be classified into two broader patterns such as "verbal" and "nonverbal" interactions in the classroom. These two types of interactions are equally important and are imperative in the Teaching - Learning Process. Communication and understanding between teacher and student are important parts of teaching. A teacher must understand how to communicate with the students effectively and the knowledge of both verbal and nonverbal communication techniques will allow the teacher to foster active inquiry, collaboration, and effective interaction in the classroom. Therefore, development of communicational skills is important in the learning process and a successful teacher will use verbal and nonverbal interaction in the classroom effectively.

An efficient education system may foster knowledge and advanced skills that are critical determinants of a country's economic growth and standard of living. In that, interactive teaching techniques are being an essential requirement. There are numerous teaching strategies that can be employed to actively engage students in the learning process and the benefits of using such strategies are

enormous. Some of which include improved critical thinking skills, increased retention and transfer of new information, increased motivation and improved interpersonal skills. Effective classroom interaction enhances students' skills and retains knowledge than merely transmitting information. There is much evidence on how the level of knowledge.

Retention varies according to the use of diverse interactive teaching techniques in the classroom. It has been reported shown that just after two weeks, individuals remember 90 percent of what they did, what experiences they had, the discussions they had, and the things they said (all active experiences). However, they only remember about 20 percent of what they heard, 10 percent of what they read, and 30 percent of pictures they saw (all passive exercises). These findings were explicitly confirmed by one wise proverb "Tell me and I'll forget; show me and I may remember; involve me and I'll understand". Students in any learning environment are quite a different mix with different learning styles. Classroom interaction has, therefore, been an extremely difficult and complex process but is of greater significance in keeping the students active and involved with the process of learning. Thereby the interest on improved teaching has mushroomed rapidly in the recent years.

Drivers of Effective Classroom Interaction

Although it is difficult, effective classroom interaction is an indispensable phenomenon in the

Teaching - Learning Process and needs to be carefully considered in a way to promote students active participation. Since the 1950s, there has been an increasing concern on classroom interaction. The majority of the studies focused on the aspects such as teacher talk, learner participation, and the patterns of interaction which are observable in the classroom. However, very little attention was paid on unobservable aspects of effective classroom interaction that are as important, and sometimes than the observables.

As a whole, it can be seen several crucial factors, which urge special attention for the successful creation of an interactive classroom. In this endeavor, arrangement of the classroom, rewards for students, students' prior knowledge and learning experiences, student participation, teacher's style, teacher's methodological knowledge and expertise, the curriculum, traditional views on classroom conventions, teacher-student relationship and the educational technology play a major role.

It is clear that a neatly arranged classroom allows the teacher to move round, facilitate to keep strong eye contacts with all students, and promote discussions, questions and answers effectively. On the other hand, students will be able to become active participants by interacting with the teacher and peers consequently. Acknowledgement of students' contribution in some way is vital to accelerate student participation in classroom activities and thereby

increase pedagogical performance. Students get a special kick by such rewards from the teacher in the presence of their peers that would enhance their motivation toward active learning. Therefore, a classroom that aims at promoting interaction must encourage two-way instruction frequently. Assuming too much of knowledge and experiences of students has been one common problem in teaching that will hinder teacher - student interaction in the classroom.

The focus of prior studies has been much on the amount of learner participation. There are several underlying factors that are unobservable in the classroom. One of them is learning style which is meant that some learners prefer to listen and internalize than verbalize. Psychological state and learner's cultural background are other factors of concern. Some learners may experience anxiety in learning languages and some technical subjects. Also learners with different cultural backgrounds may have varying conceptions and beliefs on the learners' behavior in the classroom. Another aspect of classroom interaction is teacher's style which is also an influential factor in this scenario. Teachers who initiate conversations, discussions, pose questions and provide positive feedback would find more effective in teaching than who expect absolutely silent classroom as it creates highly interactive atmosphere within the classroom.

Further, teacher's language, type of questions, exercising disciplinary control, encouraging student

participation, thinking and teacher decision making in the classroom as well as the way of focusing attention and moving the lesson forward are received a great deal of attention. Teacher's sound methodological knowledge and expertise would make them confident and hence generate the platform for effective classroom interaction. Classroom discussions, group work, debates, presentations etc. are more often known as teaching and evaluating strategies in the higher education curriculum. In such a case, if objectives are clearly defined and goals are set, and the content is relevant and has meaning and purpose for everyday issues, then those strategies automatically enable interaction in the classroom. The way teacher and students feel about each other is another prominent feature that govern them toward effective classroom interaction. Students must be comfortable in initiating discussions and questioning from the teacher that leads them toward active engagement in learning.

In the recent decades, educational technology found more interactive by means of computer-assisted instruction that has been part of teaching-learning process in a number of ways. Interestingly, computers act as tutors to present information, provide drill and practice, simulate problems, assess learners' level of knowledge, and provide remediation allowing the learners to enter simulated world of education that is extremely remarkable. New technology supported approaches to the Teaching - Learning Process seek to make students active participants as it provokes both

teachers and learners to consider a new perspective of teaching and learning.

Having considered the factors that govern effective classroom interaction, it is obvious that these factors have a direct impact on students learning. Hence, it is wise to handle them in a way that may not adversely affect on students learning process.

Learning Domains and Implications for Teaching

Learning is an active process, which aims at achieving three major outcomes commonly known as KASs: (1) Knowledge, (2) Attitudes, and (3) Skills. Students usually learn things properly by acting, reflecting and interacting in specific situations. Active learning occurs when students are interested on what they learn and the way they learn it. Therefore, the most significant part of teacher's role is being the planning of effective instructional events to promote active learning.

There are numerous theories and frameworks that describe various domains of the learning process. Bloom's taxonomy of educational objectives (Bloom, 1956)² is one such example that explains three major domains of educational activities such as cognitive (knowledge or think), affective (attitude or feel), and psychomotor (skills or do) domains. The aim of this

² Bloom, B.S. (1956), *Taxonomy of Educational Objectives: Handbook I: The Cognitive Domain*, New York.

effort was to provide an excellent structure for planning, designing, assessing, and evaluating the effectiveness of teaching and learning.

According to Bloom, an American academic and educational expert, the cognitive domain involves intellectual objectives that deal with the recall or recognition of specific facts, procedural patterns, and concepts that serve in the development of intellectual abilities and skills. The affective domain encompasses the manner in which people deal with things emotionally such as changes in interest, motivation, enthusiasm, feelings, attitudes, values, and the development of appreciations. Finally, the psychomotor domain incorporates physical skills and the use of manipulative or motor-skill areas. Bloom's taxonomy is a great blueprint for learning, which also provides teachers a framework in which to plan and design classroom activities or events for effective learning outcomes. By creating such instructional events around these three domains, learning can be both enjoyable and productive.

Cognition from the perspective of teaching focuses on the process of delivering information and imparting new concepts. The business of determining instructional events that will support the cognitive learning is an important role in teaching. Teaching and learning are similar to the two sides of the same coin. Hence, teachers' actions and instructional decisions may affect learner's cognitive development required for learning.

Cognitive skills seem to depend on prior experience and repeated occasions in which challenges to thinking are present. Here it is greatly important to present verbal information within an organized, meaningful context. Therefore, it is more appropriate to select teacher-centered teaching techniques such as lecturing with the support of group discussions, simulations, games, lab and field-based experiences as a strategy to develop intellectual skills in an interactive way.

Bloom's affective domain focuses on the changes in attitudes and emotional responses that vary from simple attention to complex but internally consistent qualities of character and conscience (Bloom *et. al.*, 1964)³. Affective skills or attitudes, values, and assumptions are psychological conditions usually learned through imitation, observation, and the sources of rewards and punishments that students experience during their learning process.

As highlighted in the educational literature the affective domain is one of the most essential in effective learning. In typical classroom teaching, most teachers generally focus on learners' cognitive outcomes. However, it is highly important to realize the possibility to increase students learning by enhancing their affective or attitude development. That is because students may experience affective

³ Bloom, B.S., Mesia, B.B., and Krathwohl, D.R. (1964), *Taxonomy of Educational Objectives (The Cognitive Domain and the Affective Domain)*, New York.

roadblocks to learning that can neither be recognized nor solved when using a purely cognitive approach of teaching. Hence, it is appropriate to draw attention on some several principles for effective teaching, including: make instructions realistic, relevant, and technically stimulating; present new information; present persuasive messages in a credible manner; elicit purposeful emotional involvement; involve the learner in planning, production or delivery of the message, and provide post-instruction discussion or critique opportunities.

In the context of education, the psychomotor domain involves behaviors that span a continuum from fine motor skills. For the educator, psychomotor skills are defined as the ability to perform kinesthetic classroom activities requiring development of the senses, precision, and timing. Teachers can develop the main qualities of psychomotor skills by systematic practice, breadth of experience, attention to quality of performance, and repetition of complex tasks. Hence, teachers should pay a special attention on the way students engaged in learning. Effective teachers may find teaching methods that incorporate hands-on interactive learning opportunities whenever feasible. In contrast, teaching is just like filling a lamp with water as such the end result is not illuminating.

In the examination of learning domains of the Bloom's taxonomy proved useful to both teachers and students alike. It guides teachers to address the ways students learn. Therefore, it is possible to use

interactive approaches to the Teaching - Learning Process to make students active participants in knowledge construction rather than passive recipients of traditional lectures.

Classroom Interaction Strategies for Active Learning

Effective teachers intensely care about improving students' skills in reading, writing, and speaking; extending their abilities in critical thinking analysis, and problem solving; developing their capacities to synthesize, imagine, and create. These skills and capacities are the truly enduring effects of sound education. Teaching strategies designed with active learning activities are real opportunities for students to develop these skills and capacities. However, a mix of teaching techniques can be an effective strategy for increasing student involvement. In the 21st century classrooms, teachers will have to deal with a student population that is more diverse in terms of ethnicity, educational goals, background, learning styles and socioeconomic status. In response to this diversity, changes in the teaching strategies need to be adopted.

It is, therefore, wise to encourage teachers to broaden their pedagogical techniques to enhance students' interests on learning. Teachers must support students to develop skills for successfully adapting to the rapidly changing, interdependent global world in the information age. This competitive world will

demand the students to think critically and synthesize large quantities of new information, show sensitivity to diversity, and cultivate attitudes, perceptions, and skills that promote lifelong learning. However, reports from a number of institution about the quality of education in the United States, for example Association of American Colleges and National Institute of Education, reveal that there is too much information being offered to the students with too little attention on strategies for learning, inquiry, and problem solving. To enhance the quality of education, teachers must practice strategies that foster students' motivation to continue learning beyond the classroom.

There are many ways to facilitate effective classroom interaction and thereby active learning. All these methods can be categorized into two major types such as: (1) *Teacher - Centered Strategies*, and (2) *Student - Centered Strategies*. The teacher-centered strategies concentrate on instructions in which the teacher is the focus of learning activity. In contrast, the student-centered strategies concentrate student as the focus of learning activity. Both types of interactive instructions are equally important to keep students engaged and active in learning.

Teacher Centered Strategies

In the form of Teacher - Centered Strategies, teachers play a major role and exert a high degree of control on the Teaching - Learning Process. These

types of strategies are commonly known as direct or explicit instructional techniques. Good teaching irrespective to the use of *new* or *traditional* techniques may foster active learning. Thus, teachers must keep firmly in mind that active learning is not simply a matter of activity but the way of students thinking. Teachers who carefully focus on the way students think will better discover diverse teaching strategies that yield active learning. There are numerous and widely accepted models of instructional strategies that may lead teachers to be effective in forming teacher-centered instructional strategies.

Gagne and Driscoll (1988)⁴ report nine instructional events in relation to the phases of classroom learning that support to create an interactive classroom and are appropriate for enhancing active learning, including: (1) gaining the attention of the learner; (2) informing learner of the target objectives in order to activate motivation; (3) stimulating recall of prior knowledge; (4) presenting the instructional content; (5) providing learning guidance; (6) eliciting repeated performance (practice); (7) providing critical feedback; (8) assessing performance and (9) enhancing retention and transfer.

Dick and Reiser (1989)⁵ proposed a systematic approach for planning effective instruction that will

⁴ Gagne, R.M. and Driscoll, M.P. (1988), *Essentials of Learning for Instruction*, 2e, Englewood Cliffs, Prentice-Hall.

⁵ Dick, W. and Reiser, R.A. (1989), *Planning Effective Instruction*, Englewood Cliffs, Prentice Hall.

help students to acquire specified skills, knowledge and attitudes through an interactive learning process. The process involves several interrelated steps such as set goals, select or write objectives, analyze student characteristics, select or develop assessments of student performance, select textbooks and other materials, develop instructional activities and choose instructional media and implement instruction and revise as necessary.

Another most widely recognized strategy to promote teaching that enhances active learning is mastery teaching. Madeline Hunter's seven-step lesson model is one such example where students would be active participants. The model begins with *anticipatory set* or *mind set* that makes students curious about the lesson. This is the most essential part of an effective lesson as it helps teachers to capture students' attention. Second step is *objective and purpose* that motivate students to learn. Third, *input* is the content and the way of transferring information that stimulates students' interest on learning. Fourth, is the *modeling* that refers to the use of frequent examples to clarify meanings. Fifth, is the evaluation of students' comprehension and understanding of the lesson and checking whether the lesson objectives were achieved. Sixth step is called as *guided practice* that gives students a way to check their own understanding. Finally, it encourages independent practice aiming to master knowledge on the subject. Teacher-centered instruction can be provided mainly in the form of lecturing and can be supported by many

techniques to make them more effective and interesting.

Lecturing

Lecturing is a formal and oral presentation of information to a group of students which is the simplest way to deliver a material. However, lecturing is appropriate and effective in some conditions especially when no information is readily available from other sources, when information is to be integrated from multiple sources, and when information needs to be organized, summarized or synthesized. Lecturing is practical and efficient due to many reasons such as delivering large volumes in a short time, flexibility, adaptability, and controllability. Although classroom lectures have been the most traditional way of teaching that has many opportunities to integrate interactive teaching tactics to maintain attention necessary for active learning.

Ideal lectures are well planned in terms of time and the flow of instruction. Also careful preparation and structured outline including an introduction, a body and a conclusion are imperative in effective lecturing. Effective lecturers provide mini summaries periodically throughout the lecture to help the students stay on track. Further, demonstrations, distribution of handouts or modules in advance, effective explanations, preplanned space for notes taking, use of audiovisual aids and allowing independent practices are some of the most important

ingredients in order to actively construct their understanding of new concepts. Thus, a proper plan of instructional events in lecturing is highly significant and should not be ignored. One can use the following set of guidelines to prepare an effective lecture: that include six points in sequence: anticipatory set; (1) present objectives; (2) goals or learning outcomes; (3) present new material with reference to students' prior knowledge; (4) elicit student responses from time to time; (5) review the main points of the lesson, and (6) follow the lesson with an assignment or questions.

Book ends

Book ends refer to focused discussions that occur just before and just after a classroom lecture. Both pre-lecture and post-lecture discussions are equally important to impart knowledge and to build a basis for higher-level thinking of students. Specifically, the pre-lecture discussions act as an advanced organizer for the lecture. Creative teachers can assign tasks for students that help to organize them to the lecture. The post-lecture discussions serve to bring the students closure on the points presented by the lecturer.

Think-pair-share

Pair shares briefly refer to short discussions between pairs of students. Here students are first assigned a task to complete within 2-5 minutes alone that will lead them to think. Then, the students are

allowed to discuss their ideas for 3-5 minutes with the one next to each that refers to “pair”. Finally, pairs are chosen to share their ideas with the whole class.

Questioning

Questioning is a powerful technique to increase student interest and participation throughout the lecture. Effective teachers periodically ask and answer questions. Questioning is the act of asking questions, which refers to anticipating, soliciting and reacting to student responses as a tactic of instruction. Effective questioning requires a careful forethought and planning. In this case, teachers have to consider the goal and purpose of asking questions, the content, the way of phrasing questions, and the possible student responses in advance. Teachers who follow the three stages: structure (setting the questions), soliciting (asking questions), and reaction (responding to students' answers), questioning may appear to be effortless.

Student Centered Strategies

Teaching strategies focused on students and having teachers as facilitators rather than a sage on the stage are commonly known as student-centered strategies. This is a world famous approach to promote active learning than the direct information flow from teacher to student in the classroom.

When the teacher acts as the hub among learning activities, it seems to remain a problem that is what happens to the information when it reaches the student. Therefore, many student-centered teaching approaches have come to the practice since learning is best achieved within real-life environments in diverse ways. Teaching strategies both active and student-centered will better support the prerequisite of active learning thereby is of greater significance in this era of interactive strategies. Student-centered strategies in teaching can be frequently found in the form of small group discussions, peer teaching, and cooperative learning.

Small group discussions

In small group discussions, students are allowed to exchange of information and opinion among a small number of students that is helpful in fostering students' ability on critical thinking as students may express, support and modify their assumptions, opinions and conclusions. Students may enjoy and learn effectively without a huge effort because discussions groups allow students to communicate and interact openly. Effective teachers must facilitate group dynamics by monitoring and intervening all groups on a rotating basis.

Peer teaching and learning

Peer teaching allows students to teach their peers that enable students to learn together by

interacting each other without implying teaching responsibilities in the relationship. In this technique, both the student who teaches and the student who is taught would benefit from this face to face interaction as each pair of students would naturally be quite active and alert. Peer teaching can be seen in several forms. Reciprocal teaching is one distinct form of peer teaching that begins with teacher's questions which are designed to develop metacognitive skills of students. The strategy refers to a kind of teaching in which teacher working with small groups of students who work cooperatively. It was evident from the past studies that peer teaching improves students' attitudes and academic performances.

Cooperative learning

Cooperative learning is an effective instructional strategy that involves students working together to attain certain learning goals. Effective teachers must care about five main essentials for a successful cooperative learning which include: (a) face to face promotive interaction (interaction among students to share insights and ideas); (b) individual responsibility (students' accountability to work toward learning goals); (c) collaborative skills (skills required for effective group functioning); (d) group processing (how well cooperative learning groups are functioning on which they are working), (e) and positive interdependence (group interaction in positive ways to achieve the quality of group functioning). Teachers have to play an entirely different role in

cooperative learning techniques than they do in teacher-centered techniques like lecturing.

Some common examples of cooperative learning activities include “jigsaw” (separate groups learn various concepts and then groups are reassembled); “role-plays” (students act out situations); “brainstorming” (group of students spontaneously contribute ideas to solve a problem); “debating” (two groups of students argue on an issue or topic which is approached from two completely opposite point of views); “concept mapping” (a group of students visualize the connections that exist between terms or concepts), and “simulations” or “games” (modeling a real life situation).

Barriers for Improving Classroom Interaction

Although a vast range of benefits of effective classroom interaction are revealed by many research, it is still problematic in making actions to integrate interactive teaching events within classrooms. Most teachers usually believe that they have already created an active learning environment in their classes. But, classroom interaction is in fact more than that many faculty members believe. The major problem in this phenomenon has been that the majority has no idea about the effects of effective classroom interaction on students’ learning process. Some faculty members believe that classroom interaction is indeed a busy work than covering traditional lectures using study guides or work books. Also teachers believe that they

have to devote extra time, effort, and commitment on planning, preparing and integrating activities into the course, preparing materials in order to provide students with appropriate background, stimulate students to think critically and provide feedback or evaluate activities.

Some teachers concern about the time needed during the class to conduct such exercises. They fear that details of an activity may destroy the flow of information during the lecture so that the relevance of connected, consecutive ideas may be lost. Teachers have a belief that the class will not have enough time during the semester to cover all essential course work due to the practice of interactive classroom activities.

Also teachers concern that things are likely to go wrong when performing activities within the classroom. Fear of failure and evaluation apprehension motivates teachers to use lectures instead of more active methods of teaching. Teachers believe that they have more control over what is presented in lectures than engaging with interactive classroom activities. Another reason for the increasing use of lectures is that teachers simply believe that students are more likely to learn something quickly and clearly by directly hearing it from the teacher than having any other methods. Teachers assume that students understand and learn everything present in lectures. Another prominent barrier to improve classroom interaction is the lack of teacher improvement programs. Some teachers fail to

understand the need for improving their own teaching and sometimes teachers' lack of interest on teacher improvement programs are influencing immensely on this issue.

**AWAKEN STUDENT'S INTEREST IN
LEARNING THROUGH EFFECTIVE
TEACHING**

W. M. Hiranya K. Wijenayake

*Dept. of Aquaculture and Fisheries
Faculty of Livestock, Fisheries and Nutrition
Wayamba University of Sri Lanka, Gonawilla, Makandura
(NWP)*

*“I think the teaching is the highest level of intellectual activity, more than discovery in the lab. To be able to tailor the story to reach the people, that’s the greatest challenge”
(Ira Herskowitz, Geneticist, 1946-2003).*

Teaching is a great challenge, as Ira Herskowitz stated above, because at the end of a lesson the teacher expects behavioral change of students. Good teaching is now understood to involve a process of facilitating learning rather than being the simple transmission of knowledge from teacher to learner.

When it is coming under effective teaching context; it consists of a number of different characteristics.

According to (Sheffield 1974)⁶ the characteristics of effective teaches include: (a) master of his/her subject, component; (b) lectures well prepared, orderly; (c)

⁶ Sheffield, E. F., (ed.) (1974). *Teaching in the Universities: No One Way*. Montreal: McGill-Queens University Press.

subject related to life, practical; (d) student's questions and opinions encouraged; (e) enthusiastic about his/her subject; (f) approachable, friendly, available; (g) concerned for students' progress; (h) has a sense of humor, amusing; (i) warm, kind, sympathetic, and (j) teaching aids used effectively.

As stated by (Ebro 1977)⁷ characteristics of great teachers include: (a) they get right down to business; (b) they teach at a fast pace (c) they use variety of instructional strategies; (d) they stay with their subject; (e) they use humor; (f) they have command of their classes; (g) they interact with the students. (Give immediate response to students questions or answer, provide corrective feedback, use probing questions, provide correct answers with an observation based on the answer (i.e. An explanation of why the answer was correct); (h) provide "warm classroom climate" (student free to interrupt at any time, spontaneous introduction of humor), and (i) nonverbal behavior (Use gestures frequently, work around as they talk extensive use of eye-contact).

Lowman (1994)⁸ described two main dimensions of effective teaching, including: (1) intellectual

⁷ Ebro, L.L. 1977. Instructional behavior patterns of distinguished university teachers. Doctoral dissertation, Ohio State University.

⁸ Lowman, J. (1994). What constitutes masterful teaching. In K.A. Feldman & M.B. Paulsen (Eds.). *Teaching and learning in the college classroom* (pp. 213-225). Needham Heights, MA: Simon and Schuster.

excitement, and (2) interpersonal concern/effective motivation. The “intellectual excitement” include: enthusiasm, knowledge, inspiration, humor, interesting viewpoint, clarity and organization. The “interpersonal concern/effective motivation” include concern, availability, friendliness, accessibility, helpfulness, encouragement and challenge.

Especially in adult learning, the learners expect a “democratic” learning environment and “non-treating” environment. When the learning environment is fully democratic and non-threatening, it makes students effectively engage with teaching and learning process. However, this does not mean that the rule and regulations of the class environment is not to be implemented. The democracy should be functioning under the “ground rules of the class”. Otherwise, the teacher will become an ineffective and will only play a passive role in the class room. If ground rules are not properly implemented in the class the students may also easily neglect the necessary cooperation to the teacher.

In effective teaching, student should feel that teacher believes his students are capable of learning the subject and its deep concepts. It is well known that learners differ from one other, because adult learners are divers and display a wide range of needs. The main difficult task of a teacher is to identify skills, attitudes, level of knowledge and future goals of students that they are going to be achieved. However, it is very difficult to identify above mentioned factors

of each and every student. Teacher should have ability to recognize students' specific capabilities interests and skills to make use them in the class effectively in teaching and learning process. Therefore, teacher would be able to use appropriate techniques and methods to improve students' skills, attitudes and knowledge to achieve their ultimate goals.

Effective teachers use different techniques to identify different skills of students. Team work, innovations, field practical, surprise tests are some examples for common techniques teachers use to identify different values of students. If the teacher identified the strengths, interests and skills of students, teacher can use it effectively in teaching process.

As an example teacher can ask a skillful student to demonstrate techniques of operating a cast net to take fish sample from a fish pond. This would improve the self confident of students and teacher can guide them easily towards the self learning. Also, it would be a good path to reach higher levels of knowledge. As an example, the teacher can guide students to produce an innovative instrument using cheap raw materials.

Value of different cultures and ethnic groups should identify in a class room. Students in different cultural groups have different belief, values and different skills such as language etc. The cultural and ethnic diversity may lead disaggregating of different groups. If the teacher has more concern on the

diversity of his class he can easily make use of students belief, values and skills to promote group work. Group work is one of the effective methods of disseminating knowledge and finding new innovations. However, each student should deserve equal consideration by their teacher. It is very important not to bias especial set of students and it will discourage other students in their learning process.

When effective teachers should develop their educational programme, they consider the cognitive, affective, social and physical dimensions to make students knowledgeable and skillful. If effective teaching is implementing with proper motivation, the students will encourage themselves to seek knowledge and improve their skills. It promotes the life long learning. Also, it helps to produce an effective person who can cater for different areas of his/her particular discipline.

Active engagement and interaction with students is a positive character of an effective teacher. Active engagement helps teacher to identify different skills of students. It also facilitates the effective feedback from students. Further it helps teachers to identify the areas that teacher should improved. This is very important to a teacher to revise and update the teaching style and techniques. It is also a good opportunity to the teacher to demonstrate his/her expertise in real world applications. This would

motivate students to apply their knowledge and developed problem solving skills in the real life.

Effective teachers need different types of knowledge such as: (a) subject matter, (b) subject specific pedagogy, and (c) professional knowledge. “Subject matter knowledge” it makes the teacher self confident in teaching and simultaneously students feel that their teacher is an expert, and they should rely on the teacher. If the teacher can build this impression in his/her students through effective teaching, he/she can encourage the students to learn more easily. The subject matter knowledge involves a deep understanding of the following elements:

- Knowledge, not only the rules and content of a given discipline, but also the theories that underlie it.
- Understanding of the value and purpose for a specific subject.
- The fundamental knowledge and recent changes within a given discipline and the ability to research analyze and use evidence to support claims, and dispute or build on the claims of others, and
- Teachers know both the up-close and the big picture of what they teach.

If a teacher has good understanding on above elements his/her self confidence will be strengthen. When teacher is having a self confidence on his discipline, students respect their teacher and take him as a role modal.

“Subject specific pedagogy”, also known as pedagogical content knowledge, is a form of teachers’ knowledge and a part of a teachers’ thinking process. This is a dynamic and changing in response to the discipline and the learners with whom it is being shared. Because this knowledge meditates between growing mastery of subject matter and the changing environment for teaching also it develops exponentially over a career. Effective teachers considered on content, theory of his discipline and methods of teaching under pedagogical content knowledge. They always take peer evaluation to develop strategies for putting subjects in contexts that students can recognize and build their knowledge. Also the teacher develops and practice variety of strategies using multiple techniques, which are more suitable for different learners and more suitable for the particular subject area.

Political, social and cultural factors are common characteristics in all kind of professions. All professionals have an ethical responsibility to improve above contexts in their practice. Contribution to policy decisions, students’ welfare, counseling and administration are some examples, which effective teachers involve except from teaching. Also, these

activities directly or indirectly influence the students learning. Therefore, knowledge on political, social and cultural factors is important in effective teaching and influence students' interest in learning.

Teachers require complex set of practices and skills to be an effective teacher. These practices and skills have been developing through-out the teachers' career. Some selected practices and skills include:

- Supporting social, cultural and emotional context that promote learning
- Facilitating learning through collaboration among families, student and other teachers.

- Develop competence in subject related skills which are mentioned in curriculum.

- Improving instructions during lessons to meet students needs.

- Anticipating and preventing situations that might cause disruptions or disengagement by the student in order to promote appositve learning environment.

- Recognize unique characteristics and required guides for students.

- Engaging genuine enthusiasm for teaching that reflects teachers' commitment to student

learning, appreciation of activities which promote academic and personal achievement.

Skills that required for an effective teacher mainly depend on his experiences on teaching. Also, it depends on the future goals of the teacher. However, to be an effective teacher, these skills should be developed and practice through the carrier. As teaching is a two-way process between students and teacher, both parties will effectively be benefited and student interest on learning is also motivated.

Effective teachers use different methods to promote active participation of student in teaching. They use those techniques not only in the class room but also in the planning of the lessons. However, this should be done within the curriculum. Teaching and learning can do as a negotiated activity between teacher and students. It should be clearly accepted that learners have part to play in developing their own learning process in effective learning context. The learning outcomes brings an idea of final achievements of the course unite. The students can give their comment on the areas that they should need a “deep learning” and areas they should need a “surface learning”.

Learning is understood to be a social activity, where teams of learners work and learn in partnership with one another and their trainers. One argument of the group learning is that it loses the individuality. However, at the planning of group studies, teacher

should plan the teaching and learning activities in methodological manner. The way of conducting the lesson should have a mechanism to gain equal amount of knowledge, skills and experience. Also there should be a way of sharing expert knowledge that students gain through the lesson and also should concern about the proper assessment methods. This approach of learning is not only provides the transmission of knowledge and skills, but is also concerned with providing a valuable creative and transformative opportunity that involves the whole group in creating new knowledge and ways of understanding things, as well as helping to solve problems.

Integration of different teaching strategies is another technique to stimulate students' interest in learning. Learning can be considered as comprising a number of different forms, including: (1) formal learning, (2) informal learning, (3) incidental learning, (4) problem-based learning, and (5) situated learning etc. As such, to give a novel learning environment, teachers can admit different kind of teaching strategies to his lessons.

The formal learning that associates with classrooms having sequence of planned teaching activities. The informal learning is not a structured learning strategy, but students achieve their outcome through observation, discussion with others, asking questions and even making mistakes and learning from them. Also incidental learning such as something

happened as a by-product of some other activity, situated learning which acquired knowledge from the real environments (i.e. in a factory) and activities associated with solving problems in the real environment is described as problem-based learning.

Assessment of the learning process has identified as a key factor to facilitate or motivate student learning. Through well planned assessment system teachers can assess two processes in teaching and learning. Generally, teachers use summative and formative assessments. Through summative assessment teachers can what learners know and can do. Formative assessment is also important as it provides progressive feedback. Effective teaching has identified as one of the main factor to motivate students in learning. However, be an effective teacher is not an easy task as it needs several components of knowledge, skills and attitudes. As teachers we should keep one important thing in our mind that is to be an effective teacher. If we achieve this goal in our teaching carrier then we can easily awaken students' interest in learning and make them "life long learners".

**TRANSFORMING “TRADITIONAL
LECTURES” INTO
AN INNOVATIVE METHOD OF TEACHING**

B. S. Habaragoda

*Dept. of Industrial Management
Faculty of Applied Sciences
Wayamba University of Sri Lanka*

Lecturing: Strengths and Weaknesses

The lecture, in its many forms, is the most commonly used method for transferring information in universities. Traditional lecturing for the entire class room is, however, considered one of the least effective teaching methods. Since it generally does not involve the active participation of the students during the class period, the only activity takes place is that students simply write down the information with the idea of studying at a later time for an exam. As with any teaching method, the choice to lecture should be a strategic one. Because when the audience is too large, it has become the most practical and economical way of disseminating information. Further, for certain subjects, such as languages, lecturing can be considered the most suitable teaching method.

Regardless of the passive learning, traditional aspect lectures can be very effective if it is used with appropriate goals in mind, and it has the good

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characteristics of: (1) it enables gaining control of the class; (2) it can emphasize the valuable concepts at a length; (3) setting a stage for forthcoming activities; (4) it provides an opportunity to present most up to date information; (5) it enables the lecturer to show his/her own enthusiasm for the subject, very important for students motivation, and (6) it can be used to improve students' oral communication skills.

However, a lecturer may be considered a less effective mode of teaching due to a number of weaknesses associated with it, including:

Trying to cover too much material

It is simply impossible to say everything that ought to be said during the course of a single semester. Many lecturers, however, do not accept that truth. They set forth their course materials to be as complete and comprehensive as possible without taking into account of this phenomenon. Soon, they fall behind, or, they go too fast. Students complain that they don't understand and they can't keep up with the notes. Eventually, everyone is frustrated, and all because the instructor felt compelled to "cover the book."

Lack of adequate preparation

Being an expert on a subject does not necessarily insure that one can teach it to others effectively. Each of us can think of Professors who had great minds but who were miserable teachers! Knowledge is the

foundation of effective lecturing, but, other preparatory steps are essential.

Passive learning method

Most of the students and lecturers perceive lecturing as a passive learning method. Most students who attend a lecture assume that their role is passive. Especially in very large classes, they may think that it is perfectly acceptable to sit back, relax and take a few notes. Because they do not expect to be called upon to speak, they assume that they will not be actively involved in learning.

Ignoring students' feedback

As we identified earlier, one major mistake lecturers usually do is “trying to cover everything”, which in turn leads to series of other problems. A lecturer who wants to cover everything during a lecture is not likely to welcome student questions or requests which slow down the lecture. Usually students communicate their feedback non-verbally such as boredom, confusion or frustration. Thus, unless the lecturer is attentive to such cues and actively responds to them, he/she will lose students as he/she lectures.

Failing to formulate good examples

In any kind of lecture, appropriate examples are essential to clarify and to bring ideas into the real world. The education literature show that students

understand more precisely when lecturers incorporate meaningful examples to illustrate key concepts especially complex ones. Colorful examples are memorable. It was proud that students use their memory of examples to reconstruct key ideas. Therefore, not only good examples make one's lecture clearer and more dramatic; they can also assist students in recalling important ideas. However, it takes time and effort to find or formulate good examples. Many lecturers fail to do so, hoping instead that examples will come to them spontaneously as they lecture. Often, this is not the case.

Poor delivery

It is not essential that lecturers to be good speakers at every time. Altogether they do not want be boredom. The delivery or presentation style of a lecturer is very important since it serves as a source of attraction or distraction. Students who are counting the number of times their instructor says "you know" or "as I told you before" are not learning very much about the content being addressed. The list of poor delivery qualities is quite extensive. It includes speaking in a monotone, looking or sounding bored, using vocalized pauses, talking too rapidly, hiding behind the podium, reading lecture notes, failing to use reinforcing gestures and playing with objects (such as spectacles, pencils or piece of chalk). Most lecturers never have perfect delivery, but whenever their delivery becomes the source of student boredom,

distraction or ridicule a problem must be acknowledged.

Little student inputs to the lesson

There is a greater possibility that students are distracted from the task. The activities of students are more difficult to supervise and therefore distractions are more likely.

Enhancing the Effectiveness of Lectures

As discussed earlier most of the lecturers are not perfect presenters. Since lecturing is an acquired skill, they can improve their lecturing skills if they are willing to exert the required time and effort. Some techniques that can be used to improve the lecturing skills of a lecturer is discussed, in turn:

Dealing with speech anxiety

Speech anxiety is common to any speaker; no exception for lecturers. Even a Professor experience some anxiety before (may be while) making a presentation. However, the degree of anxiety faced by a person, decreases with the experience and time. A new lecturer may experience more anxiety than a Professor. Speech anxiety is frequently accompanied by an array of physiological reactions, including cold, clammy hands, dry mouth, “butterflies” in the stomach and rapid heartbeat.

Some lecturers become anxiety because they fell that they have inadequately prepared. Still others only get nervous in certain kinds of speaking situations. To deal effectively with speech anxiety, it is important to recognize that being anxious is a normal reaction to speaking in public.

The most important thing is, experiencing speech anxiety does not imply that a lecture will be ineffective as speakers or teachers. Some researchers argue that lectures can be more effective as speakers if they experience some speech anxiety. That is, because of the speech anxiety, they actually acquire some extra energy. That energy can be used to fashion a more enthusiastic, dynamic presentation. Therefore, speech anxiety is not a threat but a potential opportunity to improve lecturing skills.

Combining lecturing with other teaching methodologies

To improve the effectiveness, a lecturer can integrate other teaching methods (such as discussions, questioning etc.) into a traditional lecture. The past studies have revealed that lectures are better received if the lecturer reduces the lecturing time and using other activities which encourage students' active involvement. Some lecturers conduct their lectures for number of hours. It was found that typical student attention spans are limited to about 15-20 minutes. Therefore, after a short lecture, for example, the lecture can ask students to talk. Since the majority of the class period is spend with students working on

problems and not listening to lecturers there may not be sufficient time to cover the topic. Therefore, a lecturer can delegate some areas to students to self study.

Organize the content of lecture

Every lecture should have an introduction which gains the attention and interest of the student and orients them to the subject of the day, a content in which a few major ideas are highlighted and arranged in some logical order for presentation and a conclusion which pulls the main ideas together and leaves the students with something to think about. Lecturers should be able to smoothly shift from one topic to another and the relationship between topics.

Using audiovisual aids

Most lecturers can benefit from the use of some visual aids. Visual aids come in many forms, including objects, charts, graphs and pictures. Most public speaking teachers use audiovisual aids regularly, showing their classes tapes of master speakers and videotaping and showing students their own speeches for analysis and discussion. Nearly any instructor will occasionally use the blackboard, handouts or the overhead projector to outline the main points of the lecture. Since about 15% of all students are “visually oriented,” learning more easily with some form of visual reinforcement, it behooves us to think of ways to use visual aids to accompany our lectures.

Respecting students' opinions

A lecturer can show his/her concern about the class by positively responding student feedbacks. This is a good technique to understand whether the students are getting along with the course. The lecturer can encourage students to ask questions whenever they are confused, actively seek their reactions to views presented in the lecture, actively listen to their comments, acknowledge the worth of their contributions, and ask for their feedback on the class early enough in the semester so that changes can be made. Feedbacks can be obtained from students, colleagues and teaching experts. Though the students are not expert in the field however they can judge whether we are clear, organized and excellent presenters. It is equally valuable to obtain peer feedback.

Changing the position in the room

Changing the position and moving around the room enables the lecturer to build positive relationship with the students specially those who are sitting back of the room. It also relieves some of the monotony of the lecture.

Use interactive handouts

Instead of providing complete handouts which will discourage students' active interaction, provide them incomplete handouts (such as gap handouts and

flowcharts). Provide them at the beginning of the lecture and students have to actively participate to complete the lecture note.

Develop a good summary

End each lecture with a summary listing major learning points. Encourage the students prepare a summary by asking them to write down the major points they learned.

Improving presentation skills

Lecturer's style of delivery is a major input to an effective lecture. Even though the lecturer plans and organizes the lecture well, if he can not deliver in an appealing way, soon the students will not listen to the lecture. Some techniques which can be used to improve presentation skills are listed below.

- *Be enthusiastic* – good lecturers always show their enthusiasm for the subject as well as for the students.
- *Maintaining eye contact* – do not just read the lecture notes and do not talk to the white board.
- *Vary the tone and speed of talking* – changes of the voice can be used to highlight a major point.

- *Avoid distracting gestures* – do not play with objects like pens, keys or jewelries. Even the “dress code” is important (“Casual smart”, “Office wear”).
- *Get feedback on your presentation* – from both the students and peers. Audio or video tape your presentation and evaluate the presentation by yourself.

In addition to the above, a lecturer can pen the lecture with a good introduction designed to capture the interest and attention of the students, and project the voice so that those in the back of the room can hear clearly. For large lecture halls, use a microphone if necessary ideally cordless or, with a long cord that will permit movement around the room.

Frequently ask questions from the students and encourage students to ask questions. Provide positive feedback when students ask questions, answer questions or make comments. Use students’ names as often as possible, and make smooth transitions between different parts of the lecture.

Technique to Make Lectures Innovative

Questioning by the Lecturer and Students

Questioning can be incorporated into a traditional lecturing method to create an active learning environment. Classroom questioning includes both

“teacher questions” and “student questions”. Effective questioning would help, amongst the other reasons; to (a) develop interest and motivate students to become actively involved in lessons; (b) evaluate students' preparation and check on homework or seatwork completion; (c) develop critical thinking skills and inquiring attitudes; (d) review and summarize previous lessons; (e) nurture insights by exposing new relationships; (f) assess achievement of instructional goals and objectives; (g) stimulate students to pursue knowledge on their own; (h) get an feedback of the lecturer's lecturing style.

The previous research indicates that questioning is second only to lecturing in popularity as a teaching method and that classroom teachers spend anywhere from 35 to 50 percent of their instructional time conducting questioning sessions. A large number of studies were conducted on this topic and some of the important findings of which are listed below.

- Instruction which includes posing questions during lessons is more effective in producing achievement gains than instruction carried out without questioning students.
- Students perform better on test items previously asked as recitation questions than on items they have not been exposed to before.

- Oral questions posed during classroom recitations are more effective in fostering learning than are written questions.
- Questions which focus student attention on prominent elements in the lesson result in better comprehension than questions which do not.

Conducting an effective questioning session is certainly not an easy task. To achieve the required purposes, one must carefully remember some key points, such as:

- *Plan questions as you prepare* – most lecturers think that questions will come to them spontaneously as they lecture. Of course you can ask questions without prior preparation. However you would not be able to achieve your goals successfully. Make questions that will reinforce the objectives of the course.
- *Ask clear, specific questions* – avoid asking ambiguous questions. Use the answer of a particular question to produce another question and which will finally lead to a class discussion.
- *Ask questions form the entire class than an individual* – Pose the question to the entire group and wait before identifying a student to respond. The wait time encourages all students

to think about the response, as they do not know who is going to be called upon to answer the question. Select students at random to answer questions, as it tends to keep everyone attentive and involved.

- *Respond to answers given by students* – ask questions to encourage students' active participation to the lecture. Listen carefully to their answers and do not disrupt students while they are answering. Acknowledge correct answers and always provide positive feedback. Criticize answers but not the students. Do not use sarcasm, reprimands, accusations, and personal attacks. Welcome both right and wrong answers.
- *Ask questions in an evenly-paced, easily identifiable order* – ask questions in a systematic order. Questioning at random times frustrates the students. Use questions to signal a change of a topic or direction in the lecture.
- *Ask questions from all levels* – should the students be asked questions which require literal recall of text control or speculative, inferential and evaluating thinking. Researches have conducted to examine the effects of questions of different levels of Bloom's Taxonomy of school learning. These levels are: (1) Knowledge; (2) Comprehension; (3)

Application; (4) Analysis; (5) Synthesis; (6) Evaluation.

Therefore, questions should be formed to examine students' knowledge to evaluation skills. A successful classroom questioning requires a blend of difficult questions that require synthesis and evaluation with simple questions that only require memory and comprehension.

- Once the lecturer poses a question, he/she must give sufficient time for the students to think and organize the answer. If the lecturer gives the answer immediately after the questions students will never take any attempt. The waiting for a problem depends on the complexity of the problem. However, the average waiting time allows after posing a question is three seconds. For higher cognitive level questions, students seem to become more and more engaged and perform better and better the longer the teacher is willing to wait.
- For adult/higher ability students, ask questions before the material is discussed. For younger /lower ability students ask questions after the material is discussed. Ask a majority of lower cognitive questions when instructing younger and lower ability students. For older and higher ability students ask higher cognitive questions.

- Adapt questions to the needs of the learners. Assess the students' needs and alter questions to maximize the number of correct answers while moving toward more and more difficult questions. Remember, no two groups of students will be alike or at the same level.
- Select both volunteers and non-volunteers to answer questions. In most cases, there may be few volunteers in a class. First pose the question to the entire class. If only the volunteers speak, direct the questions to others.
- When the audience is very small, target a question to a specific student.
- Use the names of the students when asking and answering questions. This recognition is a powerful motivator.
- When asking and answering questions avoid a pattern.
- Avoid trick questions and those that require only a "YES" or "NO" response. Trick questions should be avoided, as they frustrate students and tend to encourage frivolous responses. "YES" or "NO" questions encourage students to respond without fully understanding or thinking through the issue. When used, such questions should be followed by other questions to determine the thinking process of the student.

Until now, we have discussed about the teacher questions. The other type is student questions. Some strategies a lecturer can use to encourage students to pose questions are mentioned below.

- Encourage students to ask questions by making the classroom for risk free for asking questions. Don't criticize questions negatively which discourage students ask questions next time.
- Make sufficient time for questions. Do not wait until the last 3 to 4 minutes of a lecture for the questions. Students will assume that "Are there any questions?" is a signal as the end of the class.
- Ask other students to answer. When a student pose a question, present it to the rest of the group to find the answer. This way encourages the class to have a discussion.

“Show and Tell” Method

In this technique the role of the student is reversed to that of a teacher, thus changing their perspective of the problem. A typical "Show and Tell" project would require a student or a group of students to explain a given theory or phenomenon to the rest of the class and also demonstrate a physical example that helps visualize the phenomenon. Almost any example that you can convincingly demonstrate in a classroom would be appropriate for a “Show and Tell” project.

However, it should be remembered that the concept to be explained by the students should be relatively simple and straight forward. The purpose of this exercise is to challenge the students to come up with a creative solution to the problem at hand without overwhelming them. In order to avoid embarrassing situations and to ensure that the demonstrations are useful to the entire class, it is also important for you to know before hand what the students plan to present.

Putting the students into the role of a teacher makes the students look deeper into the assigned problem. The students will be forced to clarify their thinking and understanding since they must explain to their peers the phenomena that they are demonstrating. In searching for examples outside of class or for demonstrations that can be performed in class, the students will be compelled to look for connections between theory and practical application. Moreover this provides students a good opportunity to improve their soft communication skills.

Case Studies

Cases are accounts of “real-life” activity therefore they help the students to better relate theory to the “real-world”. Cases often involve concepts from other disciplines also. In addition, the case method promotes discussion in the class and feedback from the students. The difficult part of this method is finding cases that fit with the class material. However

with a little work, it should not be too hard to find a suitable one.

Students are usually given written material regarding a case and asked to read it and answer a series of questions pertaining to various aspects of the case. The students can be required to work either individually or in groups. The following are some tips to remember when using a case study:

- The case study questions may increase the amount of work the students have to do outside of class. Care must be taken to balance this extra workload against other homework assignments.
- When using case studies found in the library, do not stick to using the questions given with the case. Generate new questions that directly fit the topics covered in class.
- While the questions that are assigned form the basis of the discussion, be prepared with other questions in order to guide the discussion.
- The goal of the case should be kept in mind at all times. Keep the discussion from drifting away from this goal.
- Be thoroughly prepared for the discussion. Poor preparation will lead to frustration among the students

Discussions

A group discussion is another widely used teaching method. As the term itself suggests, a group discussion is a discussion between the members of a group. What is actually expected in a group discussion is participation in a systematic way on a particular topic. Even though the group discussions are conducted in a competitive way, certainly they are not like debates. A discussion is evolutionary. In a discussion, participants have the opportunity to refine their views. Therefore, instead of pulling each other down like in a debate, every member requires to participate equally in a debate.

Unlike in written exams which usually test the students' knowledge, comprehension and analytical skills, a group discussion tests students in several ways. Content, communication skills, group dynamics and leadership style are the basic areas tested in a group discussion.

- *Content* – combination of knowledge and the ability to create logical arguments on the basis of that knowledge. Simply memorizing facts is meaningless. Successful group discussion requires in depth understanding of various issues and analytical skills and ability to respect to others opinions.

- *Communication skills* – in group discussions, listening ability is a critical requirement. Unless the members do not listen to others' views carefully, the discussion will go out of the topic soon. Furthermore students should be able to express their ideas in an understandable way. This includes verbal communication as well as non verbal communication such as body language.
- *Group dynamics* – group discussion is a formal peer group situation and tests your behavior as well as your influence on the group. Formal language and mutual respect are obvious requirements. In addition, you need to have (a) Willingness to listen and discuss various points of view; (b) Ability to show disagree politely, if required; (c) Show appreciation for good points made by others.
- *Leadership* - in group discussion leading is not controlling the group but giving direction to the group in terms of content. It is about initiating the discussion and suggesting a path on which the group can continue the discussion. A good leader is one who allows others to express their views and channels the discussion to a probable decision or conclusion on the given topic

Cooperative Learning

Traditionally, university system was highly focused on individual efforts. Students were assessed according to their individual achievements. However, in practice individual efforts are rare. Anyone has to work as a team. It requires effective interpersonal communication for a successful functioning of a group. To aid students in developing their interpersonal communication skills, many university programs are implementing a variety of methods that give students valuable experience in working with others.

Cooperative learning is a method of teaching and learning in which team of students work together to explore a significant question or create a meaningful project. In cooperative learning, students work together in small groups on a structured activity. They are individually accountable for their work, and the work of the group as a whole is also assessed. Cooperative groups work face-to-face and learn to work as a team. The classroom is an excellent place to develop team-building skills that students will need later in their lives. Some collaborative teaching methods are group assignments, class discussions, paired midterm test and etc.

In small groups, students can share strengths and also develop their weaker skills. They develop their interpersonal skills. They learn to deal with conflict. When cooperative groups are guided by clear

objectives, students engage in numerous activities that improve their understanding of subjects explored. In order to create an environment in which cooperative learning can take place, three things are necessary. First, students need to feel safe, but also challenged. Second, groups need to be small enough that everyone can contribute. Third, the task on which the students work together must be clearly defined.

Cooperative learning can take place at any time; during the lecture or after the lecture (giving a group assignment as homework). To achieve the required outcomes of cooperative learning, one has to pay careful attention when forming the groups. Usually, mixed-skill groups can be especially helpful to students in developing their social abilities. The students can help each other not only to improve their strengths but also to defeat their weaknesses. However, cooperative learning may not be suitable in every situation. For some assignments individual work may be most efficient.

The previous research suggests that cooperative and collaborative learning bring positive results such as deeper understanding of content, increased overall achievement in grades, improved self-esteem, to improve their interpersonal skills and higher motivation to remain on task. Cooperative learning also helps students to learn ways of resolving group conflicts.

The benefits of cooperative learning, include: (a) In a team work students have the opportunity to work with all types of individuals; (b) Final out come of a team work is more quality than an individual approach since individual weaknesses can be overcome in a team; (c) Enhances interpersonal development, and (d) Cooperative learning requires active participation of the students.

A good team requires certain characteristics such as;

- *Sufficient number of members* – usually five to three. When the groups become larger, members find it difficult to communicate with each other. Effective communication is essential for the successful functioning of a group.
- *Diversity of groups* – each group should consist of members with variety of skills. This will ensure that each individual provide their equal contribution.

Whether the “Lecturer” forms the group or let the students to form their own groups – research suggests teacher assigned groups function better than self-assigned groups.

Integrating Technology into Lectures

The dramatic development in the information technology has huge impacts on the education system.

Especially technology can be used to improve the teaching methodologies. All together computer literacy is an important role in students' education. Therefore integrating technology when appropriate will enhance the students' learning experience as well as it will increase the productivity of lecturers.

However, one needs to consider carefully the benefits, the students and the lecturers might gain from using the technology. In the university system computer technology is exploited in a variety of fields and disciplines. However, still majority of universities make more use of the internet as an information, communication and dissemination resource than as a teaching source. Some possible reason for this is that face to face teaching is the preferred mode of study among teachers and students. Some lecturers assume this new method of teaching since they are more comfortable with the traditional methods. Certainly, to use this method one should have IT background.

Electronic mail (e-mail) and the World Wide Web (www) are two most widely used technology tools. E-mails can be used to communicate effectively between students and staffs as well as between students. By forming an online community students can work on their group activities although they are apart physically. It can be used to provide students with more flexible access to learning resources, including lecture notes, supplementary material and communication tools. Also materials can be presented in variety of forms such as text, pictures, video, sound

and graphics. It may also be easier to accommodate students with different learning styles. “Teaching and Learning with the Internet demonstrate that the Internet can provide an exciting, flexible learning environment drawing on up to date information from a wide range of sources.

Lecturers may have several concerns in making use of the Internet in their teaching. First, the content of the material to be studied on the Internet must be relevant in terms of learning outcomes. Second the material should be truly interactive making full use of the technology. Graphics and animations which contribute nothing to the learning process should be omitted. Merely placing lecture notes on web is not an interactive use of technology. If an Internet course is to be truly interactive students should be allowed to make an input. This may take the form of a newsgroup or conference facility, where all discussions are available as a resource to those studying the course.

Thirdly, the cost of developing materials for the Internet is very significant. Development efforts need to be justified in terms of staff time and material cost. Certainly, placing lecture notes on the Web is a low cost method. If the required materials are already in the Web, it is not necessary prepare same electronic materials. Uses of technology might change the role of lecturers and student. In traditional lecturing, lecture has the major responsibility transfer the knowledge. Integrating technology moves learners

from passive to an active role by taking more responsibility for learning. Students, in taking responsibility for their learning, must learn how to distinguish what is valuable, relevant and reliable.

Students enter to the university with varying degrees of computer literacy. Therefore, it is necessary to provide the basic skills to get them up to the same level. However, the university can get rid of this requirement in the near future. Now the students have the opportunity to learn information technology during their school time.

ENGAGE STUDENTS EFFECTIVELY IN THE LECTURE HALL

H. A. Chandana K. Jayathilake

*Computer Unit/Makandura Premises
Wayamba University of Sri Lanka, Makandura, Gonawila
(NWP)*

Introduction

It is not novel to hear the terms ‘boring’, ‘useless’ or ‘get rid of them’ from students when they are talking about lectures. There are various factors leading to this bad impressions and mainly this is because of the ineffective student involvement in the lecture hall or the passive role in the participants. Naturally the student’s capacity and perspective about a particular lecture is varying. Therefore, it’s not an easy task to make good sense or impression in majority of the students in lecture hall. This is a real challenge to the lecturer.

To be a good lecturer and to make student fully aware about the subject with good impression, the lecturer has to do a lot in lecturing. The effectiveness of teaching and learning process of a lecture is mainly depend on the lecturer’s power, ability and authority. Therefore, we have to concern different educational strategies which take students out of the passive role and place them in an active for effective engagement in classroom; these include,

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amongst the others, identification of the characteristics of an effective and an ineffective lecture, prepare and deliver an effective lecture, brainstorming, personal values, physical environment and various activities (group works, discussion, assessments etc.) for students.

Lecturing

Probably lecturing is the oldest method of teaching used in higher education institutes and the usual established format for the transmission of knowledge in the classroom. Lecturing remains the most ordinary form of instruction and acknowledged as simplest alternative for providing opportunities for students to engage in the acquisition of knowledge and to understanding that discipline (Blaxter *et al.*, 1998)⁹.

Lectures are for the benefit of students. They have three purposes: (1) coverage, (2) understanding, and (3) motivation. Without motivation attention gets lost and there can be little understanding. The key features of the process of lecturing are intentions, transmission, receipt of information and output. Other important features are the objectives and expectations of the students and their intended applications and extensions of the information received. Therefore, we have to concern

⁹ Blaxter l., Hughs c., & Tight M., (1998), *The academic career hand book*, Open University press, Philadelphia

characteristics of effective and ineffective lectures and then how to organize the lecture for efficient student involvement.

A good lecturer can make lecture method to deliver organized content ideally to intellectual participants with limited resources, time and effort. When considering the lecture in a classroom, students can easily acquire vast area of knowledge in specific field in short period of time and they can be directed to other related areas too. It's believed that 80% of the success of the lecture is determined before the lecturer enters the lecture hall. Therefore, better planning and preparation for the lecture is very important. It should be very clearly stated what are the objectives and it should be student-centered, outcomes-based, realistic, achievable and assessable. This will make good impression about what you are going to talk about when the lecturer is structuring the lecture it would better if we can categorize as classic or comparative or problem focused or academic argument or interactive manner to improve the impression and enhance the student engagement (Moore *et al.*, 2001)¹⁰.

For an example, when we structure the lecture to make it interactive, it is better to track following

¹⁰ Moore, S.H. and Panter, J (2001), Engaging Students in the Lecture Hall. The Initial Professional Development of Newly Appointed Academic Staff, TCD Staff Development Office

steps to actively involve the participants. These steps are,

- review / revise previous lecture
- conduct a group brainstorm and create the topic on the white-/blackboard
- select a sub-topic from the main topic and deliver your input
- ask students to discuss the input and raise further questions or sub-topics to add to the main topic
- summarise, draw conclusions and refer students to further learning resources

As Lecturers, we should more concern about students' requirements and their background. This is exactly helpful to develop good Teacher –Student Interaction and then the effective student involvement in the lectures. The things what student wants from a Lecturer may include:

- present the material clearly and logically
- enable understanding of the basic principles of the subject
- clear audibility
- makes the material intelligibly meaningful
- cover ground adequately
- maintain continuity in the course
- constructive and helpful in criticisms
- shows an expert knowledge
- adopts an appropriate pace
- include material net readily available

- illustrates practical applications of theory of the subject

It's very important to consider above factors to make student actively involve in classroom. If you are not keen to consider and facilitate those requirements the participants will not be satisfied with what they gain and it results in passive role from the participants.

Also the way we deliver the lecture is crucial for effective involvement of the students in lecture hall. Basically the opening, voice/pitch, accent, gesture, values, body language, eye contact, use of teaching aids, strategy for dealing with questions and many more things govern the better delivery of a lecture.

Hence, the first impression about the lecturer and the content is very important; the opening of the lecture should be excellent. During the first few minutes students will decide whether it is good or bad and that impression affects the active or passive participation throughout the lecture. Therefore, we should try to strengthen the opening with following tips:

- get to the theatre early and relax (if possible)
- adopt a strategy for getting students' attention
- begin with: rhetorical question or surprising fact or buzz session or brainstorm or joke

- tell the students what you hope to achieve in the lecture and what you expect of them - that is, your objectives

Brainstorming

Brainstorming is another good technique used by the Lecturer in order that students may participate in, and help create the lecture. This technique helps students to actively engage students in the learning process. We must have a clear idea of what we wish to be revealed or discovered in the process and plan accordingly. In some instances its better lecturer to interject some points in order to keep the process on track. Also the lecturer must be flexible enough to depart from his/her preconceived ideas when necessary. A Lecturer can initiate the process by asking students to tell you everything they know about a topic. Everything goes, and no evaluations are made of the suggestions or comments put forward by the students. The points are recorded by the lecturer, as they are made on a chalk board or on flip chart and then these ideas are categorized or placed in groupings by lecturer with the students' guidance. The final creation reflects what the students and lecturer consider important about the topic. During the lecture, the students have spent their time thinking about and organizing the salient concepts or points of the topic as opposed to simply recording information. This will make good impression about lecturer and delivery of his content. Therefore, students like to involve (give their experiences and ideas) freely and

eventually enhance the active participation. (Seeler *et. al.*, 1994)¹¹.

Personal Vales

It's very important develop good personal vales such as the way we talk, behave, ethic and norms in teaching. If a Lecturer trying to develop these qualities, that will help to recognize the Lecturer as a role model or an ideal teacher and then students always like to follow that lecturer, they like to be with us in lectures and will be resulted effective student participation throughout the lecture. The University teachers may be governed or guided by codes of conduct and ethics, value statements, a set of principles for ethical behavior in teaching, perhaps even by-laws. It's a question that these codes and statements and by-laws accurately describe the personal values that each teacher brings to his or her teaching. Nevertheless, you must try to do the best thing in your capacity and to be a "role model" for them.

¹¹Seeler, D. C. and Brace, J. (1992). Faculty development: program for change. *Jour Vet Med Educ* 19:34-36

Parker Palmer¹² explained personal values as:

In the exploration of a personal set of values in teaching, we might be guided by the 'what', 'how' and 'why' questions and asks the 'who' question. Who is the self that teaches? How does the quality of my selfhood form - or deform - the way I relate to my students, my subjects, my colleagues, and my world? How can educational institutions sustain and deepen the selfhood from which good teaching comes?

Teaching Aids

The use of teaching aids is another very important technique. Rather than stick to chalk & talk method it's very effective if lecturer could use combination of different teaching aids like white board, overhead projector, flip charts, multi-media projector, video/cassette, slide projector and handouts etc in teaching. For better student attraction lecturer should use these teaching aids in organized manner. Each and every device we used should have prior knowledge and experience of how to operate. Otherwise when we are using these teaching aids

¹² Palmer, P. J. (1999). *The courage to teach: Exploring the inner landscape of a teacher's life*. San Francisco: Jossey-Bass.

without proper knowledge and practice participants will not acquire what we are trying to convey and sometimes it will be a comedy. Therefore, proper use of teaching aids entrust the active student involvement.

Physical Environment

Controlling of the physical environment is one of the tools available to enhance learning with active - participation. White (1972)¹³ identified the significant impact of the physical environment on learning:

“General estimates indicate that while about seventy-five percent of learning is accounted for by motivation, meaningfulness, and memory, the remaining twenty five percent... is dependent upon the effects of the physical environment. In general, therefore, the success of adult education is dependent to a considerable extent upon the facilities and environment provided for the learner”

Many authors stressed the importance of monitoring the physical environment, including

¹³ White, S. (1972). Physical criteria for adult learning environments, Washington, D.C.: Commission on Planning Adult Learning Systems, Facilities, and Environments, Adult Education Association of the U.SA

lighting and temperature levels, to heighten learner involvement and response. They mentioned where, the comfort level of the physical environment is low enough to impede learning; the teacher has the responsibility to find an adequate environment to have a better involvement of student in that session. Their checklist of items for analysing the appropriateness of a learning setting for adult learners includes: sensory concerns, seating concerns, furnishing concerns and general concerns.

Group Work

Group work is an effective activity for better involvement of the participants. Normally, we work with groups all the time; clearly a lecture is to a group of people. Concerned the situations where we are asking our students to work together on a learning activity. So, if we ask them to form into sub-groups within a lecture, or if we run a small group discussion, or if we get students to work together on a project, then we are “working with groups”. In a group activity lecturer can develop collaborative skills (team work, negotiation, compromise, and tolerance), content-based skills (recall, comprehension, application, analysis, synthesis, and evaluation), communication skills and organizational skills of the participants.

There are many types of groups such as pairs or triads, small groups (2 - 6 participants), large groups (up to 25 participants) and plenary. Lecturer

can formulate these groups by arbitrary mechanisms (e.g. tutorial groupings), seating arrangements (e.g. “turn to the person next to you”), self-selection, random selection (e.g. assign numbers) or predetermined criteria (e.g. gender, ability, background, etc.) to enhance effective participation.

The use of small group has become widespread in all types of teaching and learning, including higher education, in recent years. Lecturers use small group learning as the basis for much of my teaching because of the clear advantages it has over many other, more traditional methods. Collaborative learning appears to be potentially of a much better quality as students are actively involved in their learning, rather than passive recipients of teaching.

Some of the advantages of small group teaching reported in literature include: development of communication skill such as listening, explaining, questioning, discussing and responding; development of intellectual and professional competencies such as analysing, thinking critically, logical reasoning, problem solving and transferring skills to new contexts and personal growth of students such as developing self-confidence, managing their own learning and working with others.

It's revealed that in large group lectures students often find it difficult to concentrate, as they may not be able to hear and see as well as they wish and concentration is harder in a no doubt poorly

ventilated overcrowded room. Any individual uncertainties they have are unlikely to be dealt with by the lecturer. Moreover, they may well feel but in a crowd with little responsibility to each other and with no real relationship with the teacher the likely result is passivity and little significant learning. Obviously we have currently faced the challenge of being effective teachers under these circumstances. However as teachers we have to find a way out of this. We can't reduce the batch size for a course but we can find alternatives and strategies to handle large groups in a class more effectively.

Therefore, to effective student engagement the working with groups is very important and small groups formulation is entrust our objectives. During the lecture if lecturer shows following common weaknesses, it's very difficult to involve the students actively in his/her lecture and will be resulted boring lecture. The common weaknesses reported in the literature are:

- say too much too quickly
- assume too much knowledge on the part of students
- do not clearly indicate when lecturer is making an aside as opposed to a major point
- have difficulty in timing the lectures
- do not leave sufficient time for students to copy diagrams and notes
- do not clearly indicate reservations or doubts about the main argument that you are putting forward

- do not stress the major points sufficiently
- frequently not happy with our own knowledge of the topic we are lecturing on (i.e. not widely enough)
- do not link the sections together clearly
- do not organize the sections of the lecture clearly
- use too much technical language
- forget to provide examples adequate illustrations
- nervous and anxious when lecturing
- tend to make too much use of humors
- usually arrive late
- do not usually provide a clear opening when you lecture
- forget to provide a summary of your lecture at the end

Therefore, one must try to identify his/her common weaknesses and a to minimize those as much as possible to deliver better lecture with enhanced student participation.

Some tips of strategies stressed in the literature for engaging students effectively in lectures include:

- ask students to reflect in silence for a few moments in order to think, formulate a question, make a suggestion, or record their thoughts on a topic which has just been presented

- ask students to share a task in pairs or in small groups (without moving seats, if that is going to cause chaos)
- call on individuals to contribute answers - for example, by using colours or by naming students, if you can
- have students recall what they learnt last week: ask them to tell you, or better still, how they witnessed some application of last week's learning in their lives - on the news, at home or work, if appropriate
- make yourself as visible and audible as you can - be aware that some of your students will not be accustomed to your accent - so slow down, and project your voice to the back row. If you are using a microphone, make sure it works well
- vary your tone and volume - it keeps your audience interested
- have students test themselves on their prior knowledge of today's lecture - put up an overhead, and have them work silently for 3-5 minutes on a task associated with the learning outcome of the lecture - let them self-assess
- provide students with a summary of your lecture (they can use it to add notes, thoughts and questions to during the lecture), Provide that summary a week earlier and let them know that the lecture time will be used to solve problems, apply the knowledge to case studies or to discuss issues based on that information

- make sure you provide a structure so that students know what is coming in the class - what are the learning outcomes of the class, and how it will be conducted
- Seeing a lecturer pace up and down across the 'stage' (or performing some other unconscious behaviour) is often annoying (it creates 'noise'). Ask a colleague to observe your lecture and let you know if you have any 'noisy' behaviour.
- It can also be helpful to move around the theatre - up the sides, up the back and so on.

Here we discussed mainly the methods used to engage students and include strategies which take students out of the passive role and place them in an active for effective learning in the lecture hall. The used methods are: lecturing, brainstorming, group works and discussion. The strategies are: personal value, teaching aids and physical environment.

In lecturing it is very crucial how we plan, prepare and delivery of lecture for better student involvement and identify the characteristics of effective and ineffective lectures. Brainstorming is good teaching method to enhance the active participation and group works strengthen the active involvement too. Lecturer becomes a role model with good personal values and student likes to listen and be with that lecturer and resulted good impression. Effective use of teaching aids enhances students' attraction and comfort level of

the physical environment improves the learner involvement effectively in the classroom.

**EFFECTIVE CLASSROOM ASSESSMENT:
AS A TOOL FOR ACHIEVING DESIRED
LEARNING OUTCOMES**

D. M. Chaminda Dassanayake

*Dept. of Tourism & Hospitality Management
Faculty of Management Studies
Rajarata University of Sri Lanka, Mihintale*

Assessments and Its Importance

Assessment is a systematic process of gathering information about “what a student knows”, “is able to do” and “is learning to do”. In the definition itself, it is clearly depicted that the main objectives of assessment is not only grading and understanding student learning, but also improving student learning. Therefore, it is an on going process to find the answer to the question of: are student learning what they are being taught?

As far as student learning is concerned, assessment holds a distinct place because it provides the track in which the process is going on and tip-off for developments. Even though we know what students have been thought it is still a problem what students have actually learned and assessment plays a very important role in providing feedback for teaching. In the process of education, it is important to use the word “learning” than “teaching” because what is only learned will be remained rather than

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what is taught. In this case, it is essential to formulate the Intended Learning Outcomes (ILOs) or goals first, and then, measure the extent to which we are attaining these goals.

We can use different types of assessment techniques to assess students which can broadly be categorized as “*formative*” or “*summative*”. Even though we use summative approaches for grading students’ performance, it is evident that formative assessments are very much helpful for improving student learning.

Formative Versus Summative Assessments

Formative assessments are on-going assessments, reviews and observations in a classroom. Teachers use formative assessment to improve instructional methods and student feedback throughout the teaching and learning process. What is most important here is the overall understanding of desired learning outcomes by the teacher. In formative cases, the “deviation” between “desired” and “actual” may be revealed and remedies will be developed to fill the gap. It helps the students as well as teachers to correct themselves while they are in the process of teaching and learning.

This practice is very much helpful to direct students towards desired learning outcomes. As an example, the teacher can test the student knowledge before starting the lesson, course and come-across

with a proper understanding about their on hand knowledge. Then he can compare it with things to be taught and intended learning outcome and can adjust the way he would perform to carry the students towards desired learning output. Further, this can be continued throughout the lesson, semester or degree program and detect the trend of student learning and rearrange the process accordingly.

Summative assessments are typically used to evaluate the effectiveness of instructional programs and services at the end of an academic year or at a pre-determined time. The goal of summative assessments is to make a judgment of student competency; after an instructional phase is complete. In summative assessments, the main objective is to measure overall output of passed efforts. It gives overall performance of each and every student, course, degree, department, faculty and university etc. If the summative results are considered for judgments of performance, it is important to have higher results in summative assessments.

The key problem associated with summative approaches is not having room or time to corrective actions. If results are not up to desired level, it can not be upgraded. If these types of students' incapability had been understood earlier, it would be very much helpful to achieve desired results. The simple and possible answer for all these problems is formative assessments. If the teacher can use formative assessments throughout the semester and restructure

the instructional process accordingly, definitely better results can be obtained in summative assessments too. Therefore, it is clear that formative assessments are decisive in achieving desired outcomes.

In abstract, formative assessments help to enhance the level of achievement in learning while summative assessments help only to measure the student performance at the end of the process, i.e. *“when the cook tastes the soup, that is formative; when the guests taste the soup, the summative”*.

Assessment of Learning, for Learning, and as Learning

The purpose of assessment of learning is summative. Normally, this is done at the end of a unit, course, semester, year or a program. As far as student learning is concerned, the contribution of assessment of learning to student learning is very low and it does not help to achieve desired learning outcomes of students. In most higher education institutions and bodies, the assessment of learning still dominates among various types or assessments. For example, university lectures may give more attention on the final assessment in the course than ongoing formative assessments. They give more emphasis on making arrangements to prepare end-semester examination by assuming that the overall effort of his teaching during the study session will be reflected on the results.

However, we can not ignore the assessment of learning because it is the final measurement of student learning; further results of assessment of learning can be used for restructuring of teaching and learning process for the next batch of students. And by the side of students, it is really a goal to be achieved, and therefore, it motivates students for learning. It is still a problem that how far those results can be adapted to formulate next batch of students' studies, because results given form summative approaches are broader and do not describe a specific area in teaching and learning.

Assessment *for* learning is emerging as more helpful in student learning than assessment *of* learning. If the intention is to enhance learning through assessments. This is a more effective method in student learning as well as in gaining desired results. According to Earl, Lorna (2003)¹⁴ “when they are doing assessment for learning, teachers collect a wide range of data so that they can modify the learning work for their students”. In this scenario, teachers can diagnose the problems associated with the student learning process and can formulate different types of assessment for learning activities and use it for collecting of data and understand student capacities and develop more successful learning environment. When we contrast assessment *of*

¹⁴ Earl, L. (2003). *Assessment as Learning: Using Classroom Assessments to Maximize Student Learning*. Corwin Press, Inc., 2455, Teller Road, Thousand Oaks

learning and assessment *for* learning, it can be identified as quality control versus quality assurance.

Assessment *as* learning takes more responsibility of involving student in learning than assessment *for* learning. So, assessment *as* learning will be very critical in students' involvement in deeper context. The teacher's character in this regard is not powerful than in assessment *for* learning. Students will be assessed by themselves in the learning process and they will be self directed and motivated towards their own goals which is formulated with the desired outcomes of the learning. According to Siobhan *et. al* (2005)¹⁵ "over time, students move forward in their learning when they can use personal knowledge to construct meaning, have skills of self monitors to realize that they don't understand something, and have always of deciding what to do next". Finally, assessments *as* learning can be identified as a very open approach to student to think, learn, asses and realize themselves in the learning and also will not limit the learning to existing knowledge and will enhance searching of new knowledge.

In traditional assessment practices, the relative usage of these three approaches of assessments is usually: assessment *of* learning > assessment *for* learning > assessment *as* learning. But according to

¹⁵ Siobhan, L., Christine, L., Marnie, T. and Dylan, W. (2005). Classroom Assessment: Minute by Minute, Day by Day. *Educational Leadership*, 63(3): 19-24.

above arguments and explanations, the ideal way would be; Assessment *as* learning > assessment *for* learning > Assessment *of* Learning.

Classroom Assessment

Classroom assessment is a simple method that can be used to collect information on what, how much, and how well the students are learning. As a formative assessment technique, classroom assessment plays vital role in teaching and learning process. This kind of assessments are very popular and important by means of providing opportunity for improvements in students learning and promote and development of critical thinking skills as students learn to asses their own knowledge. It is a tool to understand where the students are and direct them towards where they should be.

The classroom assessment helps both teachers and students. By the side of lecturer, it will facilitate to focus on students learning rather than teaching. After finding out what students have learned or not, it can be tested a new way which will be more effective. Also, a lecturer can implement this type of assessments continuously as an on going process as it will be very much helpful to detect the problem once it is arisen and take corrective actions to enhance student learning. Moreover, it also helps to develop professional skills for teachers.

By the side of student, classroom assessment helps to give anonymous feedback. It provides a good opportunity for a student who heists to ask questions in the classroom. Further, students may realize their own knowledge, understanding, share knowledge with each other and feel a natural learning environment and have clear criteria of assessing. In addition to that, it will help greater classroom involvement and self directed learning.

Asides from above, classroom assessment generally opens a way to improve classroom interactions and active learning, student motivation, maintain student interest, (opportunity for further discussions) reduce gap between teacher and student, explore new knowledge, lecture breaks, improve student understanding, reducing student achievement gaps, development of student skills in almost all the aspects, provide links among previous on going in coming lessons, help to final exams, increase confidence and level of learning of learners, differentiate student learning and increase student involvement etc.

In the implementation part, classroom assessment holds the assumptions that students like to have feedback early and often, evaluated the quality of their learning and if can help teachers for improvements in teaching and learning process. As a teacher, it is essential to plan your classroom assessments to achieve intended purposes. Choosing what will be assessed and the assessment technique,

apply the technique, analyze collected data, share results are general steps in the implementation part of classroom assessments.

When it is compared with other assessments, classroom assessment has specific characteristics. It is a *Learner Centered* technique in teaching, because it keeps more attention on learning rather than teaching. Teachers find how well their students are learning than finding how well teachers are teaching. Next it is a *Teacher Directed* method. Teachers will decide the assessments and also the response to the results. Hence, both teachers and learners are mutually benefitted. The students will take part in the assessment and improve knowledge, skills and enroll them in the active learning process. On the other hand, teachers will be able to understand present situation of student learning and plan for better results.

Aligning Classroom Assessments with ILOs

From more general point of view, learning outcomes are statements that describe in precise terms the observable behaviors or actions that student will demonstrate after intended learning outcomes have occurred. In the teaching and learning process, every thing we do should be aligned with students and their learning outcomes [i.e. Intended Learning Outcomes (ILOs)]. These learning outcomes encompass a wide range of student attributes and abilities, both cognitive and affective, which are a measure of how their

college experiences have supported their development as individuals.

Once we have identified the ILOs of a particular course unit, it is essential to determine curricula, teaching methods and student involvement to acquire a particular learning outcome. In this exercise student assessment, especially formative assessment, plays very important role, because it should be in line with the intended learning outcomes, as the ultimate goal of teaching and learning process is to achieve ILOs.

Bloom has outlined a specific strategy for using classroom assessments called “Mastery Learning”. Here the teachers first organize the concepts and skills they want students to learn in a particular unit or a course. Then, it should be implemented a brief formative assessment based on the unit goals. In this practice, students are given information or feedback on their learning. Then a student can identify what he/she has learned well and things to be learned further. With these feed back, each student can have a detailed description of what more needs to be done to master the concept or skills.

Classroom Assessment Techniques

Classroom assessment techniques are formative evaluation methods which can help you to asses the degree to which your students understand the course content and provide with information

about the effectiveness of your teaching methods. Classroom assessment helps to assess basically three types of evaluations: (1) assessing course related knowledge includes prior knowledge, recall and understanding, analysis and critical thinking skills, creative thinking skills, application and performance skills etc; (2) classroom assessments will measure student attitudes, values, and self awareness; (3) it will measure the reaction for the instruction practices, i.e. the evaluation of the teaching and associated activities is done under this category.

When a teacher uses classroom assessments in his/her teaching activities, it is important to select and use of the ideal classroom assessments techniques for the given situation. In this case you might think that the expected outcomes or results first, and then, the technique which can fulfill the requirement. Once you design the activity, keep it simple. What do you want students to do? What kinds of responses you will get? Don't ask more data than you are willing to use. Let students know why you are using this particular technique, and how results will help to improve their learning.

After collecting data, sort and analyze it and see where there any patterns, most common responses, and data distribution pattern etc. After that, share results with students and explain them the effect of the assessments results for the learning and teaching process. Finally, make fair judgments about the assessment you did. Do not try to use same if it

has not worked properly. Then you better try another one. In the practice, large numbers of classroom assessment techniques are used under different situations, and the next section will describe briefly about some popular, practicable, effective and important techniques in abstract.

Background knowledge probe

Asking students general information on their level of preparation and background is a common practice. Normally, open ended, short answer, multiple choice questions (MCQs) can be used to gather these information. The background knowledge probe can be used at the beginning of a course, at the start of a new unit or lesson or prior to introducing an important new topic. As a result, teacher will receive list of courses that students have already taken in the relevant field. Once collected and analyzed, the information can be used for planning sessions or activities in the course. In implementation, first decide the prior knowledge that should have with students before starting new concept, topic or course. In this case you should understand that student's knowledge may be partial, fragmentary simplistic or even incorrect. Try to find at least one point that most students likely to know. Prepare questions so that you can understand intended knowledge level of students and reflect the results. The results obtained from background knowledge probe should not be used for grading of students. Finally, you can realize that the gap between desired outcomes of the course and the existing level of student knowledge.

Minute paper (“half-sheet response”)

This is a quick and easy way to collect written feedback on what students have learned, with only minimal investment of time and energy. When you use this method, you can stop class for two or three minutes early and ask students to respond briefly to following two questions. What was the most important thing you learned during this class? What important question remains unanswered for you? These questions will help student not only memorize things done in the class but also think and evaluate things they learned. In this case, students will provide with much more information and should carefully analyze and come in to a conclusion. This feedback can be obtained in an anonymous way, but in some occasions you can ask to write their names too.

Muddiest point

This is similar to the minute paper but ask students only to describe what they didn't understand and what they think might help. In this case, it provides information on what students find least clear or most confusing about a lesson. You can use this during the final five minutes of a predetermined class session, and collect responses, review them and decide whether any changes need to be made for the next class.

Chain notes

This is another way to have quick response to a question given by the instructor. In this case, a large envelope is passed over the classroom with a question about the class content. Each student writes a short answer, put it in the envelope, and passes it on. This technique will help to collect anonymous feedback on a particular area of the session. The teacher can analyze it and make judgments of his own teaching as well as make arrangement for improvements.

Misconception/ Preconception check

This is a variant of the background knowledge probe. It focuses directly some kinds of prior knowledge or beliefs that may actually hold back learning. This technique can be useful in courses comprised with controversial or sensitive issues, or those in which students may have developed perceptive but in accurate theories. Therefore, this technique will help to teacher to first understand some critical points that may tend to misconception and secondly collect information about those points from students as their views and thirdly plan the lesson accordingly.

One sentence summary

Teacher can ask students to summarize all the key points in the given topic. It will help students improve memory, listening, reading skills, develop the

ability to synthesize and integrate information and ideas and develop managerial skills etc. Furthermore, it will give a comprehensive feedback for teacher as well as a way to assess students' creative thinking and synthesis skills.

Circulating pad of paper

Teacher can write an open ended question or a controversial statement at the top of a pad of paper and pass it around the classroom and students can comment on the pad one after another. Hence they can read responses already mentioned; it also helps sharing knowledge and thinking. Finally teacher can collect all the information on the assessment.

Issues of Classroom Assessments

You do not succeed all the time even though you use varieties of classroom assessment techniques. Mostly, it is not a problem with the classroom assessment, but the way you use it. Teachers, most times, *do not select the ideal technique* for the fulfillment of intended purpose. Then, it will give results and information which are useless. This will tend to make teachers and students worried about classroom assessments. *Lack of teacher and students awareness* about the assessment is another problem. Teachers do classroom assessments in the class without proper intention or plan. On the other hand, students will participate in assessments on their own way. Ultimately, no output can be generated. In this case,

teachers should know first what they are going to do and student should be kept informed about the assessment, the way they can participate, benefits they gain etc.

Lack of students' participation is also create problems. Even though you have planned the assessments to collect information from all students, there may be students who have not involved in the assessment. Then it will give incomplete feedback. Reasons for this issue can be not grading students, no motivation, anonymous, etc. To enhance student participation you can adopt things such as games, counting feedback and compare with number of students, emphasis the effect to final exams, use pictures, use posters, use audio visuals, or use any other attractive teaching tools etc.

Teachers *expect a desired answer for the questions* in classroom. Teacher forwards question and will be waiting for the exact answer he has already thought about. And no chance for other answers even they are correct, considerable or should be discussed. This practice also will reduce the effectiveness of the assessment and its intended purpose. Some times, *assessment techniques do not compatible with number of students* in the classroom. Selection of a technique depends on number of expected respondents. In this case, for an example, in a large group, multiple choice questions can be used and the feed back can be obtained by using colored or numbered cards or tools like communicubes.

Time constraint is an important issue associated with classroom assessments. For teachers it is hard to find sufficient time to do classroom assessments. Some times it takes time more than planned, and as a result, it has to be stopped the assessment before it finished by allowing no time for discussions or evaluating results. This problem can be overcome through proper planning, use the ideal technique, use less time consuming techniques, incorporate assessment in the lesson, grouping respondents, give at home pre-preparations and take the help of a peer etc.

Results are not used for the intended purposes. Teachers do classroom assessments and collect more useful information but the process will not continue after that. Of course, teachers plan the assessment activities properly but no intention about things to be done with results. Reasons for this issue may be that no proper planning, insufficient of information collected, wrong information collected, time constraint, heavy work load, inability to understand the information in hand etc.

Collecting too much data is another problem. After the assessment, teacher will receive large amount of data and it is very hard to analyze and come in to a conclusion. So, it will not help for a proper classroom assessment practice. In the classroom assessments, teachers can learn many things from students. But, *teachers are not willing to learn from students*. Some times, students have very

good knowledge, comprehension about certain matters and if teacher can take it and share with other students and it will be more beneficial for the both parties. But in the practice it is very rare.

The ultimate goal of teaching and learning process is achieving ILOs. But in the practice of classroom assessments, many times we have seen that there is no, *it is not clear link between intended outcomes and the assessment* as teacher selects an assessment and forces it to the class without an idea about student, course, content, outcomes etc. So, it is nearly important to link ILOs with appropriate criteria for assessment.

EFFECTIVE TEACHING METHODOLOGIES FROM THE BUDDHIST PHILOSOPHY

W. Dumindu Samanwickrama

*Computer Unit/Makandura Premises
Wayamba University of Sri Lanka, Makandura, Gonawila
(NWP)*

The Lord Buddha can be introduced as a philosopher, psychiatrist and as a teacher born during the time of Brahmana religion had stronghold in India. The word Buddha is an omniscient. In suttanipatha it is mentioned that “Buddhas” are to be considered as they are not second to any one with the power of mentality and speech among the men and gods. (*Sutta Nipatha* -1948:179). When we look into it according to psychological point of view Buddhism can be introduced as a philosophy built on fine psychological principles. That is why some erudite scholars introduced Buddhism as a philosophy giving knowledge, behavior and skills but not as a religion.

According to the philosophy of Buddhism, importing only the knowledge is not considered as education. It is mentioned in “*Mangala Suthra*” that the teaching of behavior and the skills is also considered as education.

Knowledge, completion of arts and crafts and the weakness in behavior are important as shown in the following pali extract: “*Bahu Suppancha sippancha* -

Staff Development Centre – Wayamba University of Sri Lanka

vinayocha susikkito”, “බාහු සවචංච සිපපංච – විනයො ච සුසිකිතො”, (*Sutta Nipatha* 1977-80).

True education is not showing the way of learning by heart emphasizing, revising and grasping hard a lot of facts. Buddhist education is more than importing the knowledge. It is a wide chain of actions that is being done on the concepts and principles of Buddhist education.

Behavior is the foundation of Buddhist education. This is not done by rules but by self understanding. (*Dhammapada Bikku vagga stanza.2.*) Behavior is controlling the body, words and the thoughts.

Table 1: The Buddhist educational philosophy: The role of a teacher

The teacher's role according to the Singalowada Sutta,	The teacher's role according to the Mahavaggapaliya
Guiding the scholar to get rid of weakness	Be an adviser to the pupil
Teaching well	Be one who treats
Teaching all the arts & crafts and religion	Be one who helps
Introducing to the friends	Looking into the well being on and off and be a correct leader
Giving security	Be one who ask matters of the pupil

By this, it is clear that Lord Buddha was the first philosopher who introduced and invented the principles that are the norms of the present day teacher.

It is assumed in the Buddhism that the behaving of the man is important and it is the foundation of the Buddhist philosophy. Lord Buddha has always stressed that by molding the man the whole society can be molded. Therefore, in preparing the modern education methodology, it is important to focus on not only giving the knowledge as fundamental but also giving attitudes and skills.

Methods of Preaching by Lord Buddha

Lord Buddha while teaching his own pupil has shown four methods of teaching, and are explored, in turn:

Aththajanjasaya (අත්තජානසය)

It is an accepted truth that there is no one who knows specially all about worldly and super worldly thin equal to Lord Buddha. He has had a knowledge about the things that had no knowledge whatsoever gained by person with worldly wisdom.

Therefore, there was no way of understanding by someone without being told by Lord Buddha. In required place to a required person or persons preaching certain Dhamma has been done on his own

thought and his matter can be seen in many places of Threepitaka.

The saying, “I preach you Dhamma Listen well and contemplate”. Is seen in such teachings. To a pupil who has no understanding what so ever or pre-understanding. We can think that if a teacher is teaching a valuable lesson, and if it is a useful one, such a method of teaching has been followed by Lord Buddha.

Parapannasaya (පරපකාසය)

In certain instances by knowing the idea in a person who has no understanding what so ever on certain matters and is thinking doubtfully in order to go in par Lord Buddha has taught in such instances. Such preaching done after knowing the ideas of others were useful to many person’s understanding.

Puchchavasika (පුච්ඡාවසික)

This means, some one is wishing to know for his own use or for others use considering that Lord Buddha knows everything. Go and stand before him and ask questions or a few questions and for that giving answers as solutions for the questions. In Buddhism in many instances such preaching can be seen. Mangala, Parabhawa, Dhammika and many more sutras can be seen as replies given to such questions. When one such question is asked worthwhile length preaching have been given while

received a short answerer to one question, again for the question raised answerers have been given again & again.

It is clear as cited in *Mangala and Parabhawa Sutra* when the person who asks asset of questions Lord Buddha also preached a set of replies that suits for each and every question.

Attukpaththica (අටුප්ප්ප්තික)

When a certain incident or a matter comes in preaching Dhamma considering it is more fruitful than Lord Buddha. Thinking of that matter suitably presents a long, a medium or a short preaching is presented. This also a super method used by Lord Buddha to distribute the knowledge to the word.

Some Examples of Lord Buddha's Teaching Methods

The Conversion of Yasa and His Friends

(Cognitive Theory: Step buy Step Process to learn)

“At first the Buddha spoke to him on generosity (*dāna*), morality (*sīla*), celestial states (*sagga*), the evils of sensual pleasures (*kāṃādinava*), the blessings of renunciation (*nekkhammānisamsa*). When He found that his mind was pliable and was ready to appreciate the deeper teaching He taught the Four Noble Truths”. (*Narada Mahathera., 1998*).

Conversion of Thirty Young Men

285(*Gestalt theory: The learner should be encouraged to discover the underlying nature of a topic or Problem*)

At that time thirty happy young men went with their wives to this particular grove to amuse themselves. As one of them had no wife he took with him a courtesan. While they were enjoying themselves, this woman absconded with their valuables. The young men searched for her in the forest, and, seeing the Buddha, inquired of Him whether He saw a woman passing that way.

"Which do you think, young men, is better; seeking a woman or seeking oneself?" questioned the Buddha.

"Seeking oneself is better, "O Lord!" replied the young men.

"Well, then, sit down. I shall preach the doctrine to you," said the Buddha. (*Narada Mahathera., 1998*).

Lord Buddha and Rahula thero

(*Using visual aids, Humanist theories: Organizing and making available learning resources*)

One day the Buddha visited the Venerable *Rāhula* who, seeing Him coming from afar, arranged a seat and supplied water for washing the feet.

The Buddha washed His feet himself and leaving a small quantity of water in the vessel, said:

"Do you see, *Rāhula*, this small quantity of water left in the vessel?"

"Yes, Lord."

"Similarly, *Rāhula*, insignificant, indeed, is the Samana-ship (monkhood) of those who are not ashamed of uttering deliberate lies."

Then the Buddha threw away that small quantity of water, and said:

"Discarded, indeed, is the Samanaship of those who are not ashamed of deliberate lying."

The Buddha turned the vessel upside down, and said -- "Overturned, indeed, is the Samanaship of those who are not ashamed of uttering deliberate lies."

Finally the Buddha set the vessel upright and said -- "Empty and void, indeed, is the Samanaship of those who are not ashamed of deliberate lying."

"I say of anyone who is not ashamed of uttering deliberate lies, that there is no evil that could not be done by him. Accordingly, *Rāhula*, thus should you train yourself -- "Not even in play will I tell a lie."

Emphasizing the importance of truthfulness with such homely illustrations, the Buddha explained to him the value of reflection and the criterion of morality in such a way as a child could understand. (*Narada Mahathera.*, 1998).

The Buddha and His Step-brother Nanda

(Field Visit, Humanist theory: learning is a constant search for something better)

On the third day after the arrival of the Buddha at Kapilavatthu, Prince *Nanda*, the son of Queen *Mahā Pajāpati Gotami*, was celebrating his consecration ceremony, marriage ceremony, and the house-warming ceremony. It was on the occasion of these three festivals when congratulations were being

offered to the prince that the Buddha visited the palace. After the meal the Buddha handed the bowl to the prince, and uttering a Blessing, rose to go without taking the bowl.

The prince followed Him thinking that the Buddha would take the bowl from him at any moment. But the Buddha did not take it, and the prince out of reverence for Him continued to follow the Teacher.

Janapada Kalyāni, to whom he was betrothed, hearing that the prince was following the Buddha with bowl in hand, with tears streaming down her cheeks and hair half-combed, ran after Prince *Nanda* as fast as she could and said to him: "Return quickly, O beloved princess!" These affectionate words penetrated his heart and he was deeply moved, but with deference to the Buddha he could not possibly return the bowl to Him. So he accompanied the Buddha to the park, His temporary residence. On arrival there the Buddha questioned *Nanda* whether he would become a monk. So great was his reverence for Him as the Buddha and as an elder brother of his that, with reluctance, he agreed to be admitted into the Order.

But *Nanda* Bhikkhu enjoyed no spiritual happiness resulting from renunciation. He was greatly depressed, and was constantly thinking of his bride. He related his mental troubles to the Bhikkhus, saying: "Brethren, I am dissatisfied. I am now living

the Religious Life, but I cannot endure to lead the Holy Life any longer. I intend to abandon the higher precepts and return to the lower life, the life of a layman".

Hearing this, the Buddha questioned Venerable *Nanda* whether such report was true. He admitted his weakness, and stated that he was worried about his bride.

The Buddha devised a means to set him on the right path. With the object of showing him celestial nymphs the Buddha, using His Psychic powers, took him to the Tavatimsa Heaven. On the way the Venerable *Nanda* was shown a singed she-monkey who had lost her ears, nose, and tail in a fire, clinging to a burnt-up stump in a scorched field. Reaching heaven, the Buddha pointed to him celestial nymphs and asked him: "*Nanda*, which do you regard as being the more beautiful and fair to look upon and handsome -- your noble wife *Janapada Kalyāni* or the celestial nymphs?"

"Venerable Sir, *Janapada Kalyāni* is like the singed monkey when compared to those celestial nymphs, who are infinitely more beautiful and fair."

"Cheer up, *Nanda*. I guarantee that you will possess them if you persevere as I bid you."

"In that case I shall take the greatest pleasure in living the Holy Life," said Venerable *Nanda*, childishly.

Hearing that Venerable *Nanda* was living the Holy Life with the object of winning celestial nymphs,

the Bhikkhus ridiculed him calling him "hireling." Eventually he became ashamed of his base motive, and striving diligently, attained Arahantship.

(Narada Mahathera., 1998).

The conversion of Ālavaka the demon

(Behavior theory: Learning is reinforced by a system of rewards)

Ālavaka, a ferocious demon, was enraged to see the Buddha in his mansion. He came up to Him and asked Him to depart. "Very well, friend," said the Buddha and went out. "Come in," said he. The Buddha came in. For the second and third time he made the same request and the Buddha obeyed. But when he commanded Him for the fourth time, the Buddha refused and asked him to do what he could.

"Well, I will ask you a question," said *Ālavaka*, "If you will not answer, I will scatter your thoughts, or rive your heart, or take you by your feet and fling you across the Ganges."

"Nay, friend," replied the Buddha, "I see not in this world inclusive of gods, brahmas, ascetics, and brahmins, amongst the multitude of gods and men, any who could scatter my thoughts, or rive my heart, or take me by my feet and fling me across the Ganges. However, friend, ask what you wish." (*Narada Mahathera., 1998*).

Buddha and Angulimāla

(Humanist theory : each person is unique in his/her perceptions)

It was in the 20th year that the Buddha converted the notorious murderer *Angulimāla*. *Ahimsaka (Innocent)* was his original name. His father was chaplain to the King of *Kosala*. He received his education at Taxila, the famous educational centre in the olden days, and became the most illustrious and favourite pupil of his renowned teacher. Unfortunately his colleagues grew jealous of him, concocted a false story, and succeeded in poisoning the teacher's mind against him. The enraged teacher, without any investigation, contrived to put an end to his life by ordering him to fetch a thousand human right-hand fingers as teacher's honorarium. In obedience to the teacher, though with great reluctance, he repaired to the Jalini forest, in *Kosala*, and started killing people to collect fingers for the necessary offering. The fingers thus collected were hung on a tree, but as they were destroyed by crows and vultures he later wore a garland of those fingers to ascertain the exact number. Hence he was known by the name *Angulimāla (Finger-wreathed)*. When he had collected 999 fingers, so the books state, the Buddha appeared on the scene. Overjoyed at the sight, because he thought that he could complete the required number by killing the great ascetic, he stalked the Buddha drawing his sword. The Buddha by His psychic powers created obstacles on the way so that *Angulimāla* would not be able to get near Him although He walked at His usual pace. *Angulimāla* ran

as fast as he could but he could not overtake the Buddha. Panting and sweating, he stopped and cried: "Stop, ascetic." The Buddha calmly said: "Though I walk, yet have I stopped. You too, *Angulimāla* stop." The bandit thought --"These ascetics speak the truth, yet He says He has stopped, whereas it is I who have stopped. What does He mean?"

(Narada Mahathera., 1998).

Student Centered Education

Educationists from various fields have shown the importance of using various teaching methodology, including group conversation method, observation method, self education method and question and answerer method. However it can be seen in Buddhist literature that Lord Buddha has followed these methods in the past.

Within the incidents connected with "Patachara" and "Kisagothami" etc., we can see that Lord Buddha has used the observation method to impart the knowledge and comprehension. In the same way in "Choolla panthaka" take how a discourage pupil was taken to the correct path by following the comprehension by action is clear.

"Power of intelligence", "power of wisdom" and the "power of memory" are yet more features that can be seen education. According to the Buddhist philosophy, education can be divided into a number of categories: (1) "Uggatithannu" Persons

(උගසවිතකැසු පුද්ගල); (2) “Vipatithannu” Persons (විපවිතකැසු පුද්ගල); (3) “Gneiya” Persons (කෙයා පුද්ගල), and (4) “Padapasannu” persons (පදපරම පුද්ගල).

“Uggatithannu” Persons (උගසවිතකැසු පුද්ගල)

If a person can understand what is preached when a “bana” (Dhamma) preaching is done such a person is called “Uggatithannu”. It is just lotus above the water waiting until the sun’s rays are falling to blossom early in the morning. The understanding Dhamma by Rev. Sariyuth Thero can be cited as an example.

“Vipatithannu” (විපවිතකැසු පුද්ගල)

The person who understand “dharma” when it is examined further is called “Vipatithannu”. He is just like the bud that has cause above the water two days before, and then it gets blossomed.

“Gneiya” (කෙයා පුද්ගල)

The person listen again and again using his wisdom and also by association with his life long friends beings to understand gradually.

“Padaparama” (පදපරම පුද්ගල)

Although this person after listening to so much of “Dhamma” is unable to understand it well.

It is clear that in this way by understanding the power of intelligence and the power of memory accordingly Lord Buddha has done the task of education. Modern psychiatrists after doing various

tests, according to the IQ level the persons are divided into four sections: (a) super intelligent; (b) intelligent; (c) general intelligent, and (d) Idiots/ low intelligent.

The Methods used by the Lord Buddha When Answering the Questions

“Patipuchcha” method (පරිපුච්ඡා ව්‍යාකරණය)

When some one ask a question, you do not give the answerer at once; when asking questions again about the same matter and according to the answerer you get to it and in addition by making use of Lord Buddha’s knowledge , getting the answerer by himself in solving the answerer is called this method.

“Ekansa” Method (එකංස ව්‍යාකරණය)

Giving the answer straight way to the questions when a question is asked by someone in order to know the answer from Lord Buddha, answering it suitably is a method followed by Lord Buddha.

“Vibajja” method (විභජ්‍ය ව්‍යාකරණය)

When a question is asked without getting an answerer straightway, break up the question into parts and then giving an answerer to one part is this method. It will lead to further understanding to the person who asks questions as well as others .It is more fruitful.

“Tapaniya” method (ටපනීය)

Questions have been asks by a certain self important person to show his knowledge or to tell that

Lord Buddha doesn't know the answer to that question and to dishonor him. When such useless questions are asked evading that question was his habit. To weaken the questioner's belief as well as in order to not to ask such questions, this method was used. In this way giving knowledge by solving questions Lord Buddha has used very successfully. (Anguththara Nikaya, Chathakka Nipatha, Panna Grammar Sutra, Rahala 1982: X111)

The different Buddhist teaching methods in the classroom

Methods of Buddhist Teachings	Way that Can Use in the Classroom
Question & answer method.	While explaining the complex questions.
Giving suitable answers to the questions.	Giving an apt answer to the question of the pupil.
Telling it short.	Telling the epitome before explaining the lesson.
Explanation of one's own view	Telling the meaning of Pansil first.
Telling the meaning first.	Explaining the four noble Truths via media.
Explanation.	By explaining with the help of simile, metaphor and stories allowing them to understand.

Explaining via various ways.	Explanation by using headings and subheadings etc.
Explanation by means of analysis.	In Singalowada Sutta-explaining the duties that should perform towards their parents.
Explanation with an aim.	Giving suitable answering to the questions in various fields like social, political & economical.
Answering the questions of the pupils.	Explanation of matters unable to understand.
Explanation according to other's view.	Presentation of one's own view in suitable situations.

Effective Teaching Through Innovative Techniques

Selected Topics

“Teaching” and “Learning”: Styles, Importance and Approaches.
K. Vivehananthan

Effective Classroom Interaction as an Approach to Promote Active Learning.
W. W. Nisha C. K. Palagolla

Awaken Students' Interest in Learning Through Effective Teaching.
W. M. Hiranya K. Wijenayake

Transforming “Traditional Lectures” into an Innovative Method of Teaching.
B. Sandareka Habaragoda

Engage Students Effectively in the Lecture Hall.
H. A. Chandana K. Jayathilake

Classroom Assessment as a Tool for Achieving Desired Learning Outcomes.
D. M. Chaminda Dassanayake

Effective Teaching Methodologies from the Buddhist Philosophy.
W. Dumindu Samanwickrama



Dr. Udith Jayasinghe (41) is currently working as the Head/Senior Lecturer of the Dept. of Agribusiness Management and the Director/Staff Development Centre (SDC) of the Wayamba University of Sri Lanka.

He was graduated with a *B.Sc. (Agriculture)* [First Class Hons.] degree from the University of Peradeniya in 1994, followed by a *M.Sc. (Agric. Econ)* from the Postgraduate Institute of Agriculture (PGIA) of the same University in 1997. He obtained his *Ph.D (Agric. Econ & Business)* from the University of Guelph in Canada in 2004. Also, he possesses a *Diploma in Business Management* (Scranton, USA) and a *Diploma in Mass Media & Communication* (DES, Colombo). Besides the academic, research, and career development activities, Dr. Jayasinghe has been involved with activities related to teacher training and consultation, development of teaching technologies and methodologies, curriculum development, and quality assurance in higher education etc. He possesses a *Postgraduate Diploma in Teacher Training & Education Management* from the Indian Institute of Technology & Management. He completed the *Certificate of Teaching in Higher Education* (CTHE) course conducted by the University of Colombo, and received the United Kingdom's *Staff and Educational Development Association* (SEDA) accreditation in 1999.



Mr. Ajith Jayaweera (43) is a Senior Lecturer attached to the Dept. of Livestock & Avian Sciences of the Wayamba University of Sri Lanka. Also, he acts as the Director/Career Guidance Unit (CGU) of the same University, and Student Counselor and member of the Curriculum Revision Committee of the Faculty.

He was graduated with a *B.Sc. (Agriculture)* [Hons.] degree from the University of Peradeniya in 1993, followed by a *M.Phil (Animal Science)* from the Postgraduate Institute of Agriculture (PGIA) of the same University in 2003. He has obtained the *Certificate of Staff Development* of the University of Peradeniya in 1996 and the *Certificate of Teaching in Higher Education* (CTHE) of the University of Colombo in 2002 and qualified for the United Kingdom's *Staff and Educational Development Association* (SEDA) accreditation in 2002. Mr. Jayaweera has been working as the Course Facilitator of the “Certificate Course on Staff Development” conducted by the Staff Development Centre (SDC) of the Wayamba University of Sri Lanka for the Probationary Lecturers in the national universities in Sri Lanka.

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