

Original Article

## Mewar University: Unique Features of Teaching-Learning and Evaluation

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### ABSTRACT

*Each and every conventional university has its own method of teaching and evaluation. These activities are by and large teacher centered. Open and distance educational universities, on the other hand, have these systems which are students centred. Each one of these approaches has some advantages and disadvantages. Mewar University has adopted a unique approach of teaching and evaluation which is partially teacher centered and partially student centered. This paper has described these features and has elaborated its advantages. It is believed that such an approach will produce true human engineers /scientists /professionals/entrepreneurs.*

**Key words:** Convention Education, Evaluation, Seminars, Assignments, Charts and Models

### INTRODUCTION

There are many advances in scientific knowledge and innovations in educational field that necessitates constant changes in course curricula. This is for the benefit of society. There are many innovations and trends in engineering education that have been undertaken globally which include self directed learning, problem based learning and integrated teaching (Smith 2005). The need of the hour is integrated teaching.

The way of connecting skills and knowledge from multiple sources and experiences or applying skills and practice in various settings is integrated teaching. It simply means bridging connections between academic knowledge and practical (Huber and Hutchings 2004). An integrated curriculum refers to a non compartmentalized approach to basic science learning.

Thus alternative method of teaching based on lectures, seminar, and assignments is believed to be beneficial to the student community at the institution and would be the ideal approach because of the following reasons.

1. System wise teaching (Block wise)
2. Integration along with case oriented approach
3. Student centered (learners oriented)
4. Promotes interdepartmental collaboration
5. Students learn to apply their knowledge to daily life experiences

Large undergraduate courses in any university like Mewar University offer a challenge to those involved in both their development and their delivery, to ensure that the best possible learning outcomes are achieved in the most efficient way possible. When these students represent a combination of internal and distance students, and domestic and international, students, the challenge to achieve these outcomes becomes even more complex. Kehoe et.al. (2004) have analysed the challenge of flexible and non- traditional learning and teaching methods.

Online and technology-based modes of study have been identified as a useful addition to classroom-based, traditional teaching methods (Light, Nesbitt, Light, & Burns, 2000). The delivery of online courses enhances student learning in some respects, researchers have also caution against using the technology without adequate regard for the learning outcomes being sought (Buckley, 2003; Lawther & Walker, 2001; Willett, 2002). Infact teaching should drive the technology and not vice versa (Petrides, 2002).

It has been observed that not all students learn at the same pace (Witkin, 1973; Cano et al. 1991;

Gregorc, 1979; Jacobs, 1990). Students are unique in their own ways, including the way they learn. Since not all students learn the same, it is essential that teachers recognize the learning style differences of their students and teach in a manner in which all learning styles are considered. The characteristics of students teachers are just as diverse as those of the students. Researchers (Gregorc. 1979; Garger and Guild, 1984) suggest that the learning style, teaching style, and personality style of teachers have implications for student learning.

Individuals have the basic capability to learn and to teach; however, they are not able to learn and teach effectively in the same exact way (Gregorc, 1979). Dunn and Dunn (1979) have observed that not only do students learn in considerably different ways, but certain students succeed only through selected teaching methods.

Ronning et al (1984) have suggested that problem-solving strategy must consider at least three dimensions: knowledge domain, problem-solving methods, and characteristics of learners. They have observed that the first two dimensions (knowledge domain and problem-solving methods) were widely accepted as essential for problem-solving, but there were no theories of problem-solving which took into account systematic individual differences. They concluded that modification of problem-solving instruction in ways consistent with students' learning styles seems an inevitable consequence.

The teachers teaching styles may or may not be consistent with their learning styles. The teachers teach the way they learned (Dunn and Dunn's 1979; Witkin, 1973; Gregorc, 1979). However, Koppleman (1980) commented that there is a lack of research concerning the influence of a person's learning style on their teaching style.

Heimlich (1990). in an attempt to describe an individual's teaching style, defined two domains, sensitivity and inclusion. The sensitivity domain is based on the ability of the teacher to sense the shared characteristics of the learners. The inclusion domain is based on the teacher's willingness and ability to utilize instructional strategies that take advantage of the group's characteristics.

### TEACHING LEARNING STYLES IN UNIVERSITIES

There are several methods and strategies for teaching and learning in universities/colleges/institutions. Some of the important ones are given in Table 1. These are lectures, seminars, tutorials, laboratory and practical work, group work and independent study. Jackson (1990) has evaluated various learning technologies.

Table 1: Teaching and Learning Methods and Strategies

Methods and Approaches	Characteristics
Lectures	<ul style="list-style-type: none"> <li>The teacher picks up a portion of subject matter, prepare talk and delivers in the class room</li> <li>The teacher explains difficult ideas but may not be able to give what you need to know.</li> <li>You are expected to read further on the subject.</li> <li>The teacher provides students with common material as the starting point for further study.</li> <li>A lecture format may be entertaining and efficient delivery of information, but it may not facilitate the best way to learn</li> </ul>
Seminars	<ul style="list-style-type: none"> <li>The traditional lectures may be supported by seminar.</li> <li>A group of students and a teacher talk through ideas, question etc and discuss all aspects of a subject.</li> </ul>
Tutorials	<p>The tutorials help the students in many ways:</p> <ul style="list-style-type: none"> <li>Students can ask questions</li> <li>Students can check their understanding over the subject.</li> <li>Students can discuss work assignments individually</li> </ul>
Laboratory and	The students of practical oriented courses need to test experimentally

<b>Practical Work</b>	the concepts and methods introduced in lectures and tutorials.
<b>Group Work</b>	<ul style="list-style-type: none"> <li>• In group work, the students collaborate with other students in the overall guidance of the teacher on any topic/project.</li> <li>• This encourages students to take different roles (e.g. leading a group), share expertise and tackle tasks that you would not be able to undertake alone.</li> <li>• The ability to work effectively in groups is much sought after by employers.</li> </ul>
<b>Independent Study</b>	<ul style="list-style-type: none"> <li>• Independent reading and study based on the lecturers is very important.</li> <li>• This enables students to prepare for an assignment: a coursework essay, a presentation or preparation for an exam.</li> </ul>

Lecturing is fully teacher centered process. This has got a number of limitations. Some of these limitations are as follows:

- Communication is one way
- Experts are not always good teachers
- Audience is passive
- Learning is difficult to gauge
- Proficient oral skills are necessary

Lecture should contain clear introduction and summary. As it is audience specific it must include examples and objectives. The objective of the lecture should be made very clear to the students. These things, however, are not happening in many universities.

Hence there are many flaws in the present teaching system that is employed.

- Students are passive listener
- There are no exposures to critical thinking
- No active learning
- Students find it difficult to correlate with day to day experiences
- Discourages students from learning
- The subject as a whole is hardly grasped

Majority conventional universities follow traditional teaching approaches which are generally teacher-directed and follow obvious steps of activities and demonstrations. This approach may not provide students with valuable skills or even with a body of knowledge that lasts much beyond the end of the term (Udovic et. al 2002). To enhance the quality of teaching and learning in the classroom non-traditional strategies such as active, cooperative, collaborative and problem-based learning can be utilized.

However, if the faculty is not trained adequately in establishing non-traditional goals and objectives, implementation methodologies, and assessment techniques, the effective utilization of these new strategies in the classroom will not be possible. It is very challenging for faculty to successfully initiate and sustain non-traditional teaching and learning techniques (Herreid 1998). It is equally important that faculty must consider the specific knowledge, skills and attitudes each student should acquire during the course (Tanenbaum et.al 1998).

Bloom and Krathwohl (1956) has excellently described the link between strategies and learning objectives to assist the teachers in developing and directing students in logical steps of learning. This is given in Table 2.

Knowledge, comprehension and application are passive mode where activities are more or less teacher centred. Knowledge and comprehension focus on a recall of facts that students can attain by reading the course material and attending lectures. The evaluation strategies are through true/false and multiple choice questions for knowledge and short essays for comprehension. In the application category students use previously learned information in new and concrete situations to solve problems that have single or best answers.

**Table 2: Strategies and Learning Objectives**

Cognitive Domain	Feature	Outcomes
Knowledge	Passive	Recall of specific facts
Comprehension	Passive	Grasping or understanding meaning of informational materials
Application	Passive	Make use of the knowledge
Analysis	Active	Taking apart the known & identifying relationships among them
Synthesis	Active	Putting things together in creative manner
Evaluation	Active	Makes judgments about the value of materials or methods

The analysis, synthesis and evaluation are the characteristics of teaching and learning that most engage the students and faculty because they are active. These categories deal with the issues that inspire the students to learn and reveal the creative. The students assume responsibility for acquiring the knowledge necessary to respond creatively and evaluate outcomes. This is the basis for non-traditional teaching and learning strategies where less emphasis is placed on information transmission and greater emphasis placed on developing skills, attitudes and values. This will lead students to engage in higher order of thinking such as analysis, synthesis, and evaluation. Mewar University has adopted a unique approach of non-traditional teaching and learning strategies.

Some of the non-traditional teaching and learning strategies are as follows:

#### **I. Case-Based Learning or Case Method Teaching**

The case-based approach to teaching and learning utilizes real or imagined scenarios to teach students about their field of study. The significance of case-based learning is that it links theory and application to real or possible circumstances. The questions are created to guide the students through appropriate analysis, synthesis and evaluation (Christudason 2001).

#### **II. Concept Mapping**

The principle goal of concept mapping is to have your students discover, define and develop an understanding of the interrelated parts of a complex set of ideas. Cognitive psychologists postulate that learning is a process that new knowledge is added to an existing knowledge (Anderson 1992).

#### **III. Discussion Questions**

Discussion questions are critical questions conceived to utilize group discussions in a manner that will move the student from knowledge of facts to the evaluation of outcomes. This methodology develops the skills necessary to be a critical thinker and assesses the student's learning based on the six different levels specified in Table 2.

#### **IV. Debate**

Classroom debate is a form of empowered learning in which students become involved in researching, teaching, and recognizing alternative points of view. The benefits of a formal classroom debate include:

- reducing the biases of both students and the instructor
- enhancing student research and analysis skills
- promoting logical and critical thinking
- increasing oral communication skills
- motivating students
- building effective team work skills

#### **V. Problem-Based Learning**

Problem-based learning links theory and practice by engaging students in real life problems. The purpose of the problem is to motivate students to learn by providing a real- world context for examining the issues involved. The underlying belief of PBL is that learning is more meaningful and enjoyable when it occurs in small active groups which are self-directed. This process encourages students to take responsibility for their own learning and that of their learning group (Lieux and Luoto, 2000 and Wu and Fourier 2000).

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Savoie and Hughes (1994) have recommended the following six steps to organize the problem-based learning experience in the classroom:

- begin with a problem
- ensure that the problem connects with the students' world
- organize the subject matter around the problem, not the disciplines
- give students the major responsibility for shaping and directing their own learning
- use small teams as the context for most learning
- require students to demonstrate what they have learned through a product or a performance.

Students construct knowledge; they do not take it in as it is disseminated, but rather they build on knowledge they have gained previously. When students are addressing the problem it is recommended that the three-step problem-solving process suggested by Stephien, Gallagher and Workman (1993) be utilized.

### MEWAR UNIVERSITY

Mewar University is promoted by Mewar Education Society (MES). It is controlled by a Board of Management, constituted by MES. The MES has established a chain of Institutions of higher education and learning in the state of Rajasthan and National Capital Region:

- Mewar Institute of Management, Vasundhara, Ghaziabad (U.P.)
- Mewar Law Institute, Vasundhara, Ghaziabad (U.P.)
- Mewar Girls Business School, Vasundhara, Ghaziabad (U.P.)
- Mewar Girls College, Chittorgarh (Rajasthan)
- Mewar Girls Ayurved Nursing Centre, Chittorgarh (Rajasthan)
- Mewar Girls Industrial Training Centre, Chittorgarh (Rajasthan)
- Mewar Girls College of Teachers Training, Chittorgarh (Rajasthan)
- Mewar University, Gangrar, Chittorgarh (Rajasthan)

Mewar University is an autonomous body promulgated by the Government of Rajasthan through Act. No. 4 of 2009, passed by the state of Rajasthan Assembly (India). The University is further approved by the UGC u/s 2(f) of the UGC Act 1956, with the right to confer degree u/s 22(1) of the UGC Act. The University is offering various programmes given in Table 3. The University has adopted a unique process of teaching-learning and evaluation. In this paper, we have described this unique process and its advantages.

**Table 3: Programmes offered by the Mewar University**

Name of the Programme	Duration	Disciplines
B.Tech	4 Years (8 semesters)	Computer Science, Electronics & Communication, Electrical, Electrical & Electronics, Mechanical, Chemical, Civil, Energy
B.Tech. (Lateral Entry)	For Diploma Holders : 3 Years (6 semesters), Admission at 2 <sup>nd</sup> Year	Computer Science, Electronics & Communication, Electrical, Electrical & Electronics, Mechanical, Chemical, Civil, Energy
B.E. (Part Time) Evening Program	4 Years (8 semesters)	Computer Science, Electronics & Communication, Electrical, Mechanical, Civil
Master of Technology	2 Years (4 semesters)	Computer Science, Electronics & Communication, Electrical, Mechanical, Civil
B.Tech-MBA (Dual Degree-Credit Based Integrated Programme)	M.Tech dual degree with B.Tech : 5 Years (10 semesters)	Computer Science, Electronics & Communication, Electrical, Electrical & Electronics, Mechanical, Chemical, Civil, Energy

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B.Tech- MBA (Dual Degree- Credit Based Integrated Programme)	M.B.A dual degree with B.Tech : 5 Years (10 semesters)	Computer Science, Electronics & Communication, Electrical, Electrical & Electronics, Mechanical, Chemical, Civil , Energy	
Integrated Diploma and dual degree Programme with flexible exit	Flexible Exit at Diploma – 2 yrs, B.Tech – 5 Yrs, MBA/M.Tech – 6 Yrs	Computer Science, Electronics & Communication, Electrical, Mechanical, Civil	
MBA	2 years	Finance, Marketing, HR, IT, IB	
MBA-Executive Programme	2 years	Executive Programme	
B.Tech & MBA	5 years	Computer Science, Electronics & Communication, Electrical, Electrical & Electronics, Mechanical , Civil	
BBA	3 years	--	
B.Com(Hons)	3 years	--	
B.Sc. (Hons)	3 Years	Physics, Chemistry, Maths, Zoology, Botany, Bio Technology, Environmental Science	
M.Sc.	2 Years	Physics, Chemistry, Maths, Zoology, Botany, Bio Technology, Environmental Science ,Electronics	
M.Phil	1 Years	Physics, Chemistry, Mathematics , Zoology, Botany	
B.A. (Hons)	3 years	History, Economics, Political Science, Philosophy, Sociology , Public Admn, English	
M.A.	2 years	History, Economics, Political Science, Philosophy, Sociology ,Psychology , Anthropology ,English, Clinical Psychology	
MSW	2 years	Family & Child Welfare , Urban & Rural Community Development , Personal management and Industrial Relations	
M. Phil	1 year	Family & Child Welfare , Urban & Rural Community Development , Personal management and Industrial Relations	
LLB	3 years	-	
LLB (Integrated)	5 years	BA(Hons)+LLB, BBA+LLB	
LLM	2 years	Criminology, IPR, Mercantile law, Personal laws, Taxation, Arbitration & Conciliation, and ADR	
M.A. in Education	2 years	-	
B.Ed	1 Year	Science , Arts , Commerce	
BPED	1 Year	Sports and Games	
BA-BED	4 years	Arts	
Name of the Programme	Duration	Name of the Programme	Duration
B.Sc (IT)	3 Years	Bachelor of Journalism and Mass Communication(BJMC)	3 years
B.C.A	3 years	Post Graduate Diploma in Mass Communication	1 Year
M.C.A.	3 Years	Post Graduation in Broadcast Journalism	1 Year

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The University campus is situated in the vicinity of the scenic Aravali ranges and spread over sprawling 30 acres of land at Gangrar of Chittorgarh District (Rajasthan), just 18 km away from the city of Chittorgarh. The University is established to benefit students from all sections of the society in India and other countries. The University fills up the void in the field of higher, technical and vocational education in the Mewar region which, in spite of being rich in terms of agriculture, industrial and business growth, has lagged behind in education.

### **OBJECTIVES OF THE MEWAR UNIVERSITY**

The following are the objectives of the Mewar University

- Provide easy access to high quality education in management, engineering, as well as other academic & professional fields to its students, irrespective of their caste, creed, age, gender, region or country, at affordable cost.
- Offer conducive environment for pursuing research and vocational studies with market driven orientation.
- Accord students new ideas, fresh vision, pragmatic ambitions and enhance competency for success in the ever changing business environment.
- Provide flexible choice based system of education & dual-degree programmes while adopting modes to suit students' requirement of learning.
- Prepare and assist students in improving their future prospects through career and placement counselling & support, on-the-job training, industrial visits, presentations, group discussions.
- Promote and practice convenient distance education concepts in India and abroad.
- Spread job oriented education in rural and tribal areas.

### **Vision and Mission of the Mewar University**

The vision is to develop a Center of Excellence for technical, professional and vocational education and research, at par with National and International standards. The mission is to develop the framework for effectively conducting various educational and research programmes of the highest standards so as to produce confident, self-reliant and responsible youth for the society and eminent professionals for government, industry and business.

### **INFRASTRUCTURE & FACILITIES AT MEWAR UNIVERSITY**

Mewar University provides world class infrastructure to its students, extending further the support to the learning environment.

**Library:** The University has a well-stocked, air-conditioned and fully computerized library, which serves as a catalyst in the learning process. To ignite the intellectual spirit in young minds, a stock of about 50,000 latest books, large collection of video/audio CDs, industry and company information sources are made available to the students. Major features of the library include:

- Study and Reference Books
- Large collection of National & International Journals
- Reading Halls for more than 200 Students
- Special Reading Room for Researchers and Teachers
- Computerised Library Management System
- Audio-Visual Library Section
- Career Guidance Section
- Magazines and Periodicals Section
- Online Workstations connected with 10Mbps Internet Connectivity
- A separate Reference Section for important and rare books.
- Easy operation through automated library procedures and Bar Code system
- Digital Library – to provide access to e-Journals, to download desired material  
Reprographic facility

**Laboratories:** The Mewar University has well equipped laboratories that have been aesthetically designed and arranged with modern equipment and infrastructure to completely cover the syllabus of each branch of study. The labs include Physics Lab., Chemistry Lab., Electrical Lab., Electronics Lab., Mechanical Lab., Communication Lab., Workshop, Computer Lab., Graphics Lab.,

Language Lab. etc. In all these labs, hands-on training is imparted to the students to keep pace with modern technology. The University possesses well-qualified and experienced technical staff with all resources to develop the technical skills of the students in all fields.

The air-conditioned computer labs with pleasing ambience are spread over 850 square meters. The Computer center has high-end servers to cater to the needs of the networked environment. The client machines are mainly Pentium dual core of HCL /Lenovo/Dell make.

### INDIAN EDUCATION SYSTEM VIS A VIS MEWAR UNIVERSITY

Before we discuss some of the unique features of Mewar University, let us review the educational system in India. The educational system in India can be characterized in many ways. One of the ways is described below:

#### Gurukul System of Education

You may be aware with the Gurukul system of education adopted several hundred years ago. In this system, the students used to stay in Gurukul for getting the desired education. This is shown in Fig. 1. The unique features of this system were the following (Chandra and Singh 2004):

- The system was capable for providing an environment of complete concentration
- The teacher was able to watch each and every student because of less number of students (population was less)

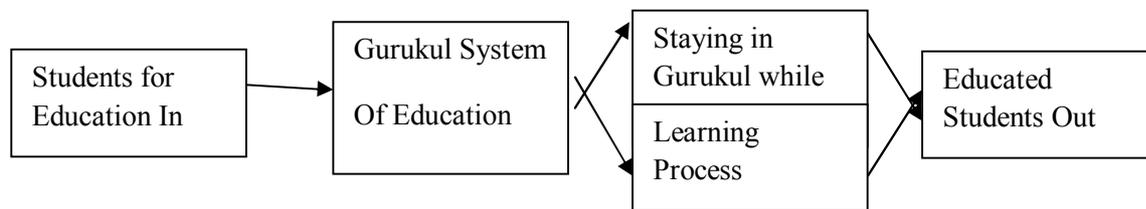


Fig. 1: Gurukul System of Education

#### Conventional System of Education

With the passage of time, the conventional system of education was developed (Fig. 2). This system has the following limitations/disadvantages:

- It is a costly system.
- It is available to only those who can afford it.
- The number of institutions available for providing quality education is inadequate.
- The system is very rigid. The duration of study, courses, examination are fixed.
- The system is teacher centred. This means that teacher decides what to teach, how to teach and how to evaluate the performance of the students.
- The system has no fixed parameters to standardise the parameters for quality education.
- There are as many standards as the institutions and teachers in them.

#### Open and Distance Education System

The conventional education system was not able to provide education to all those who need it. To overcome this problem and to remove some of the rigidities of conventional system, open and distance education system was evolved in different phases. The first phase was correspondence education as shown in Fig. 3.

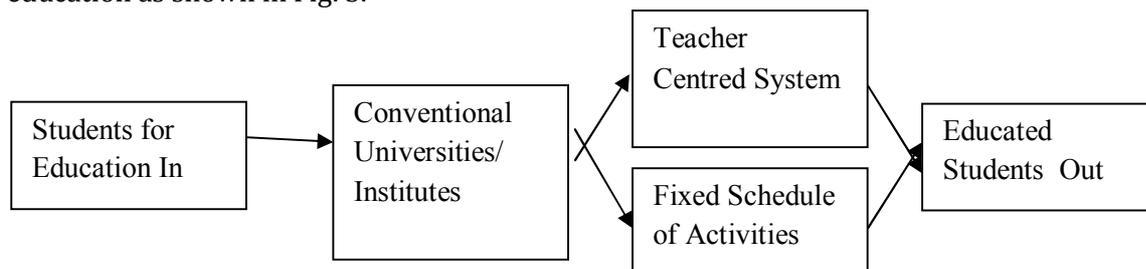
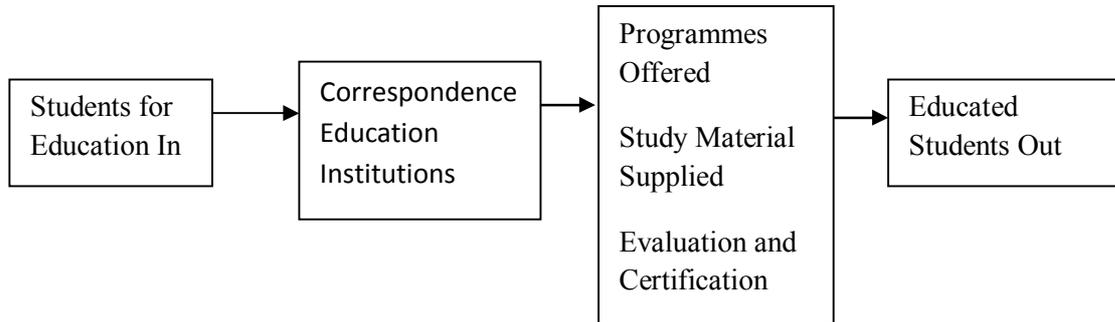


Fig. 2: Teacher Centred Conventional System of Education

In the correspondence education system, an effort was made to standardise the study material but the students were left alone to study and write examination. There was no contact of the students

with their teachers. In other words, this education system was without any student support. In open and distance education system, student support services were added and therefore it became a popular system (Fig. 4).

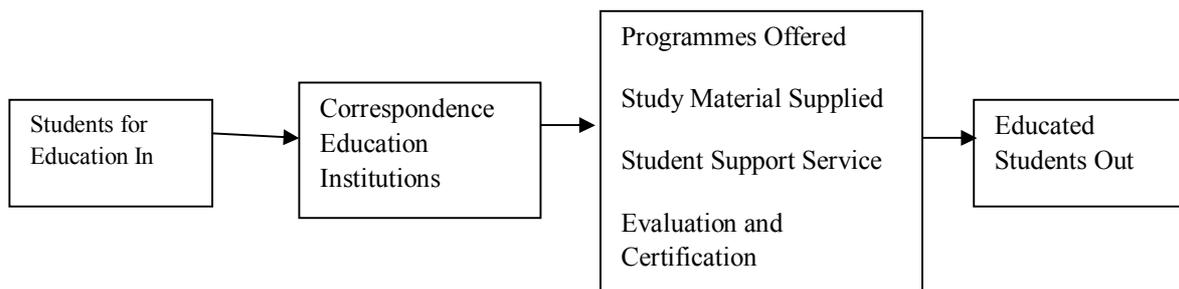


**Fig. 3:** Correspondence System of Education

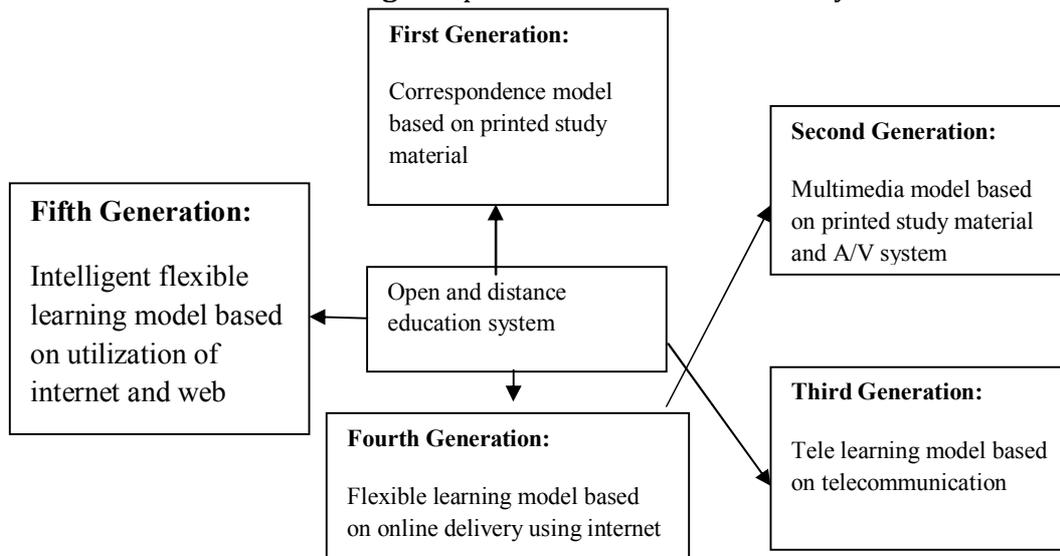
Some of the student support services are given below:

- Each and every student was attached to a study centre which was established in well reputed universities/institutions
- Students will get all academic support like submission of the assignments, counselling and feedback, library facilities, facilities to write examinations etc. at the study centres.
- Students were able to contact their teachers and peer groups.

The open and distance education system evolved during the years is shown in Fig. 5. There are five generations of this system (Taylor 1995).



**Fig. 4:** Open and Distance Education System



**Fig. 5:** Evolution of Open and Distance Education System

### **Educational Model of Mewar University**

Is it possible to have a conventional university capable of removing rigidities of conventional University and utilizing the best components of open and distance education for the benefit of the students? The answer is yes. The Mewar University is unique in several ways as discussed in this section. A bird eye view of some of the unique features is given in Table 4.

### **LEARNING ENVIRONMENT AT MEWAR UNIVERSITY**

#### **Pedagogy for the Programmes**

It is very important to have a suitable pedagogy of the programmes offered by any university. The pedagogy for the programmes offered by the Mewar University is:

- Qualified, experienced and fully dedicated faculties
- Business executives and professionals as visiting faculties
- Teaching through interactive lectures, case-studies and tutorials with audio-visual aids
- Practical exposure through workshops and laboratories
- Cohesive self-studies through study groups & online discussions
- Open house interaction and group discussions
- On-the-job exposure and projects on live scenario
- Inter-institutional exposure
- Seminars and symposiums
- Quiz and competitions
- Counselling, both academic as well as administrative
- Continuous sessions of lectures and presentations in their subjects by the students in front of peer groups to sharpen their communication skills and enhance knowledge
- Sustained exposure to audio and video lectures of eminent and world renowned Academicians, Professors and Scientists through NPTEL & other modes

#### **Research and Development Activities**

Every University strives to provide best possible research and development activities and an ideal environment to its students and teachers. Mewar University has focused on it by providing best possible infrastructure appropriate for it. Reputed and renowned academicians of the country have been inducted as members of the research committee, which approves the topics for researchers and recommends the award of Ph.D. Not only is this, the relevance and importance of the concerned research project always maintained. The university is offering research and development activities in various faculties like Science, Technology, Social Sciences, Humanities, Vocational Education, Self Employment Programmes, Women Empowerment and Awareness Programmes etc.

#### **Learning through Seminars, Assignments and Charts and Models**

The University conducts seminars and workshops on relevant technical and current topics of interest. It has also programmed exchange of visits with other institutes regularly. Inter-class seminars on topics relevant to course curriculum as well as for the enhancement of personality are a regular feature. A calendar of such activities is scheduled for each semester. The workshops and seminars develop healthy practice of competition, active participation, learning through sharing, discussions and presentations. These forums help to build self confidence and power to express oneself freely while opening the opportunity to develop in depth knowledge on different topics and subjects.

**Table 4: Mewar University Educational System**

<b>S. No.</b>	<b>Characteristics</b>	<b>Advantages</b>
<b>1</b>	Resembles Gurukul System of Education	University is located in a village Gangrar away about 18 KM from Chittorgarh. The possible advantages are: <ul style="list-style-type: none"> <li>• Peaceful environment</li> <li>• Students can concentrate on studies</li> <li>• Strict monitoring</li> </ul>
<b>2</b>	Each Student is	Just like open and distance education system where each student is

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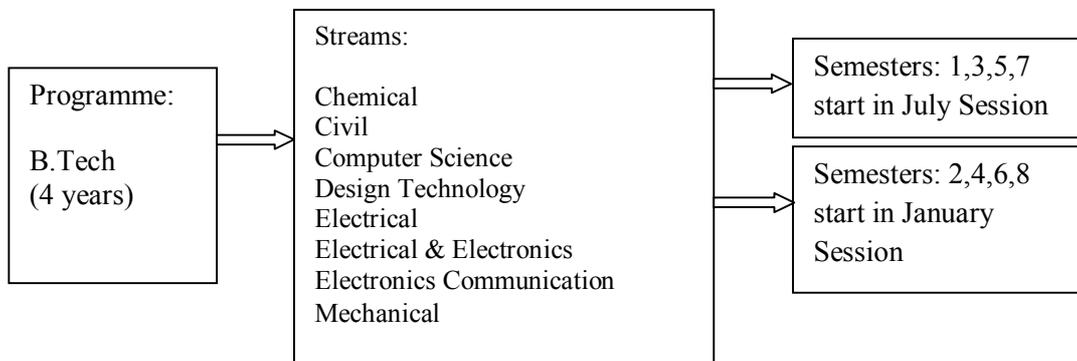
	attached to a Teacher to act as Teacher Counsellor	attached to a study centre, here each student is attached to a teacher who is responsible for all problems faced by the students. The students are free to contact the teacher counsellor any time for resolving their problems. The counsellor acts as a friend, philosopher and guide for the students.
3	Study Material to the Students	Conventional universities, by and large, don't provide any study material to the students. Mewar University does provide the study material to all the students like in open and distance education systems.
4	Assignments to the Students	Conventional universities, by and large, don't provide any assignment to the students. Mewar University does provide the assignments to all the students like in open and distance education systems.
5	Two-way-System	Unlike in other universities where teacher delivers and students accepts, in Mewar University, the system is two way. The students also contribute to the teaching learning process through seminars/assignments/charts and models.
6	Evaluation and Certification	<p>Unlike in other universities where evaluation is done largely on written examination, Mewar University has adopted a diversified approach as mentioned below:</p> <ul style="list-style-type: none"> <li>• Evaluation through assignments</li> <li>• Evaluation through charts and models</li> <li>• Evaluation through seminars (presentations)</li> <li>• Evaluation through subjective type of questions</li> <li>• Evaluation through objective type of questions</li> </ul>
7	National Builder Character Builder Social Builder	Conventional universities pay a little emphasis on these subjects. Mewar University pays equal emphasis to these components. Thus the graduate of Mewar University is a student who cares for the society and nation. This value added programme attached to main curriculum equips the students with knowledge and skills that help them in sailing through their main curriculum and in their professional life thereafter. In addition to this, there is a celebration in every month where jayanty of national heroes are celebrated to inculcate nationalism among the students.
8	Research and Development	A University is known by the research and development activities in addition to unique techniques of programme delivery and evaluation. Mewar University is paying equal attention to this aspect as well.

The sequence of the events is as follows:

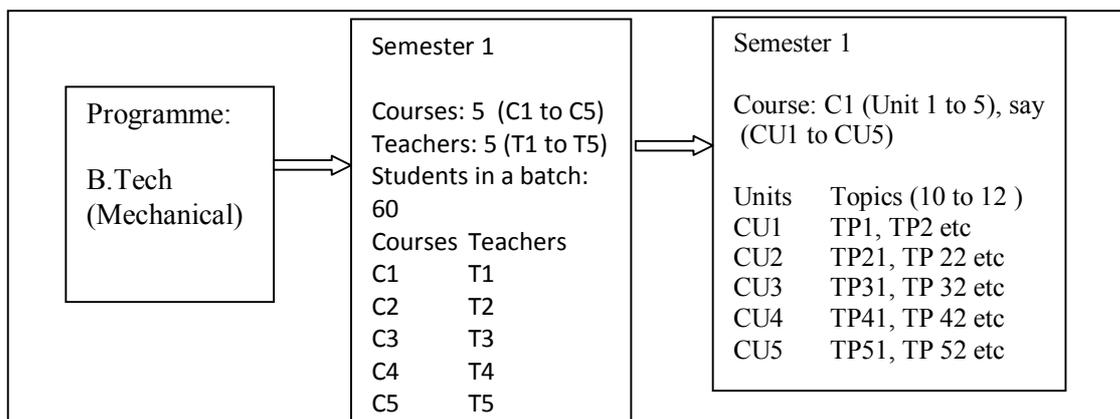
1. The academic calendar is prepared and distributed to each and every student as well as to the teachers in the beginning of the semester.
2. The study material prepared by the in house faculty is given to the students.
3. Each course is divided into 4-5 units and each unit covers certain portion of the course curriculum. The numbers of teaching hours are also mentioned. The teacher divides the study material of a unit into small portions (say for example 10 to 12 topics) and assign to the students learning activities as follows:
  - Assign topics to a group of students (say 12 out of a section of 60 students) for seminar (Presentations)
  - Assign topics to another group of students (say 12 out of a section of 60 students) for assignments
  - Assign topics to the remaining students of the section (36 students) to prepare charts/models.
4. The teacher delivers the course material to the students.
5. At the end of unit one, the students prepare assignments, charts and models and prepare the seminar (Presentations) on the topics assigned by the teacher.
6. Each set of activities are presented in the class room before the teacher and peer group, thereby every student get the chance to prepare chart, models, assignments and presentation.

7. The process is repeated for each unit, course, and section and finally the best students in each category (seminar, assignment, charts and models) is picked up and awarded by the University. The complete scheme is shown in Figs. 6-8 and is further elaborated below:

- Fig. 6 shows an example of B.Tech programme. It is a 4 years programme. The odd semesters start in July and even semesters start in January.
- Fig. 7 shows an example for B.Tech. (Mechanical), semester 1.
- There are 4 to 5 courses in semester 1 (we have taken five courses in this example). These courses are named C1 to C5.
- There are five teachers (T1 to T5) assigned to the respective courses (Teacher T1 takes on C1 etc).
- Each course is divided into 4 to 5 units (we have taken 5 units in this example). These are named as CU1 to CU5. Each unit is further subdivided into 10 to 12 topics, named as TP1, TP2 etc.
- After the teacher finishes the unit CU1, 12 students (out of a batch of 60 students) prepare the assignments, 12 students prepare seminars and remaining 36 students prepare charts and models.
- These are presented in the class room in front of the teacher and fellow students.
  - The same exercise is repeated for all the remaining units, i.e CU2, CU3 etc.



**Fig.6:** Example of B.Tech Programme



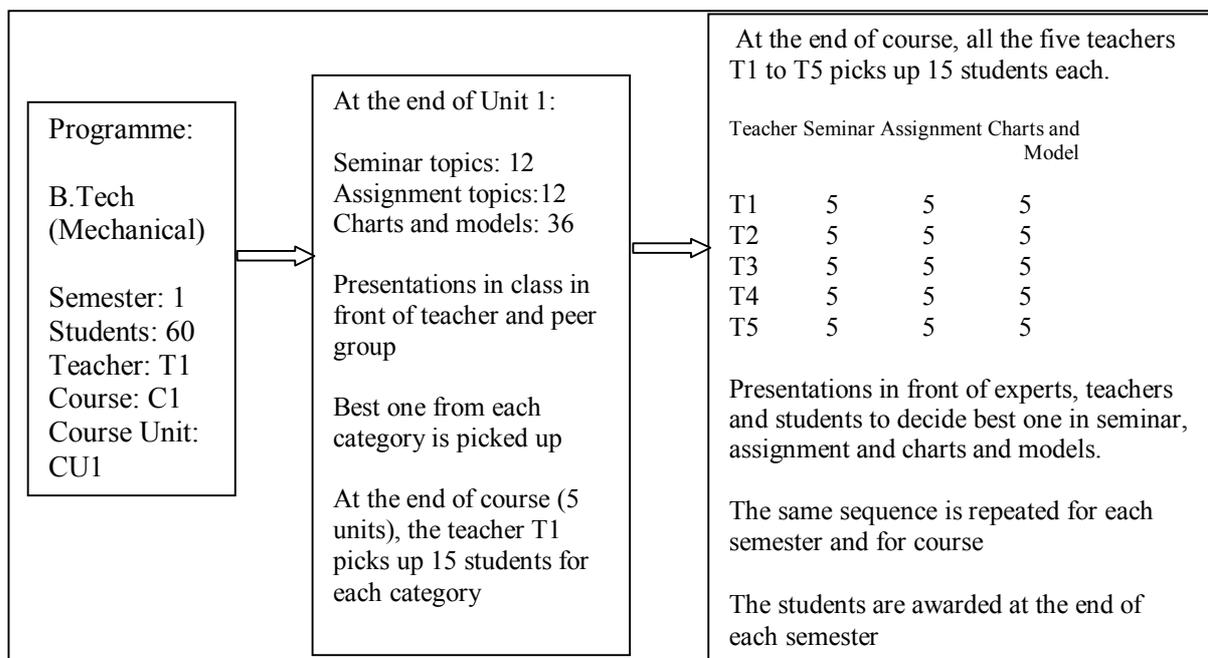
**Fig.7:** Example of B.Tech (Mechanical) Programme

- At the end of the course, i.e at the end of completing all the units (CU1 to CU5), teacher T1 picks up 15 students (5 best students from seminar category, another 5 best students from assignment category and another 5 students from charts and models category).
- Similarly the other teachers T2 to T5 also picks up another 15 best students from the three categories (seminar, assignment, charts and models) as shown in Fig. 8.
- Thereafter, the presentations are made in presence of the teachers, experts and students to pick up best one in each of the three categories (seminar, assignment, charts and models).
- The same exercise is repeated for the remaining semester and streams.

- **The best selected students in each stream and semester are awarded by the University.**

The major advantages of such a system are that students learn the subject in multiple ways as shown below:

- Firstly, in the class room where teachers the course material
- Secondly, through the preparations of assignments, seminars and charts and models based on the topics given by the teacher from the course curriculum.
- Thirdly, through presentations of these activities. This gives the students much needed confidence about the subject. This is three stages learning as shown in Fig. 9.



**Fig.8:** Example of B.Tech (Mechanical) Programme, Semester 1, Course C1.

As a result of this policy, we have observed a dramatic change in the student's attitude towards learning. The process of evaluation has also improved tremendously. The effect of non-traditional teaching learning technologies on student's success rate is shown in Fig. 10 where we have shown the learners passing out with percentage of marks with the following combinations:

- lecture only
- lecture and seminar
- lecture, seminar and assignments
- lecture, seminar, assignments and charts and models

The relative advantages of each option are clearly visible. The data shown are for an average class. The success rate could be 100% with very good marks for a class with good students.

### **Learning through Counselling**

In this System, the University has dedicated one counsellor for each 30 students. The counsellor counsels the students on various academic and non academic matters. As a matter of fact, he acts as a friend, guide and philosopher of the students under his counselling. The counsellor is the problem shooter for the students. He takes care of emotional as well as psychological issues of the students. The counsellor ensures that the students are properly taking part in academic and extracurricular activities. He is the mentor of the student and tries to explore the inner talent of the students and gives proper platform to develop his inner talent so that student becomes confident and self reliant youth of the country. The counsellor always remains in touch with their parents as well as the teachers who are teaching his students.

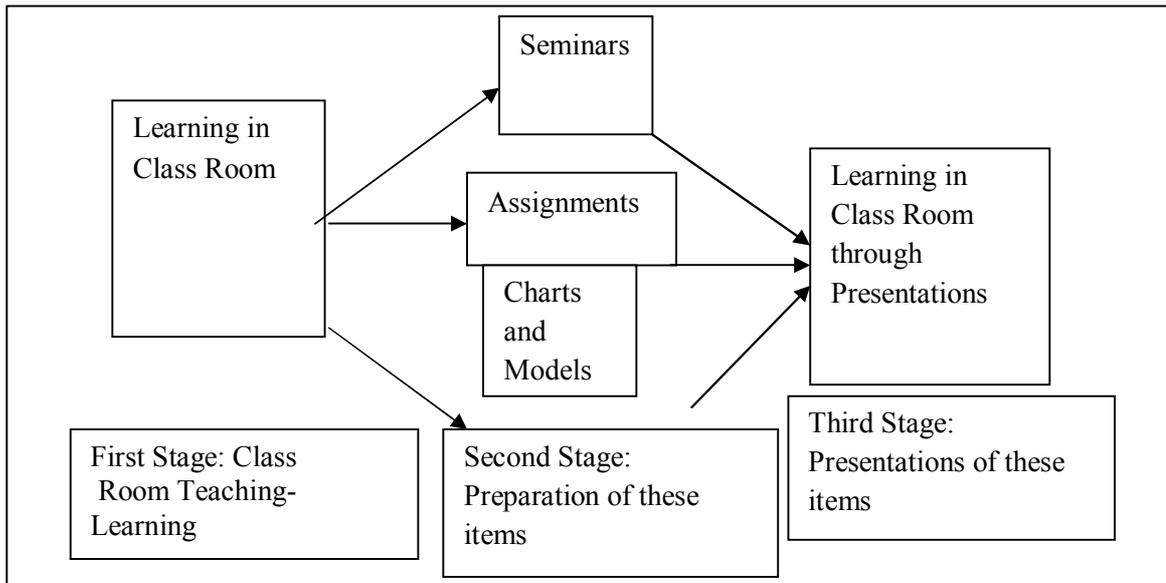


Fig.9: Three Stages Learning in Mewar University

**Learning through Projects (Engagements with Industry)**

The University has planned to send the students in the Industry of their choice for period of six months in the case of engineering and for a period of 3 months in the case of other courses, where they act as a part and partial of the industry, carry out all their duties like a regular employee assigned by the industry and at the end of training, the industry gives a confidential report about his performance. The idea behind is that if a student works sincerely for a period of six months in the industry, 90% of the students, who have worked sincerely will be employed in that industry itself. Simultaneously the students get full practical and real life exposure and can understand practical problem in working condition and thereby increases their confidence. The University has collaborated with various industries, for practical training of the students.

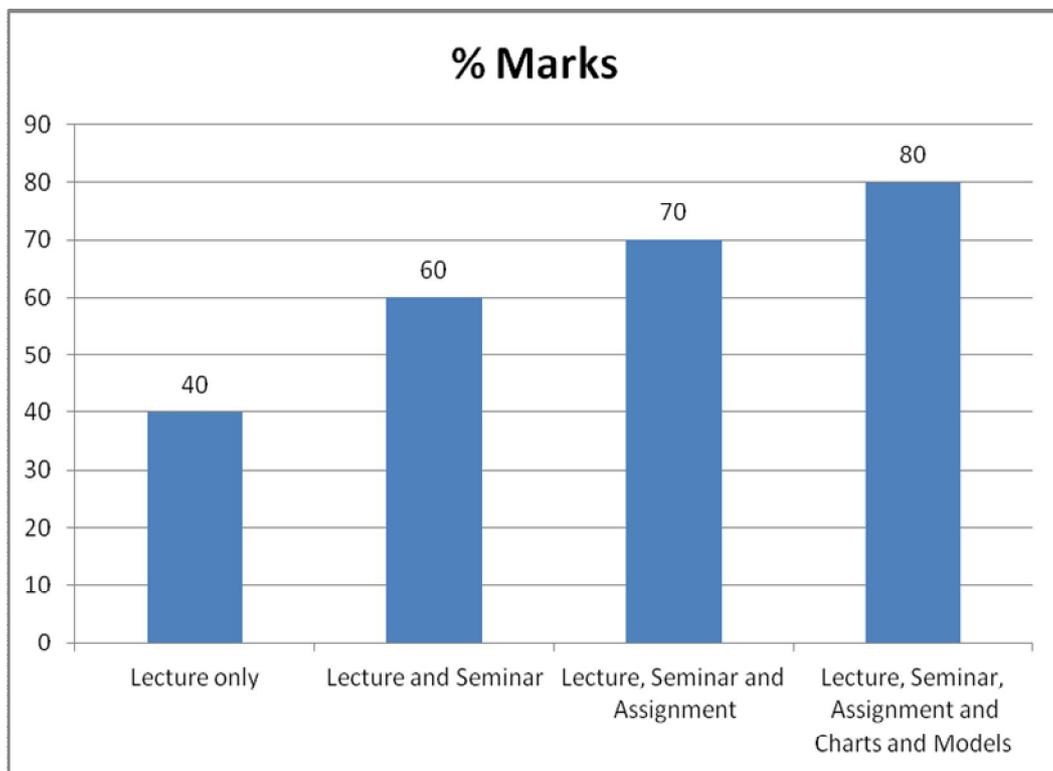


Fig. 10: Effect of Non-Traditional Teaching Learning Technologies on Students Success Rate

### **Learning through Personality Development Programme (PDP)**

University has incorporated one paper of general awareness of PDP, wherein each and every student is taught communication skills, writing and reading skills in English. For this purpose, university has set up a language, lab, wherein ultramodern soft-wares are used to teach the students the communication skills, writing and reading skills are being taught by experienced teachers of English language. Group discussions, presentation and interview skills are taught by PDP teachers. In addition to this, another part of curriculum is to enhance general knowledge of the students we are teaching. Some basic history, sociology, political science, Psychology, English and economics, basic science in order to increase IQ and general knowledge among all the students.

### **Learning through Extra-Curricular Activities**

The University has created necessary infrastructure so that the students can participate in all types of games, sports of their choice. In addition to this, there is facility of NCC and NSS also. Games and Sports is essential for the development of students, so that they become strong physically and mentally.

The students are playing football, volleyball, cricket, basket ball, Kabaddi, Khokho and running races of all kinds and getting medals and championship trophies. It has become essential part of the university where every student is taking part in co-curricular and extracurricular activities.

### **Learning through Jayantis and National Events**

The University has a full calendar which is strictly followed to celebrate Jayantis of National Heros like Subhash Chandra Bose, Bhagat Singh, Bala Gangadar Tilak, Swamy Vivekananda, Swamy Dayanand Saraswati, Maharana Pratap, Guru Govind Singh etc.

Students are also celebrating National days like Independent day, Republic day, Teachers day, Gandhi Jayanti etc. Through all these events, the students are learning patriotism, understanding and appreciating contributions and sacrifices of our National Heros, the events are beautifully organized and celebrated in a very impressive manner, so that it inculcates true nationalization and national pride among the young generation. It is a unique feature of the University.

### **Learning through Feed-back System**

The educational programmes in the University follow latest methods of 360° feed-back to keep enriching the course content, teaching methodology and the academic environment. While the students are continuously assessed for their performance, they also play a role in assessing the teachers and staff. The feed-backs are seriously analysed to introduce systemic improvement through counselling and other proactive actions.

## **EXAMINATION, EVALUATION AND CERTIFICATION**

The University has opted for ultra modern standards and semester system for conducting examinations so as to make education stress free. Grading-based evaluation and modern methodology of assessing performance are further steps to follow new standards in education. The system is being continuously upgraded to keep pace with the development taking shape in various other institutions of learning to enable Mewar University to introduce a practical oriented examination system which is student friendly but at the same time able to assess one's potential in a very impartial manner.

The basic concept of examination and evaluation in Mewar University is as follows:

- (1) Teacher assessment (seminar, assignments, charts and models) : 15% weightage
- (2) Sessions examination and evaluation -I when half the course is over: 35% weightage
- (3) Sessions examination and evaluation -II when full course is over : 35% weightage
- (4) Best one out of (2) and (3) above is selected.
- (5) Objective examination and evaluation when full course is over : 50% weightage

## **CONCLUSION**

The teaching and learning process in the Mewar University has been described. The process is a three stage of learning which helps the students in thorough understanding of the subject. The students learn in the class room, then during the preparation of the assignments, seminar and charts and models and finally during presentation of these components in the class room. Such an approach will produce human and professional engineers/scientists. This is an integrated

teaching-learning with a combination of traditional and non-traditional teaching-learning strategies.

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