

Vidya Pratishthan's Kamalnayan Bajaj Institute of Engineering and Technology, Baramati

Report on AICTE-ISTE approved One-Week Refresher Program--III on

Innovative Teaching-Learning Methods (6 to 12 May 2021)

No. of Sessions Conducted: 23 (Including Inaugural and Valedictory Function)

No. of Confirmed Participants: 100

No. of Participants who Completed Program Successfully: 98

Course Contents:

- ❖ Effective use of ICT-Teaching-Learning
- ❖ Designing Learner-Centric MOOCs
- ❖ Online Teaching-Learning
- ❖ Challenges in Digital Learning
- ❖ Project-Based Learning
- ❖ New Education Policy 2020
- ❖ Current Problems in Learning

Session wise detail reports are as follows:

Session—1 Date: 6 May 2021 (Time: 9:30-10:30 AM)

The Inaugural Program

The Inaugural Program started at 9:30 am on 6 May 2021. It was chaired by Hon. Prof. Ranjit Sawant (Executive Council Member of 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 the aim of the Refresher Program to the participants.

Session—2 Date: - 6 May 2021 (Time: - 10:35-12:05 PM)

Speaker: Dr. Kapil Kadam (IIT Bombay)

Topic: Effective Use of ICT in Teaching-Learning Process

Highlighted Points:

Dr. Kapil Kadam started the session with discussion about the use of ICT tools for effective teaching and learning process. He emphasised the teacher's role in understanding and using ICT tools effectively in the

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teaching-learning process. Dr. Kadam explained the use of P-O-E strategies and its benefits in teaching-learning process. He also explained ICT tools like Mentimeter and Padlet in interactive and engaging way. He interacted with the audience through live poll and chat box tools.

Concluding Remarks:

Finally, Dr. Kadam concluded the session emphasizing the use of ICT tools in teaching learning process. The session proved extremely useful for the participants.

Session—3 Date: 6 May 2021 (Time: 12:10 --1:40 PM)

Speaker: Mr. Rajendra Raut

Topic: Health and Happiness

Highlighted Points:

Mr. Raut highlighted that nowadays the most heard and welcomed topic is 'Health and Happiness' with special touch of Yoga and Pranayam. He began the session by stating a quote "Know your breath, know your life" followed by various other quotes. He mentioned that the most searched words in Google are meditation, anxiety, stress, depression etc. He elaborated on the four sources inner energy namely Breath, Health, food and Calm, Clear and Meditative mind. 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. In the view of this, mental health is becoming an alarming issue. Mr. Rajendra Raut prescribed the medicine of meditation to address the disturbed voice of humanity.

Concluding Remarks:

While concluding the session, he shared basic yoga and pranayama practices. He also shared some health tips on acidity, cancer, anxiety etc. According to him, if one believes in keeping oneself mentally and physically fit, then she or he can achieve any milestone in the career.

Sessions—4 Date: 7 May 2021 (Time: 9:00--12:05 PM)

Speaker: Dr. Mukul Sutaone

Topic: Role of Curriculum Design in Quality Engineering Education

Highlighted Points / Argument

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. He mentioned that education is a give and

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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—5 Date: 7 May 2021 (Time: 10:30 –12:05 P.M.)

Speaker: Dr. N. V. Kalyankar

Topic: New Education Policy--2020

Highlighted Points:

Dr. Kalyankar briefed about the newly framed education policy in India. He highlighted the importance and flexibility of new education policy. He gave stress on the ambitious visions and goals of the new national higher education policy. He also focused on the multidisciplinary approach for UG programs with a greater number of choices. He also emphasized on setting up of multidisciplinary Universities and colleges in every district. Dr. Kalyankar added that there must be one regulatory body controlling all the graded institutions with uniformity in fee structure and having multidisciplinary programs. He also told that the new education policy also focuses on developing institutions for Pali, Persian and Prakrit languages.

Dr. Kalyankar conveyed the impacts of technology in the overall improvement of the outcomes of the education process. He suggested that technology must be used in administration as well as in the management. He indicated that if e-contents are made available in the regional languages then it will help the learners. He focused on the importance of technology in the development of software for the differently abled (Divyang) learners. The speaker also highlighted about the use of technology for the free exchange of ideas globally.

Concluding Remarks:

Finally, Dr. Kalyankar concluded his session by intimating about the setting up of an autonomous body in the new education policy called “National Educational Technology Forum (NETF)” and also highlighted its



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functions. Lastly, he mentioned that the biggest challenge is to implement this new national education policy 2020 and the achievement of the overall target in the synchronized and systematic manner without any hassle.

Session—6 Date: 7 May 2021 (Time: 12.10 -- 1.40 PM)

Speaker: Dr. Sayalee Gankar (Vice-Chancellor of D.Y. Patil University, Pune)

Topic: Strategic Planning for Teaching Learning and Industry Collaboration

Highlighted Points:

Prof. Sayalee Gankar addressed participants on the topic 'Strategic planning for teaching learning and industry collaboration'. She enlightened the participants by throwing a light on three strategic pillars: Excellence in learning, Excellence in teaching and Excellence in curriculum. While speaking about the first pillar, excellence in learning, the speaker focuses on topics: new education policy, multidisciplinary knowledge and skills, student-centered learning, experiential learning, and participative learning.

While speaking about the second pillar, excellence in teaching, speaker enlightened the fact that teaching should be valued, recognized, rewarded and celebrated. She also shared her own teaching methodology and experiences. While speaking about the third pillar, excellence in curriculum, she has thrown a light on teaching and learning strategic framework. She also emphasized the importance of industry collaboration with academia.

Concluding Remarks:

She explained the concepts in lucid language and the participants enjoyed the session as it was interactive. The session on proved useful for all the participants.

Session—7 Date: 8 May 2021 (Time: 9:00 -- 10:30 AM)

Speaker: Dr. Mukul Sutaone

Topic: Role of Curriculum Design in Quality Engineering Education

Highlighted Points / Argument

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. 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—8 Date: 8 May 2021 (Time: 10:35 –12:05 PM)

Speaker: Dr. Kapil Kadam

Topic: Designing Learner-Centric MOOCs

Highlighted Points:

In the start of the session, Dr. Kapil Kadam highlighted difference between 20th century and 21st century education. He discussed how information was premium in 20th century and how it is now available on fingertips of students in 21st century. Dr. Kadam then discussed about the need of MOOCs. He also focused on challenges that are faced by traditional MOOCs modules which includes low completion rates, Passive learners, no participation in discussion forums etc. Dr. Kadam explained importance of learner centred MOOCs courses in the current scenario. He also focused on the importance reflection spots in between the learning process. Along with this he also emphasized that LeD (learning Dialogues) promote concept acquisitions through learning interactions.

Concluding Remarks

Dr. Kadam concluded the session explaining about recommended formats for MOOCs videos like Slidecast, Talking head, Screencast ,Picture-in-picture, Table-Top and transition between these formats etc.

Session—9 Date: 8 May 2021 (Time: 12:10-1:40 PM)

Speaker: Dr. B. B. Ahuja, Director, COEP, Pune

Topic: Future of Engineering and Engineering the Future

Highlighted Points:

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Dr. Ahuja 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. He 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. 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 '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 things. 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 in the life of students and the world at a broader scale"?

Sessions—10—11 Date: 10 May 2021 (Time: 9.00 AM to 12:05 PM)

Speaker: Dr. Vikas Shinde

Topic: Project Based Teaching Learning

Highlighted Points:

He started with discussion what is the idea of the Project Based learning. It is student-centered and starts with authentic problem where tutor acts as facilitator or guide. The initial stage in PBL is identification of the problem. Then we can use this problem as a tool to help students to gather required knowledge to solve the problem. Traditional education system is of the type of only listening and sometimes observing which lowered the cognitive nature of the students. He emphasised on giving a real life problem which should be challenging, complex, difficult and engaging. The educational model problem is at the central level. We can develop learning goals and depending on the situation, instructions can be prepared and then start with assessment. To support this infrastructure can be augmented. He discussed the Aalborg learning environment in which the syllabus has 5 credits for the theory and 15 credits for the project work unlike our system of education. He explained the CL- PBL model, Vishwaniketan PBL Model and Aalborg PBL model thoroughly.

Concluding Remarks:

He concluded by saying that the content approach should be of exemplary practice with concern of disciplinary and interdisciplinary learning. PBL learning spaces have classroom, laboratory work, team, teacher, additional courses and expert talks.

Session—12 Date: 10 May 2021 (Time: 12.10-1:40 PM)

Speaker: Dr. Anil Hiwarekar

Highlighted Points:

Dr. Anil Hiwarekar conducted a session on innovative methods in teaching and learning and shared the methods he used during his teaching practices. He pointed that our 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 guided the participants about various methods. Different methods for enhancing Learning: Dr. Hiwarekar initially discussed problems facing by students during learning. Many students are from rural area and having lack of self-awareness. Some students are slow learners. He discussed innovative ideas implemented by him to enhance learning and increase interest among students. He also explained effective use of appreciation and punishment in teaching learning methods.

Concluding Remarks

He discussed how video lectures are helpful for students in learning. He demonstrates statistical analysis of effect of video lectures in students' performance. He mentioned that short video lectures are more effective. He emphasized that video lectures are useful for both types of learners slow learners and active learners. Also he mentioned advantage of video lectures like students can watch many no. of time this video at any time from any place. It saves students time.

Session—13

Time: 9.00—10:30

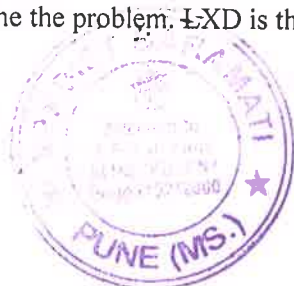
Date: 11 May 2021

Speaker: Prof. Basvaraj Hooli

Topic: Learning Experience Design

Highlighted Points:

When we know the problem then only we can solve it but we must check whether the problem is right or not, if not we need to frame the problem. LXD is the science and the art of creating experience that help the



learner fulfill the learning outcome they desired, in a user centered and goal directed way. A way of integrating design thinking technique is with instruction design. He explained the experience economy by example of coffee. Future is a kind of digitalization will be shaped by the current crisis lead to new normal which is different than normal in a past. We are shifting from humanism to dataism by more believing in a data than our own guts. The learning transfer mental model has acquired the knowledge of single concept then connect concept in a relationships and transfer to new situations. He explained how corona virus is accelerating the digitalization. He talked about digital transformation in which you need to develop the new approach in any aspect.

Concluding Remarks:

Finally, he concluded with the positive approach towards the evolvement in the education system and mentioned that all the stakeholders need to put in efforts to make it more effective and meaningful.

Session—14 Date: 11 May 2021 (Time: 10:35 AM—12:05 PM)

Speaker: Dr. B M Naik

Topic: Insights in to Research, Innovation and Entrepreneurship

Highlighted Points:

Dr. B M Naik elaborated the newly framed education policy in India. Education now must be aligned to the world dynamics, opportunities and challenges. Method of education must be changed from memorization to experimentation. Innovation is the foundation of start-ups and start-ups are necessary to bring new ideas to the market and make Atmanirbhar Bharat. The root cause of all problems in education is insufficient innovation and insufficient entrepreneurship. Lack of innovation is the major barrier in job generation and employment. Innovation is a strong stimulant; innovative persons work with passion and endless energy. Most of innovations have come in India from abroad. Innovative people are never unemployed. They innovate and again innovate to create something new. They create wealth. Learning must be innovation oriented, creativity and entrepreneurship oriented, to make Indian economy strong. NEP Poses many challenges to universities and colleges. The first and foremost is to make education relevant, spin-off hi-tech start-ups. Imparting skills of research, skills of innovation and skills for entrepreneurship is prescribed by NEP. Imparting only known knowledge and known technology does not suffice. Synergy between industry and institute for mutual growth must be generated. Ideas from Alumni for innovation in colleges must be invited.

Concluding Remarks:



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Finally, Dr. B M Naik concluded his session by his experiences with the foreign educational institutions. Respected Principal Dr. R. S. Bichkar also attended the entire session and expressed his gladness to relate to his mentor.

Session—15 Date: 11 May 2021 (Time: 12:10—1:40 PM)

Name Speaker: Dr. Vaibhav Hendre

Topic: Innovative Teaching and learning: A skill based approach

Highlighted Points:

Dr. Vaibhav Hendre discussed need and importance of online teaching. He mentioned that whether stakeholders are happy for that online teaching. He says instruction begins when you, the teacher, learn from the learner; put yourself in his place so that you may understand... what he learns and the way he understands it. He discuss 3 teaching phases that are pre-active stage, inter-active stage and post-active stage. He said good teaching is one that is well planned and where activities are interrelated to each other. Also he discuss learning style such as sensory/ Intuitive, Visual/ Auditory etc. people learn at different rates. He mentions the learners retain.

He discussed the domains of learning and that Cognitive, Experiential, Affective, Knowledge, Skills, Attitudes. He discussed the TL Process, need of blended teaching learning approach. He discussed innovative approaches in teaching learning like project based learning, access to NPTEL, alumni and industry expert sessions, faculty development programs, value added programs, modeling and simulation tools, advanced equipment and software, review material.

He discussed generation 'Z' that is born after 1998, teaching strategies for generation 'Z' like use social media approaches to learning, break content into short segments, think digital in all assignment, assessments, activates etc. he discussed tools for online teaching like Edmodo, Nearpod, Classkick, Google classroom, zoom, WebEx, Skype, Adobe connect, Discord etc. Also he mentioned quiz and activity tools like socrative, kahoot, quizlet, wordwall etc. He also discussed outcomes of engineering education, placement eligibility, entrepreneur, skill development, skill requirement, types of skills, core skills, problem solving skills, teaching skills.

Concluding Remarks:

At last he mentioned that outcome of process is teacher centric and what is required to done skill sets for the 21st century and building a new paradigm.

Sessions-16, 17, 18, 19 Date: 12 May 2021 (Time: 12:10—1:40 PM)

Speaker: Mr. Harshad Bhagwat, CEO of WordsMaya

Topic: Innovative Experiment on Enhancing TL

Highlighted Points:



Mr. Harshad Bhagwat initially discussed need and importance of online teaching. He mentioned that conducting online lectures is not only online teaching and he explained various methods of online teaching-learning. He shared his experience of online learning as well as teaching. He explained what byte sized learning is and how one can implement it during online lectures. He mentioned that divide lecture into small chunks followed by and quizzes or assignments or ask students to solve some numerical on that topic. Then reward students, appreciate and motivate them. Sir mentioned that it help to increase involvement of students in learning. Also he suggested that instead of preparing long video; prepare more short videos of 10-15 minutes.

He mentioned what is blended learning and how it helps students as well as trainers in teaching learning. He discussed blended model prepared by WordsMaya for communication skill and mentioned effective use of chat boats in learning. He mentions that to break monotony use of byte sized learning and blended learning is useful and he advised to add brain based learning activities during lecture.

Concluding Remarks:

At last he mentioned that any teacher can structure the content with byte sized format blend it with self-spaced compatible with technology constraints. This is helpful to optimized trainer time, make students to learn every day.

Mr. Anil Disale (Assistant Professor, VPKBIET, Baramati)

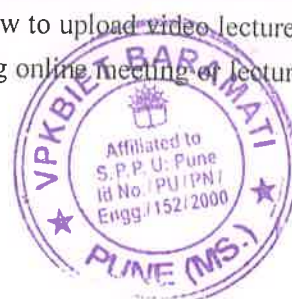
Mr. Deepak Sonawane (Assistant Professor, VPKBIET, Baramati)

Topic: Effective use of e-learning Platform

The session was conducted by Mr. Anil Disale and Mr. Deepak Sonawane, faculty from VPKBIET, Baramati. Initially Mr. Disale explained need and importance of e-learning in Covid-19 pandemic situation. Also he discussed advantages and disadvantages of online learning and mentioned that it is affordable and improves student's attendance. He briefed about various tools available for online teaching and learning.

He informed about various virtual meeting platforms with their features and capabilities in detail. He also mentioned how to select platform according to our requirements. He explained all features like screen sharing, live streaming, recording and capacity of various platforms. After that he discussed zoom platform and its features in details. Also he informed that about available plans of Zoom platform like Basic, Pro, business and enterprises and their detail feature's and limitations. At last he gave some tips for how to prepare for online presentation or meeting.

After that Mr. Sonawane also explained importance and advantages of e learning. He demonstrated how to use zoom platform in detail like how to login on zoom app, schedule meeting and invite participants meeting. He also explained all required settings for meeting like mute/unmute participants, screen sharing and recording options. After that he demonstrated that how to upload video lecture on YouTube and create playlist. At end he informed about etiquettes for attending online meeting of lecture and share some tips to speakers.



Speaker: Mr. Shrikant Ghadage, (Founder, Chairman & Managing Director, Curiosity Automation OPC private limited)

Topic: Learning through real Industrial Project

Mr. Shrikant Ghadage provided information about Curiosity Automation OPC private limited company. He mentioned that it is 1st Government recognized start up India Company in Baramati and majorly work in sector of Skill development, entrepreneurship, IT and industrial automation. He discussed current Indian education system and effects of education system. Also he discussed education systems in other countries. He explained need of skill based education system.

He provided information about project based learning and how project based learning and industry interface will make students ready for industries. He explained what industrial project required. He informed that real time and live projects helps students to ready for jobs. He informed about in plant training conducted by Curiosity Automation. He mentioned that 120 second year Diploma students developed android app under guidance of by Curiosity Automation. Curiosity Automation helps to file patent with low cost as a government startup, guide students on product design, intellectual property, Indian investment in R & D and engineering faculty.

Session--19

Valedictory Program:

The Refresher Program concluded with the remarks and appreciation by Col. B Venkat (Director, AICTE FDP Cell) Hon. Prof. V D Vaidya (Executive Secretary, ISTE, New Delhi), Hon. Principal, Prof. B M Naik (Former Principal, SGGS, Nanded), 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 Refresher Program) provided the overview of the program.

Session--20

Online Test of Participants

During this session, the test of all participants was conducted. The test was formed as per the rules and instructions by ISTE and AICTE. Test marks and results were declared to the participants. We sincerely thank the ISTE, AICTE for considering our Institute to conduct this Refresher Program, 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

