

Pandit Deendayal Energy University

Best Practice-1

Empowered to Empower

1. Objectives of the Practice

- Faculty centric Ensuring and Enriching Schemes.
- Student-centric Enabling and Engaging schemes

2. The Context

Aiming to establish an internationally renowned institution that will have Focus on Energy Education, Research, and Innovation as its vision and mission, PDEU embarked on this Journey for more than a decade. To justify the efforts taken to implement the Mission, the Government recognized our efforts and rechristened the name of our university from PDPU to PDEU in the month of January 2021. Our Honourable Prime Minister Shri Narendra Modiji observed the following during the 8th Convocation: “PDEU has gone far ahead of times. ...”. This is an attestation to the robust human resource policy we have for the faculty who drive the mission of the university with diligence. Students on the other side complimented by showing a quest to learn and to become.

The institute has transformed itself into a nurturing ground for hybrid learning by developing cutting-edge digital infrastructure with up-to-date research and an educational curriculum to promote and facilitate research and learning. Thus, PDEU has become synonymous to a student paradise for higher education and learning and has become one of the choicest universities in Gujarat.

3. The Practice

Having an Eye for Excellence: In teaching, research, Innovation and Societal impact. How we achieve this is listed as follows:

- **Robust Faculty empowerment schemes** brought about the best potential from the faculty/staff and the administrative staff. Around 60% of the faculty members are from IIT and NIT backgrounds and some have abroad postdoc experience, bringing Global excellence to the campus.



- **Salary empowerment:** The Pay package is commensurate IIT Faculty salary (7th pay commission), which serves as motivation. Further HRA and medical benefits are very peculiar to PDEU which bring great security among the faculty in terms of moral backing. Perhaps we may be the only private university extending MHRD scale of pay rather than UGC. This draws global competence to PDEU campus.
- **Professional Development empowerment:** CPDA is a unique coverage for PDEU faculty which is usually extended only at IIT's. This unique assistance helps faculty to go for professional membership, attend national and international conferences without hindrance and faculty feel strongly encouraged.
- **Curriculum design and revision empowerment:** Depending on the core courses, the curriculum needs frequent revision. Faculty are encouraged to bring flexibility and the latest technology input into curriculum design.
- **Industry connect/ consultancy empowerment:** Faculty members are encouraged to initiate industry collaboration for solving complex engineering problems and to establish consultancy activities.
- **Book writing Empowerment:** Faculty members have greatly enjoyed knowledge dissemination through book writing over 52 books have been written and more than 120 book chapters have been documented by highly rated publishers during the assessment period.
- **Empowered to publish only in quality–peer-reviewed journals.** Faculty are never forced to publish in paid journals or in non-refereed journals. As a result between 2020 March and 2022 March, the H-Index of the university rose from 31 to 53, and publications in Scopus indexed rose from 360 to 590 Journals and 650 papers including UGC care in 2022. This is purely faculty genius! PDEU celebrates the quest for excellence and there is no match to faculty commitment.
- **Empowered to cover Innovative ideas through patents:** From a mere 6 patents filed in the year 2019, Faculty members during the COVID concentrated in patent filing, due to COVID and all their stacked innovative ideas which were not published, were well documented and those novel innovations were patented through an exclusive drive for IPR. This exercise resulted in the filing of over 250+ patents and over 200 are granted.
- **Empowered with project seed funding:** Rs. 19.39 Crores funding in the last five years by Government agencies. Project seed funding of Rs.16 Crore for 950 students, 107 faculty members during the assessment years.
- **Empowered for research:** Rs. 1.6 Crore to Research Scholars in the last five years, 32 faculty members availed sabbatical leave (Rs. 1.2 Crore), Rs.42 Lakhs for the International visits of faculties for research.
- **Empowered by Industries:** The overall Shell chair is worth 1.1 Million USD, 7.5 crores Suzlon Chair worth Rs. 1.05 Crores and a British petroleum grant worth 3.5 Crore for five years.
- **Empowered by Peers:** The faculty research review symposium is an in-house activity showcasing to peers at PDEU and assessed and judged by peers themselves. As a result, there is a great appreciation among the faculty for each other and this results in joint projects, interdisciplinary activities.



- **Empowered to mentor:** Mentoring students by faculty happens at a different level and from daily classroom activity it extends to student research projects, to comprehensive projects, and even extends up to start up activity.

4. Evidence of Success

1. For the concerted effort on Empowerment, the PDEU stakeholders have reposed the faith by translating the entire teaching-learning process, research, consultancy, and IPR activity of the campus. A 90% leap forward in Quality publication, from 360 Publications to 650 in just one year, institutional H-Index jumping from 31 to 53, IPR from 2 granted in the year 2020 to 200 + in 2022 speaks volumes of the Empowerment.
2. GATE 2022 **All India Rank:** PDEU students topped in the GATE ranking and 4 out of the Top 10 AIR holders are from PDEU.

5. Problems Encountered and Resources Required

- Although we recruited more than 70 faculty members newly, due to COVID, we could realize only 50 joining us due to the migration challenges. Further, we have prioritized recruiting only Ph.D holders from abroad post doc experience and the choices are limited to the COVID scenario. We hope to improve in our recruitment drive.
- We had plans to bring more Visiting professors from abroad institutions, which got curtailed due to COVID. We will continue to pursue this drive.

6. Notes

- Our empowerment strategies need to refine based on the NEP -2020 guidelines. We may need a new creed of faculty for skill training in focused areas preferably from Industrial background.
- Our online mode of interaction has to find a balance with on-campus activities to intensify our empowering mechanism.
- **The Future Plan: Empowering for Global competence**
 - To let the faculty empowered be locally engaged with other institutions to truly bring a knowledge hub ecosystem in Gujarat.
 - To joyfully train energy soldiers for our nation.
 - To provide energy for all and prepare youth for tomorrow in the midst of digital transformation.
 - To excel in providing engineering solutions for complex engineering problems.
 - To bring global competence among the students for different core expertise.
 - To bring a Global village atmosphere.

To bring Global competence, each faculty contribution needs to become nationally important to academia and industry. Faculty and students are strongly encouraged to leave a strong footprint of their integrity and competence for the next generation of students to follow.



Best Practice-2

Enlightened to Enlighten: To transcend to quality leadership and to impart the next generation

1. Objectives of the Practice

- **To decentralize for effective leadership.**
- **To impart accountability in every mission of the university.**
- **To make them assume responsibility for strategic planning and execution.**

2. The Context

Success without successors is not a success. Today the nation demands accountability in every cadre so that the gap analysis for leadership is made evident to the next generation. The government's charter for Swachh Bharat, Make in India, Atmanirbhar Bharat, Semiconductor Mission, Atal Innovation clearly suggests that we have not raised enough leadership and skill set to meet the country's challenges. COVID has shown our country's vulnerability in many areas including Silicon technology, Data Science, Medical Technology, Health infrastructure, Biotechnology, and many other core areas. Academia has to take the full onus to develop skillset and infrastructure to this end so that self-sustenance is fully realized.

With COVID resilience on one side, the ever-changing industrial requirements on the other side, the campuses today are faced with the Industrial revolution and global pandemic. The time left out for students to be fully equipped during such a short campus experience brings several questions as to how to meet this challenge. The role of teachers is immense. Unless the faculty own the Vision and see the national and global need, the crucial training for today's youth can be staggered and can let down the next generation. How do we carry forward this great mission to prepare leaders for tomorrow?

In the last five years, PDEU has made pioneering **contributions to the National Missions** initiated by the Government of India that includes, Digital India, Make in India, Skilling India, Swachh Bharat Abhiyan, Unnat Bharat Abhiyan, and Women Empowerment and Atmanirbar Bharat.

3. The Practice

Quality education and imparting leadership in Energy transition, Energy generation, Energy Storage, Renewable Energy, Water, Sanitation and Waste Management, AI and Robotics, Digital Manufacturing, Internet of Things, Biomedical challenges, Innovation and social engineering are top priority areas for the institution.



3.1. Administrative Decentralization at PDEU

- i. Autonomy is given to Directors and Deans for Academic, administrative, and financial roles.
- ii. Responsibility is entrusted to policy formulation, financial planning, industry interaction, placement initiatives, and Quality assurance.
- iii. Accountability is expected in Course outcomes, Students progression, Faculty development, Financial management.

3.2. Autonomy from the parent organization: Although GERMI as a parent organization has invested over 140 Crores into the infrastructure development, GERMI has played a crucial role in giving autonomy to PDEU in functioning as per UGC/AICTE norms and regulations. This is a very rare occurrence of autonomy to see an organization (PDEU) fully bloom to its stature and in excellence. Much of the credit goes to the Government of Gujarat, GSPC, and GERMI for the hand-holding in fulfilling the Vision and Mission of realizing an Energy University.

3.3. Governance and impartation: PDEU is gifted with unique leadership. Born out of visionary leadership to set up a Petrocapital in Gujarat by the then Chief Minister Shri Narendra Modi, PDEU was born in 2007 under the able leadership of Dr Mukesh Ambani. His virtues as a technology leader have touched the length and breadth of the campus which is evident from its world-class infrastructure. The Board of Governors is further blessed with Industrialists of very high stature and the Principal secretaries and Former Chief secretaries of the Government of Gujarat. This extravagant leadership has underlined the quality impartation.

3.4. Top-down approach in Setting up infrastructural facilities: A rapid recourse in bringing the state-of-the-art infrastructure and timely reversal of decisions to suit the industry demands has given the edge to bring the latest and the most demanding infrastructure to complement the teaching community's demand. PDEU has taken bold and pioneering initiatives to demonstrate nascent technologies based on the encouragement received by the Government of Gujarat. Today PDEU stands tall in experiential learning facilities. We place on record the help rendered by Industries for their handholding to bridge the gap: Shell, Suzlon, British Petroleum, Maruti Suzuki, NTPC, ONGC, and ADANI.

3.5. Bottom-up approach in grooming leadership: PDEU enjoys seeing the leadership training maturing right from the freshmen to the final year students. Young faculty to the Senior most faculty. There is an air of freedom one would sense in the portals of the campus. Young faculty are encouraged through different schemes to set up their research facilities at the earliest and also mentor to set-top priority for Teaching. Through many co-curricular and extra-curricular activities the gap between Faculty and students, Young faculty and seniors is brought to the minimum so that leaders emerge as a natural progression. Gender sensitivity and out-of-state inclusivity bring dynamism to the leadership. The vision and mission is disseminated at all levels. Also, the technical staff and non-teaching staff are treated with the same significance and they play a crucial role in grooming the students equally.



3.6. Robust budget allocation and resource mobilization: Extravagant faculty and student-centric investments have helped in a big way to bring the latest facilities in every department and School. Due to a complete halt in civil operations, most of the mega-infra projects got delayed due to COVID lockdown. By the end of 2024 much more elegant infrastructure, which has mandatory approvals and the necessary budget will make the campus a great experience for the stakeholders.

3.7. How closer can we position PDEU in the light of the Government's priority on Energy transition/ National agenda? The year 2020 has been the hallmark of our Journey as PDPU. On the 8th convocation, Our Honourable Prime Minister, sensing the progress made by PDPU requested the GoG to change the name of PDPU to PDEU. Hence in Jan 2021, PDPU became PDEU. We sense a greater responsibility in meeting the national charter, especially in Energy transition and Climate Change.

4. Evidence of Success

Today the Government has involved PDEU in developing a draft proposal for the PM's 5 Trillion Dollar economy roadmap and how ENERGY transition as a vertical can affect this mandate. There cannot be a greater opportunity for PDEU than this, but to get such a mandate to address national challenges and to be involved in Nations progress.

Through the benevolent support of major industries committed to energy transition viz; SHELL Hazira, Suzlon, British Petroleum, Maruti Suzuki, NTPC, ONGC, and ADANI, we are able to work on frontier areas of energy management and participate in providing

5. Problems encountered and resources required

- There is a challenge in the pace at which the National agenda on NEP 2020, other Skill India Initiatives are pursued by the Government and the preparedness on the part of academia to implement is a major challenge. This is mainly due to the two full years of lock-down due to pandemics. Academia at present is more concentrating on connecting with the students and to carry out all remedial classes which otherwise could not be substituted through online mode.

6. Notes: Future Plan

The immense success of the students and the initiatives at the university to cater to student needs and holistic development can be attributed to the diverse faculty that PDEU employs. With over 500 faculty and staff from reputed national and international universities, 200 guest faculty from the industry, and over 250 research scholars, the university prides itself on the support that students receive from them.



- To groom more leadership among the faculty and students through more engaging initiatives.
- To reinforce the National mission on Energy transition and to bring stakeholders more frequently to the campus in order to emerge with a new workforce.
- To train more students with skills required for the newer challenges and to make them industry-ready.
- To have a bigger picture in training stakeholders at large, not only limited to PDEU but across PAN India to raise Global competence.

