

Vidya Pratishthans Kamalnayan Bajaj Institute of Engineering and Technology, Baramati.

Proceedings of the AICTE-ISTE approved One-Week Refresher Program

Title of Program: Innovative Teaching-Learning Methods (Online Mode)

Duration: 7th -12th Dec. 2020

No. of Sessions Conducted: 20 (Including Inaugural and Valedictory Function)

No. of Confirmed Participants: 112

No. of Participants who Completed Program Successfully: 98

Course Contents:

- ❖ Student-Centered Teaching-Learning
- ❖ Online Teaching-Learning
- ❖ Challenges in Digital Learning
- ❖ Project-Based Learning
- ❖ Interdisciplinary Approach
- ❖ Current Problems in Learning

Session wise detail reports are as follows:

Session—1

Date: - 07/12/2020

Time: - 9.20-10.20 AM

The Inaugural Program

The Inaugural Program started at 9: 20 am on 7th December 2020. It was chaired by Hon. Col. B. Venkat (Director FDP, Cell AICTE) and Hon. Prof. V. D. Vaidya (Executive Secretary, ISTE). Hon. Principal of the Institute, Dr. R. S. Bichkar addressed the participants and also briefed about various activities conducted by the Institute. Dr. Anil P. Hiwarekar, the Coordinator of the program presented the overview and aim of the STTP to the participants.

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Sessions—2 and 3

Date: - 07/12/2020

Time: - 10.30-1.30 PM

Name of the topic: Effective Design for Student-Centered Teaching

Name of the speaker: Dr. Mrinal Patwardhan, (IIT Bombay).

Introduction:

Dr. Mrinal Patwardhan discussed various aspects of teaching learning processes mainly focusing on student-centered teaching processes like knowledge-building, interrelation between the concepts and chunking. She also emphasized that people do not learn what they receive, they learn what they retrieve. A teacher should provide students with proper resources and opportunities, practice sessions, constructive feedback and peer-learning environment.

Highlighted Points / Argument:

Dr. Mrinal Patwardhan highlighted that knowing the objectives of teaching-learning process is important to deliver quality education to the students. She also suggested that learning must be student-centered, measurable and applicable. She focused that chunking helps students to learn effectively. She demonstrated it using activity slides while interacting with the participants. She further suggested that as a teacher one should know 'what do I want my students to learn?' and 'How can I help my students to learn the target programs?' Dr. Patwardhan recommended that while teaching online, a few major strategies should be employed. They are such as—video length should be short, insert reflection spots and engage the students, provide diverse resources to them, providing constructive feedback whenever necessary and provide practice opportunities.

Concluding Remarks:

Dr. Patwardhan stated that outcomes are different at different granular levels, thus supporting the idea of student centered teaching-learning methodologies. She concluded that teaching-learning goals should be properly defined and it should be mainly focused on student-centered design of the process. She also explained that teachers should let their students learn by practicing and experiencing different aspects of learning. Dr. Patwardhan concluded that effective learning requires comprehensive approach that involves appropriate curriculum, engaging pedagogy, continuous formative assessment, student support etc.

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Session--4

Date: 08/12/2020

Time: 9.00 to 10.30 AM

Name of the Speaker: Dr. Sanjeev G. Deshmukh. (Professor. IIT Delhi).

Name of the Topic: Experience Sharing on Teaching-Learning Process Challenges in a Digital Environment

Introduction:

Dr. Deshmukh focused on the present situation of Covid-19 that has impacted the social environment. During Covid-19 pandemic situation, there has been an enhanced use of digital technology for business transactions, conducting online classes and examinations and social interactions. He rightly mentioned that this new format will become normal for everyone. The community has started using digital technology for payment, on line meetings, online gaming, browsing and also connecting with each other through social media like WhatsApp, LinkedIn, Facebook, YouTube, etc.

Highlighted Points / Argument:

Dr. Deshmukh stated that teaching is not an event; it is a process that is intended to bring behavioural change in the student community. Role of a teacher is to enhance student's analytical power and making them independent thinkers. As both students and teachers are responsible for learning- it is a two way process. He conveyed that the present day teacher has to change his/her mode of teaching as there are many sources of knowledge and the teacher is just one of them. He has mentioned that today's teacher is teaching 'Y' generation students who are very much comfortable in using new technology like mobile phones, who have taken up Wi-Fi environment as granted, are familiar with cut and paste mode and are addicted to social media.

Closing Remarks:

Finally, Dr. Deshmukh concluded his session by saying, teaching must be student centric and the teacher has to become technology-friendly and acquire digital competency in order to blend the traditional teaching with digital platform. He added that one can cloud-source their ideas on the digital platform, interact with people and also get feedback on the same.

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Sessions—5 And 6

Date: 8/12/2020

Time: 10.35-1.35 P.M

Name of Resource Person: Dr. Mukul Sutaone, (Dy. Director College of Engineering, Pune).

Topic: Role of Curriculum Design in Quality Engineering Education

Introduction:

Dr. Mukul Sutaone highlighted that teaching and learning process cannot be effective unless teachers and students look at each other or face each other. Feedback on the face of the students is crucial for teachers to understand the content and delivery of his topic of discussion.

Highlighted Points / Argument

He mentioned that education is a give and take process and while highlighting this point, he quoted Plutarch who say: “The Mind is not a Vessel to be Filled but a Fire to be Kindled” Dr. Sutaone mentioned that teachers should have a great zeal for life-long learning and they have a great role to ignite fire among students and become self-motivated. He highlighted that education helps a raw human being to transform into a cultured human being. It makes human beings accountable, responsible and good human beings and that is the most significant aspect in our present life. Dr. Sutaone also highlighted the social element about how education is differently available to classes and masses.

Concluding Remarks:

While highlighting the Engineering education, he mentioned that curriculum plays a significant role and therefore, it should be prepared by highly intellectual people and a lot of care should be taken while forming the curriculum.

Session--7

Date: 9/12/2020

Time: 9.00 to 10.30 AM

Name of Resource Person: Dr. Y. V. Joshi, (Director, SGGS Nanded).

Topic: General Methodologies to be employed by Teachers



Introduction:

OBE process helps us to make students thinkers and not just knowledge seekers. Engineering education has programs like E&TC and Comp. Engineering. The aim and objectives of these programs have a target of making the students to be ready for jobs and industry.

Highlighted Points / Argument

He highlighted that education helps a raw human being to transform into a cultured human being. It makes human beings accountable, responsible and good human beings and that is the most significant aspect in our present life. He also highlighted the need of nurturing “Universal Human Values” amongst our student. He stated that teacher needs to inculcate honesty amongst students. He also emphasized that it is need of hour that teacher should know the learner. He mentioned that there are three classes of students as “Inactive, Reactive and Proactive. He also pointed that being good teachers, we need to convert inactive and reactive students into proactive students. He also pointed out that teacher need to convert teacher into quick decision maker and risk taker. Finally, he concluded his classification with quote “Independence is Good but Interdependence is Excellent”.

Concluding Remarks:

Finally, Dr. Y. V. Joshi discussed various initiatives by AICTE and CoEP like various types of courses, schemes, induction program, summer internships and MOOCs like NPTEL and SWAYAM and Honour courses by CoEP. He also discussed various educational models like AICTE Curriculum 2018 Model and importance of entrepreneurship in professional education.

Session--8**Date:** 09/12/2020**Time:** 10.30 am to 12.00 PM**Name of the speaker:** - Dr. Hemant K. Abhyankar (Executive Director, KJEI, Pune).**Name of the topic:** - Exploring Solutions to Current Problems in Learning**Introduction:**

The session started with some basic questions-answer like Learning by whom? Why do all leaving things learn? What is teaching? Various aspects of teaching were discussed. He mainly focused



on student-centered teaching processes like relevant knowledge, languages, body language and voice, etc.

Highlighted Points:

The session described the present barriers of the teaching-Learning process. In this part, Dr. Abhyankar highlighted the barriers of the teaching-learning process like infrastructure, training, passion, and family background in detail. He had explained all these barriers with example. He also explained the solution to these with relevant examples. He explained all the barriers that arise in the teaching-learning process. He explained the barriers of learners like lack of purpose, personal mindset, and negative experience, lack of sense of community, lack of technical skills, and lack of encouraging environment with examples.

Concluding Remarks:

It was concluded that effective learning requires a comprehensive approach that involves an appropriate curriculum, engaging pedagogy, continuous formative assessment, student support, etc.

Session—9

Date: 09/12/2020

Time: 12.05 am to 01.35 PM

Resource Speaker: Mr. Rajendra Raut (Sr. Teacher Art of Living Baramati).

Topic: Health and Happiness

Introduction:

In order to be adaptive during these trying times of Pandemic situation of Covid-19, every one of us is challenged by mental health issues. Even the Government of India has also introduced first of its kind National Health Mission (NHM) in 2013. Hon. Prime Minister Shri. Naredra Modi has also launched 'Fit India Movement' in 2019. In the view of this, mental health is becoming an alarming issue. To answer this disturbed voice of humanity, Mr. Rajendra Raut had prescribed the medicine of meditation.

Highlighted Points / Argument: He highlighted that nowadays the most heard and welcomed topic 'Health and happiness' with special touch of Yoga and Pranayam to it. He began the session by stating a quote "Know your breath, know your life" followed by various other quotes. He

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guided on the most googled out words such as meditation, anxiety, stress, depression etc. He elaborated on the four sources inner energy namely Breath, Health, food and Calm, Clear and Meditative mind.

Concluding Remarks:

He had given Midas touch to his session by virtually practicing Yoga and Pranayama from the participants. He also shared some health tips on acidity, cancer, anxiety etc. According to him if one believes in keeping mentally and physically fit her/ him and is willing to take the risk, then she/ he can achieve any milestone in the career.

Sessions 10 and 11

Date: 10/12/2020

Time: 9.00AM to 12.05 PM

Name of Resource Person- Dr. Sharad Gore, (Ex. Professor of Statistics SPPU, Pune).

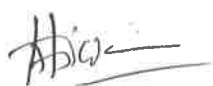
Name of the topic: Use of Statistics in Making Teaching-Learning Effective

Introduction:

The learning as an activity of a student can be very personal. Innovative methods of teaching can motivate students to maintain a common level of interest. Students can be engaged in activities that will lead to better understanding through experience. This is one of the innovations and is known as experiential learning.

Highlighted Points / Argument

Dr. Sharad Gore mentioned that curriculum and contents of any course are determined at the institutional level and hence there is no scope for innovation in content/curriculum at individual level of a teacher. Learning environment is to be created and maintained by a teacher. A teacher must use some innovative methods to make students benefit most. The new paradigms in learning environment are participatory learning and collaborative learning. Teachers can make use of information and communication technology (ICT) for delivering content. Power-point presentations and video lectures are part of this innovation. Online learning requires teachers to keep students engaged continuously. Electronic learning material can be used as an expensive alternative to expensive text and reference books.



Concluding Remarks:

Many of us think that the role of Statistics starts only after the data collection is over. This thinking has caused a serious misunderstanding and devaluation of Statistics as a discipline, especially in the field of teaching/learning. Statistical ways of reasoning can contribute immensely to innovative teaching/learning. Statistical thinking begins with an experiment that has several possible outcomes. Common ways of thinking consider only important outcomes. Optimistic ways of thinking consider only desirable outcomes.

Session--12**Date:** 10/12/2020**Time:** 12.10 to 01.40 PM**Name of Resource Person:** Ms. Deepali Gotadke, (Industry Person, Founder and Business Owner, Bailappanavar Nagar, Hubli).**Name of topic:** Role of Engineering and Management Education to Create Successful Entrepreneurs**Introduction:**

Ms. Deepali Gotadke focused the point that digital marketing is the most powerful form of marketing. You can easily and quickly adapt your strategy and tactics for best results. The main advantage of digital marketing is that targeted audience can be reached without breaking the bank. Digital marketing is cost-effective and measurable. Other digital marketing advantages include increasing brand loyalty, awareness and driving online sales and it also saves time and money.

Highlighted Points:

Successful entrepreneurs are usually inspired by other successful entrepreneurs. Women entrepreneurs are the key players in any developed countries, particularly in terms of their contribution to the economic development. In recent years, even among the developing countries women's role in terms of their share in small business has been increasing. Women entrepreneur movement has taken off the ground and it is felt that the movement has gained momentum and is in the transition period.

Concluding Remarks:

Ms. Gotadke concluded the session by emphasising that the role of Engineering and Management education is important to create successful entrepreneurs.



Sessions--13 and 14

Time: 09.00 to 12.00

Date: 11/12/2020

Name of the speaker: Dr. P. R. Dhamangaonkar, (Dean Student Affairs COEP, Pune).

Name of Topic: Achieving Graduate Attribute by Project Based Learning

Introduction:

Besides academic education in the field of engineering, engineers must have different sectors and services to give. Innovation is fun, greater understanding of how things work, learning is a global process, and learning to make a difference in a society are the reasons for which one should be an engineer.

Highlighted Points / Argument:

Can Robots float on the water is a thought of the scientist which is inspired by the insects which floats on the water. Engineers should be trained, qualified, molded and framed beyond the textbook. The boundaries between engineering branches should not be there if we want to innovate or invent the thing. The Role of engineer should be having a multifunctional approach. Project based learning is nothing but Problem based learning. Identification of the problem is the main thing while starting a project.

Concluding Remarks:

Establishment of team dynamic, self-evaluation while working is very much important. Identification of the design problem, parameter details, brainstorming amongst the team are the important aspects of the project based learning. Nowadays the need of the changing aspect of engineering must be Project Based Learning.

Sessions-15, 16 and 17

Date: 11/12/2020

Time: 12.00 to 2.00 PM

Dr. R. K. Shastri Professor from Vidya Pratishthan's KBIET conducted a session and he pointed out that gamification increases learning retention and therefore, learning should take place through games and quizzes. He also highlighted that teachers should teach various subjects by using various online and self-prepared quizzes and tests and thus makes teaching and learning process an enjoyable process.

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Dr. A. P. Hiwarekar, Professor from Vidya Pratishthan's KBIET conducted a session on innovative methods in teaching and learning and shared the methods he used during his teaching practices. He pointed out that students should be encouraged to learn through various platforms and shared his innovative methods of teaching Mathematics to Engineering graduates. He also mentioned that using innovative methods in teaching-learning process are highly required and he guided the participants about various innovative methods.

Mr. Vishal Kore, TPO from Vidya Pratishthan's KBIET, Baramati briefed various strategies regarding teaching-learning, training and placement of students at the Institute. He also briefed about how the faculty at the Institute have started various centres and through these centres they provide training and placement related counseling and guidance to students of respective courses.

Session--18

Date: 12/12/2020

Time: 9.00 to 10.30 PM

Name of the Speaker: Dr. Bharatkumar B. Ahuja, (Director, College of Engineering Pune).

Name of the Topic: Connected Teachers

Introduction:

Dr. Ahuja addressed about how the changes in the university education have taken place in due course of time from ancient Indian universities like Takshshila and Nalanda to the leading universities of the modern world like Oxford, MIT, Stanford, etc. According to him, 'Teaching' is the noblest profession and there is no better way of serving our nation than teaching our students. He firmly mentioned that 'The one, who remains Connected and Committed, can become more innovative'. He believed, the most challenging part of education is communication and the one who communicates more, understands better.

Highlighted Points:

Dr. Ahuja focused on the developments that have taken place in the Engineering education. He rightly said that in olden days engineering education was confined to civil and mechanical engineering with applications in Military and Steam Engines. Further, he also quoted some of the greatest achievements of 20th century like Telephone, Electronics, spacecraft, airplane, etc., and continued to the innovative achievements of 21st century like LCD, LED, Laptop, smart phone, I-pad, e-books, WhatsApp, 3D printing, IOT, AI, etc. He convincingly said that the greatest gift



that the technology has given to the community in recent days is online education and use of open source courseware through internet.

Concluding Remarks:

Dr. Ahuja concluded by saying that technology is changing and evolving thing. He said it is the survival of the fittest. Today as technologies are born on the CLOUD, but are burning on the ground (earth). Lastly, the speaker ended the session with a question "What are we going to Change?"

Session--19

Date: 12/12/2020

Time: 11.15 AM to 12.30 PM

Valedictory Function:

The Refresher Program concluded with the remarks and appreciation by Hon. Dr. Pratapsinh Desai (President, ISTE, New Delhi), Col. B. Venkat (Director FDP Cell, AICTE), Principal, Dr. R. S. Bichkar, participants and colleagues. They also addressed the participants and congratulated the coordinator of the program, the organising team and the participants. Dr. A. P. Hiwarekar (Coordinator of STTP) provided the overview of the program.

Session—20

Date: 12/12/2020

Time: 1.00 PM Onwards

Unit Test

During this session, the unit test was conducted for all the participants. The test was designed as per the topics covered during course and guidelines by ISTE and AICTE. Test results were declared and shared with participants.

We sincerely thank the ISTE, AICTE for considering our Institute to conduct this STTP, guiding us during the program and your consistent support and cooperation for the program.



Dr. A. P. Hiwarekar

Coordinator

VPKBIET, Baramati



Dr. R. S. Bichkar

Principal

VPKBIET, Baramati

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