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Innovative Pedagogies – Flipped Class Rooms and Activity Based Learning

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Modern days are highly electronic in nature so that teaching is also no exception to that. Nowadays teaching is blended with innovation and ICT enabled services which have paved the way to go in for flipped class rooms and more activity based learning and online courses such as National Programme on Technology Enhanced Learning (NPTEL). Modern day teaching and preparation is different from the traditional way, because of the ICT enabled facilities available to the mentors. Teaching does not end with the preparation of class materials by the mentor, but the content has to be delivered to the students very effectively and lively by the teacher. This paper addresses about the activity based learning and the problems involved in adopting flipped classrooms by the teachers in higher education.

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Innovative pedagogy is the way to enhance the teaching and learning experience. Moreand more innovative methodologies are adorning the life of the students and teachers in higher education. The use of technology and multimedia plays a vital role in designing for varied tasks such as teaching, interaction, designing question papers, assessment, feedback and evaluation. The classroom teaching should be blended with audio visual means, so as to ensure easy reach ability of concepts to the students and it facilitates for long term retention of concepts in the mind. The flipped class room approach is much more attractive due to its internet resources which finds place in the heart of "awesome generation".

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Flipped Classroom and blended learning is a pedagogical approach through which the conventional notion of classroom is inverted, so that the students are introduced to the learning material before the class, while the classroom time is being used to deepen understanding through discussion with peers and problem-solving activities. It moves the traditional way of doing homework, in to the classroom. It is called the flipped class because the whole classroom/homework paradigm is flipped. It involves concepts like active learning, student engagement, hybrid course design and course podcasting. It is the reverse of traditional teaching where students gain first exposure to new material outside the class, usually via reading or lecture, videos and then class time is used to do the harder work

of assimilating that knowledge through the strategies of problem-solving, discussion and debates.

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Activity –based learning (ABL) was initiated in the year 1944 by David Horsburg, a British man, who came to India and settled down here. He was the innovative thinker and charismatic leaderand he developed a diverse curriculum which included music, carpentry, sewing, masonary, gardening and usual school subjects. All the subjects were systematically planned with pedagogic materials with a touch of humor. It means that learning should be based on doing some hands-on experiments and activities. The idea behind is that the students are active learners rather than passive recipients of information. If the student is provided an opportunity to explore by their own and provided an optimum learning environment then learning becomes joyful and long-lasting.

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The iconic refers to visual memory while echoic refers to the auditory memory. The flipped classroom is the blend of both visual and audio means which kindles the knowledge of the students to store the concepts for a longer period of time. The visual memory refers to the short term memory, so it should be clubbed with pictures, animations and audio means to retain the concepts in the mind for a long time. It makes the students very alert in the class rather than listening to the traditional way of talk and chalk method.

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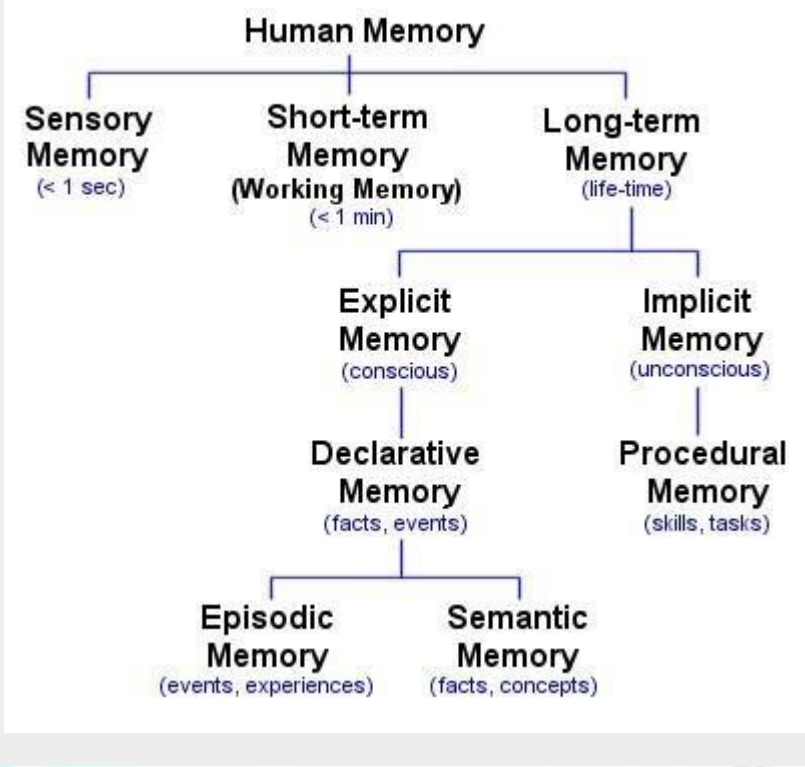
Memory refers to the system by which the mind registers stores and retrieves information for the purpose of optimizing future action.

Classification of Human Memory- Luke Mastin



The memory can be divided in to sensory, short-term and long-term. The sensory memory is the one where the information is stored for less than a second. Short-term memory stores the information for more than a minute. The long-term memory is the life-time stored memory and it is divided in to explicit and implicit memory. The explicit memory consists of the conscious, intentional recollection of factual information and recollects the past. Implicit memory is an unconscious memory and can affect thoughts and behaviours. Eg. Recalling how to walk and riding a bicycle. Declarative memory- It is the recording of facts and events and procedural memory deals with performance of a task such as walking, talking etc. Episodic memory helps to remember the past events and experiences. The semantic memory deals with common knowledge such as names of colours, sounds of letters, Countries' Capital etc. Thus a student has to have the above said long-term memory in order to listen to a particular concept in the classso as to retain it for a longer period of time. Hence, memory and flipped classroom are interlinked with each other for teaching learning purpose.

Bloom's Taxonomy in teaching and learning process

Bloom's Taxonomy was created by Benjamin Bloom in 1956, who has published the kind of classification of learning outcomes and objectives. It is a hierarchical order of cognitive skills that can help teachers to teach and students to learn. The framework can be used to create assessments, evaluate the complexity of assignments, plan the lessons, to design the curriculum maps and to develop online courses. The six levels of Bloom′ s Taxonomy are: Remember,

understand, apply, analyse, evaluate and create. Thus the above taxonomy was developed to provide a common language for teachersto discuss and exchange learning and assessment methods for the students.

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NPTEL is an acronym for National Programme on Technology Enhanced Learning which is an initiative by seven Indian Institutes of Technology (**IIT** Bombay, Delhi, Guwahati, Kanpur, Kharagpur, Madras and Roorkee) and Indian Institute of Science (IISc) for creating course contents in engineering and science. MOOC is a platform and a process for teaching through pre-recorded lectures, resource video materials, assignments and quizzes which are through online and provide self assessment in regular intervals, so anyone can get access to quality content which includes discussion with the content creator and access to assignment for self testing. It is a project funded by MHRD, Government of India. Thus the above course will enhance the student's skill and knowledge and can get a greater exposure through online education.

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In a traditional class room the teacher is the controller of the learning environment. Learning takes place through talk and chalk method, which makes the students feel much boredom and it, is much more theoretical rather than practical approach. Knowledge is enhanced through mugging up the concepts and writing the examinations. Today, it is not the case where the concepts can be taught innovatively through the use of ICT enabled services, which renders a helping hand to both the teacher and the student. Tech savvy people are the need of the hour.

Teaching blended with innovative practices and flipped classrooms, activity based learning, brain storming sessions, role playing, case studies, m-learning, e-content, video conferencing will hold good whereby it enhances to retain the concepts in the long term memory and the contents can also be retrieved at any time and facilitates easy learning. It also saves time for the mentors whereby more concepts can be injected in the young minds with audio and video means of technology. Therefore it is essential to study the present issues and the problems in adopting the flipped class room among the teachers in higher education and hence the study.

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- To identify the awareness level of the teachers towards the usage of ICT enabled servicesin teaching learning process in higher education.
- To find out the idea, opinion and preferences of the teachers towards flipped class rooms.
- To identify the satisfaction level of the teachers in the adoption of flipped class room andactivity based learning.
- To identify the problems in adopting the flipped class room and activity based

learningamong the teachers in higher education

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There are a number of research studies in ICT enabled services in teaching methodology; hence an attempt has been made to review the previous studies.

- Koole's (2009) in his article stated the Framework for the Rational Analysis of Mobile Education (FRAME) provided a practical checklist to assist educators to consider the foundational components and intersection in mobile learning. The framework was built based on the three components such as the device, learner and social. The intersection of these three aspects allows designers and educators to consider the implications of involving any two of these aspects while designing mobile learning.
- Park (2011) in his study introduced a pedagogical framework that categorized mobile learning in to four types. The goal of the framework was to help instructional designers to consider the extent of psychological separation between the learner and the instructor. Moreover, to allow academics and institutions to plan for the best method of learning andteaching experiences that may work well in their context.
- Enfield (2013) explained that students are encouraged to move out of the classroom to learn anytime and anywhere by flipped classroom approach. The most useful study strategy can be chosen and used by students while moving at their own pace through the instruction.
- Kong (2014) stated that teachers improve the sort of resources they have, experience reflective discussions and share their instructional practices by using the flipped classroom model.
- Hung (2015) demonstrated that students' participation, satisfaction and performance showed a positive change after taking part in the pedagogical approach.

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The present study tested the following null hypotheses.

NH: Personal factors of the teachers have no significant influence over the facilities adopted in teaching and learning process.

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For the purpose of the research, the following methodology is used in this study

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Area of the study refers to Coimbatore city which is known for textiles, foundries, wet grinders, pumps manufacturing etc. It is also becoming a hub of schools, colleges and other educational institutions, Techno Park and also health care institutions.

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The study has used primary data only. Primary data were collected using interview schedule method. The interview schedules have been prepared in a simple manner to facilitate the teachers to respond easily without any difficulty.

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For purpose of the study, 200 teachers at the college level were selected for the studyusing simple random sampling technique.

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For purpose of detailed analysis of the study, the following statistical tools have beenused in the study

- Chi-square Analysis
- Average Rank Analysis
- Average Score Analysis

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The chi-square analysis or tests is used to test the independence of two attributes/factors. In other words this test is employed to test the significance of influence of one factor over the other. Personal factors and the usage of online module in teaching learning process.

Hypothesis: The personal factors of the teachers have no significant influence about the usage of online module in teaching learning process.

The table 1 describes the personal factors, chi-square values, p values and their significance on the usage of online module in teaching learning process.

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Age (years)	17.54	0.000	S
Gender	28.99	0.000	S
Marital status	10.59	0.005	S
Educational level	55.23	0.000	S
Monthly income	78.36	0.000	S

* S-Significant (p value ≤ 0.05); NS- Not Significant (p value >0.05)

It is found from the table 1 that the hypothesis is rejected (significant) in all the cases. It is concluded that all personal factors considered for the study have significant influence overthe usage of online module in teaching learning process.

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The average ranks analysis is mainly employed in studies relating to social science and management to identify the priority of the different category of teachers on the various

aspects relating to the study. Based on the consolidated opinion of the teachers the average rank is calculated and the final rank is affixed using the criteria "Lesser the average rank, more is the priority."

In this study the average rank analysis is performed to assess the priority of the teachers on the following aspects:

- The strategies adopted in teaching learning process are classified as follows:
- Moodle- Open source System C1
- Evernote C2
- Webinars C3
- Simulation C4
- Video lecture C5
- M-learning C6
- Uploading of videos C7

The average score analysis is performed between the personal factors of the teachers and the strategies adopted in teaching learning process and the results are presented in tables with suitable interpretations.

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	Personal factors		C1	C2	C3	C4	C5	C6	C7
Age (years)	Below 30	AR	5.25	2.32	4.50	2.66	2.24	5.10	3.94
		FR	7	2	5	3	1	6	4
	30 to 40	AR	5.49	2.46	3.08	3.94	2.23	4.21	3.37
	Personal factors		**C1**	**C2**	**C3**	**C4**	**C5**	**C6**	**C7**
		FR	7	2	3	5	1	6	4
	40 to 50	AR	4.14	1.99	3.83	3.95	2.67	0.00	0.00
		FR	5	1	3	4	2	-	-
	Above 50	AR	4.00	1.98	3.98	4.00	3.00	4.17	3.00
		FR	5	1	4	5	2	5	2
Gender	Male	AR	4.86	5.18	3.84	6.54	5.70	3.58	4.73
		FR	4	5	2	7	6	1	3
	Female	AR	5.30	5.40	3.49	6.77	4.34	4.47	3.84
		FR	5	6	1	7	3	4	2
Marital Status	Married	AR	4.97	5.15	3.46	6.76	5.53	4.02	4.44
		FR	4	5	1	7	6	2	3
	Unmarried	AR	5.10	5.42	4.08	6.32	4.84	2.89	4.72
		FR	5	6	2	7	4	1	3
Educational Level	Post graduate level	AR	5.83	5.64	4.17	7.20	4.25	6.00	0.00
		FR	4	3	1	6	2	5	-
	PG with M.Phil	AR	5.44	5.41	4.56	6.48	4.75	7.31	5.43
		FR	5	3	1	6	2	7	4
	PG with M.Phil, Ph.D	AR	4.82	5.26	4.46	6.79	5.39	6.17	5.58
		FR	2	3	1	7	4	6	5

	PG with M.Phil, Ph.D, NET	AR	5.46	5.11	5.09	5.83	5.37	7.88	6.27
		FR	4	2	1	5	3	7	6
Monthly Income (Rs)	Up to 20000	AR	6.03	5.21	5.00	5.65	5.56	7.36	5.95
		FR	6	2	1	4	3	7	5
	20000 – 40000	AR	4.74	5.23	5.60	6.94	4.38	6.12	6.08
		FR	2	3	4	7	1	6	5
	40000 - 60000	AR	5.70	5.55	4.31	6.25	4.51	6.39	4.82
		FR	5	4	1	6	2	7	3
	60000 and above	AR	5.07	5.00	4.39	6.74	5.57	8.60	6.45
		FR	3	2	1	6	4	7	5

Note : AR- Average Rank FR- Final Rank

It is found from the table 2 that the teachers irrespective of their personal classification have given high priority to webinars (C3), as the top priority, followed video lecture (C5) when compared to the other factors.

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In order to ascertain the level of awareness of the teachers towards the usage of ICT enabled services, the following strategies are considered for the study.

- Video conferencing -D1
- Voice threads - D2
- Blogging -D3
- Pod cast in the class room - D4
- Screen cast - D5
- Online assignments -D6

The Table 3 describes personal classification wise average score of the teachers on thelevel of awareness about the various strategies in availing of ICT services

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□□r□□□□□F□□□□r□		D□	D2	D□	D4	D5	D□
Age (years)	Below 30	4.29	4.59	4.32	3.66	4.25	3.35
	30 to 40	4.34	4.92	4.83	3.91	4.85	3.30
	40 to 50	4.59	3.26	3.66	2.15	4.02	3.22
	Above 50	4.91	3.66	3.83	2.05	4.61	3.61
Gender	Male	4.58	4.51	4.41	3.33	4.52	3.58
	Female	4.11	4.25	4.43	3.43	4.47	2.87
Marital Status	Married	4.44	4.37	4.47	3.29	4.51	3.35
	Unmarried	4.37	4.50	4.35	3.47	4.49	3.28

Educational Level	Post graduate level	4.25	4.25	4.50	3.25	4.64	3.08
	PG with M.Phil	4.34	4.34	4.30	3.22	4.49	3.25
	PG with M.Phil, Ph.D	4.48	4.50	4.48	3.42	4.60	3.38
	PG with M.Phil, Ph.D, NET	4.21	4.11	4.20	3.23	4.03	3.17
Monthly Income (in Rs.)	Upto 20000	4.30	4.05	4.08	3.15	4.18	3.33
	20000 - 40000	4.47	4.86	4.69	3.88	4.68	3.40
	40000 - 60000	4.31	4.64	4.66	3.43	4.65	3.33
	60000 and above	4.48	3.38	3.70	2.33	4.08	3.18

It is found from the table 3 that majority of the teachers have high level of awarenesstowards voice threads (D2) followed by Video conferencing (D1) and screen cast (D5)when compared to other strategies in ICT enabled services.

It is concluded that among the six strategies considered majority of the teachers have highlevel of awareness towards voice threads, when compared to other strategies in teaching learningprocess.

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- The findings reveal that the teachers use the online module daily in their classes and theirawareness level is very high towards screen cast.
- Majority of the teachers adopt smart boards and prezi app as the facilities in teachinglearning process.
- The teachers have given top priority to webinars and video lectures as their strategy inteaching learning process.
- Majority of the teachers have stated that listening skills of the students were enhanceddue to smart technologies and thereby leads to high creativity of the students.
- The teachers have stated that there is very high response from the students for the usageof interactive white boards in the class which enhances anywhere any time learning dueto internet technologies.
- Majority of the teachers face the problem of adaptability struggle at the initial stage.
- The teachers have opined that there is better response for online submission ofassignments by the students.

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- Adequate facilities for the usage of ICT services in teaching learning should beenhanced.
- Periodical orientation programme shall be conducted to the teachers who are alreadytrained to update their knowledge.
- Adequate usage of the digital device so as to protect the environment and trees.

- Flipped classroom and activity based learning must be further enhanced.
- More number of training programs on flipped classroom shall be organized forteachers at entry level.

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Education is a light that shows the mankind the right direction to surge. The purpose of education is not just making a student literate, but ensuring rationale thinking and creativity, which can be achieved through ICT module in teaching and learning and thereby "Digital India" can be utilised. The ICT enabled services has spread its wings in all the sectors and the education is no way an exception. It is the requirement of today's society to enhance creativity and it gives greater exposure to the teachers and students and thereby the mentors become co-learners. Hence, the ICT structure should focus on the long run proven experience to the teachers and should adopt strategies as how effectively it can be largely used in the educational institutions for the development of thestudents. This attempt will help the society to become economically strong through knowledge deliberation.

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1. Koole, "A Model for Framing Mobile Learning," in Mobile Learning: Transforming the Delivery of Education and Training, M. Ally, Ed., Edmonton, Athabasca University Press, 2009,pp. 25-47.

2. Park, "A Pedagogical Framework for Mobile Learning: Categorizing Educational Applicationsof Mobile Technologies into Four Types," International Review,2011, vol.12, No. 2.

3. Enfield, J." Looking at the Impact of the Flipped Classroom Model of Instruction onUndergraduate Multimedia Students , Techtrends, 2013, 57(6), 14-27.

4. Kong. S. Developing information literacy and critical thinking skills through domain knowledge learning in digital classrooms: An experience of practicing flipped classroom strategy. Computers & Education,2014, No.78, pp 160-173.

5.Hung, H. Flipping the classroom for English language learners to foster active, learning.Computer Assisted Language Learning, 2015, 28(1), pp 81-96.

6. Kothari C.R. Research Methodology – Methods and Techniques, 2nd Edition, 1990, New Delhi.

7. Gupta S.P. Statistical Methods, Sultan Chand & Sons Publishers, New Delhi, 1995.

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