

Criterion No. & Title:	7: Institutional Values and Best Practices
Metric number & Title:	7.2: Best Practices

7.2.1 Describe at least two institutional best practices (as per NAAC Format)

Response:

Best Practice No.1:

1) Title: Problem Based Learning (PBL)

2) Objectives:

The goal is to solve daily problems, encourage interdisciplinary projects, align students with industry needs, improve employability, and develop interpersonal skills, team spirit, and leadership qualities. The expected outcome is for students to identify societal problems and apply innovative solutions. The principle is to enhance student learning and readiness for industry/society through the PBL approach.

3) The Context

The graduate attributes are vital in professional education. They include “soft skills” like communication, teamwork, problem-solving, initiative, and responsibility.

Project-based learning provides a practical environment for students to develop these skills. They learn to take initiative, apply ideas, think innovatively, build confidence, work in a team, communicate ideas, and manage resources.

Problem-based learning bridges the gap between theory and practice, allowing students to apply theoretical knowledge to real-world problems. This not only enhances their understanding but also equips them with skills needed in the workplace.

In conclusion, integrating graduate attributes into the curriculum prepares students for industry demands, ensuring they are proficient in their core subjects and possess necessary soft skills.

4) Practice:

The institute implements Problem-Based Learning (PBL) through several steps as:

Lab Innovations: Students develop small innovative ideas every semester, converting theoretical knowledge into projects.



Interdisciplinary Projects: Students from different disciplines form groups to solve real-world problems, enhancing their coordination skills.

Product-Based Projects: Students identify societal problems and provide solutions, learning about financial management.

Value Addition Programs (VAP): Students acquire extra knowledge through specially designed VAPs, completing projects/assignments.

Project Evaluation: Projects are evaluated by experts through competitions like 'TechnoSinh', 'Dista', 'Prayog', Avishkar, and Hackathon. Students also present their papers at different journals.

5) Evidence of Success:

The PBL model has improved students' understanding of core concepts, professional skills, and ability to solve real-world problems. Here are three successful projects:

CSE students won the National Level Smart India Hackathon (SIH) for their project 'Development of ADIP-CI Post-operative rehabilitation details software', a mobile application for the Ministry of Social Justice and Empowerment.

Civil Engineering students developed a project on 'Use of Carbon pollutant in building tile', winning regional and national level competitions. They also published two papers based on this project in an international journal.

E&TC Engineering students developed a 'Women Safety Suite' project, recognized at state and national levels for its innovation.

6) Problems encountered and resources required:

As Solapur region is under developing stage therefore sometimes it becomes difficult to implement 100% PBL culture in the institute due to following problems:

Financial Assistance: Many students come from economically disadvantaged backgrounds and rely on sponsorships. The institute supports students' innovative ideas through seed money, alumni association, and partner organizations.

Equipment Availability: For product-based projects, students need access to industrial instruments/equipment. The institute allows students to use its laboratories and workshop to overcome this issue.

7) Notes:

The 'Problem Based Learning' (PBL) model has proven effective in enhancing students' technical skills in tier-II cities like Solapur. It has led to recognition at university, state, and national level competitions, and has earned the institute 'Star Rating' from the Ministry of Education (MoE) and rankings like 'Atal Ranking of Institution for Innovation Achievement' (ARIIA). Hence, it's recommended for other institutions too.

Best Practice No.2:

1) Title: Students Development and Career Counseling (SDCC)

2) Objectives:

The goal is to enhance students' skills for various career opportunities, prepare them for entrepreneurship and higher education, and instill ethical values for holistic development. The expected outcome is that students will acquire skills for placements, entrepreneurship, and higher studies, with an overall impact on all aspects of life. The principle is to help professional engineers have good moral, ethical values, and a humanistic approach towards society.

3) The Context:

The need for SDCC is crucial as most students from this institute come from rural backgrounds and lack the following skills:

Presentation Skills: Required for delivering thoughts using modern ICT aids.

Communication Skills: Essential for working in corporates where English is globally accepted.

Public Speaking: Many students lack confidence and non-verbal skills.

Soft Skills: Etiquettes and manners are necessary in professional courses like engineering.

Expressiveness: Students are strong in technical and analytical skills but lack impressive representation.

Leadership Quality: Due to lack of interpersonal skills, students often hesitate to take the lead.

4) The Practice:

The institute implements the SDCC model through:

Student Presentations: Students give presentations using ICT tools from the second year onwards, improving their presentation, communication, and public speaking skills.



Student Training: The institute provides training from the first year to prepare students for final interviews. This includes communication skill training, soft skill training, aptitude training, and pre-placement training.

Other Career Opportunities: The institute provides awareness and training about various career opportunities like higher studies, GATE, entrepreneurship, PSUs/UPSC/MPSC, GRE, TOEFL, etc.

5) Evidence of Success:

The implementation of SDCC has resulted in:

Increased Placements: Over 75% of students have benefited from SDCC, leading to a rise in placements in the last five years.

Event Participation: Students have developed leadership and soft skills through participation in various co-curricular and extracurricular activities.

Workplace Recognition: Many alumni have received best employee awards at their workplaces, reflecting the effectiveness of SDCC.

Higher Education and Government Jobs: Students have secured admissions in renowned institutes and jobs in government sectors due to the guidance provided by SDCC.

6) Problems encountered and resources required:

The implementation of SDCC faces challenges such as:

Low Student Exposure: Students from rural areas often lack exposure to soft skills development. The institute dedicates time slots to train these students during weekdays and weekends.

Trainer Availability: Due to the institute's location, finding full-time professional trainers is difficult. Hence, institute teachers train the students based on their expertise and student requirements.

7) Notes:

SDCC at NBNSCOE has been successful in providing multidimensional training to students. It offers guidance, counselling, and training based on students' interests, helping them achieve their goals. Despite regional disadvantages, this initiative has led to overall student development. The extra efforts by coordinators and trainers, through various clubs and cells, have boosted students'



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confidence. Professional counsellors also assist students in identifying their expectations and challenges. This model is recommended for institutions in tier II cities.