Best Practice No.1

1. Title: Project Based Learning

2. Context:

Learners who are going to be future professionals and problem solvers, need to develop the mentality of applying the knowledge and follow approach of problem finding and solving in their graduation years itself. They must know how to mould themselves to align with professional requirements like team work, leadership, effective use of resources, sense of responsibility, problem solving and so on. These requirements are best addressed while handling projects and different problem-solving activities.

In a project, students learn how to take initiative and responsibility, build their confidence, solving problems in time, work in a team, communicate ideas and manage themselves more effectively. Learning happens only when they perform tasks on their own. Enriching teaching-learning activities with Project-Based Learning (PBL) provides an intentional and effective opportunity to integrate above personality traits in a disciplined manner.

3. Objectives:

a. To find practical applications of the concepts learnt in class.
b. To encourage students for interdisciplinary, industrial sponsored and real time projects
c. To transform theoretical concepts into deliverable real-life applications.
d. To develop inter personality skills, team spirit, leadership qualities

4. Practice:

Institute has developed its own PBL model to enrich the University Curriculum and make students learn through practical approach:

a) **Lab innovations**: In this activity, students develop their small innovative ideas. This helps them to implement their theoretical knowledge to be converted in small projects. This also helps them to build their focus for mini and major projects. Majority of students actively carry out these projects.

b) **Interdisciplinary projects**: Practical problems involve application of various disciplines of Engineering so institute encourages students to take interdisciplinary projects. Depending upon the requirement of project students from different disciplines form group in consultation with their guide. These groups" provide working solution to be utilized in real world problems. This also increases the student's capability to work in coordination with other department students, which helps them in their further career.

c) **Product based projects**: To make industry ready engineers, institute encourages taking product-oriented projects. Problem statement for these projects is formulated after rigorous field survey. Students identify actual societal need and provide readymade solution to them. They also get the financial and resource support from the external agencies, through which they get to know about financial management.

d) **Value Addition Programs**: To acquire the skills to carry over any of the project students require extra knowledge other than university syllabus according to the current needs. Institute offers specially designed VAPs to address these skills. At the end of every VAP evaluation is done only if students complete the given projects/assignments.

e) **Project Evaluation**: Students completing any kind of projects exhibits it at different competitions held at institute such as TechnoSinh, PRAYOG and DISTA. These projects are evaluated by experts from

industry and academia. These students are promoted to participate at higher level competitions outside institute.

5. Obstacles Faced and Strategies Adopted

As number of well-established medium or large scale industries is comparatively less in Solapur region, students face challenges to get sponsored projects. To overcome this, institute has signed MoUs with renowned nearby industries and some industries from cities like Pune. Under this, students get opportunities to take up industrial trainings, internships and subsequently sponsored projects.

Students from core branches lack somewhat in software skills which causes some challenge in taking up interdisciplinary projects. To address this issue, additional training sessions on programming and modern electronics are designed and conducted for such students.

6. Impact of the Practice:

PBL model initiated by the institute is successful as it has reflected in

a. Improvement of students in understanding implementation of concepts for problem solving
b. Achieving skills required for the professional practice

Students at Second Year and Third Year have come up with innovative ideas of implementing their theoretical concepts into practical solutions for small applications through their lab innovation activity and mini-projects. Value Addition Programmes have helped students to use modern tools and technologies in their project work. This has been an additional attraction for recruiters during placement drives, as it prepares students to take up professional assignments in future. Final Year Students have been able to define genuine problems to solve in their major projects. They look forward with confidence to solve industrial sponsored projects and interdisciplinary projects. Also, product based projects have been chosen by some students. Overall PBL model has helped students to develop the desired professional attributes like – problem solving approach, team work, sense of responsibility and leadership.

7. Resources required:

a. Teachers with PBL mindset to motivate students
b. Skilled teachers to train students on multidisciplinary aspects
c. Good relations with nearby industries
d. Well-equipped laboratories and workshops

Name of Institute :	N B Navale Sinhgad College of Engineering, Solapur (Maharashtra)
Year of Accreditation :	2018
Grade Awarded by NAAC :	**'A'**
Address :	Opp to Punyashlok Ahilyadevi Holkar Solapur University, Solapur-Pune National Highway, Kegaon, Solapur – 413255
Email :	principal.nbnscoe@sinhgad.edu
Website :	www.sinhgadsolapur.org
Contact Person :	IQAC Coordinator, iqac.nbnscoe@gmail.com

Best Practice No.2

Best Practice No.2: In-house Student Development Program

1. Title: Student Development Program

2. Objectives:

a. Assist students to develop their academic and career interests
b. Help students to achieve their short-term and long-term goals
c. Train students to improve Soft Skills and overall personality to match with industry needs
d. Organize pre-placement trainings, workshops, seminars for students
e. Provide resources and facilities for their career planning
f. Analyzing students skill sets by third party assessment

3. Context:

There is rigorous requirement for putting extra effort on training students as majority of students in institute are come from poor socio-economic background and they lag in following skills,

a. Presentation skills
b. Communication skill
c. Aptitude skills
d. Public speaking skill
e. Soft skill
f. Leadership quality

4. Practice:

To have effective training of students, institute has initiated following activities:

1. Student presentations: To improve student presentation, communication and public speaking skills institute provides platform from second year onwards where students deliver presentations on various topics. This activity is carried out in two phases:

a) Technical presentation: At second year, group of students gives presentation on any of the technical topic of their interest. They are free to choose this topic either from curriculum or recent trends.

b) Profile presentation: At third year, individual student prepares and present his/her profile in the class. Student is required to present self-introduction, goals, achievements and projects carried out, etc.

Student presentation helps them to increase their stage courage, confidence along with verbal and nonverbal skills.

2. Student training: To make students to face final interviews, institute takes efforts from first year itself which is monitored by TPO where departments help in smooth conductions of these trainings. This training module is carried out in four stages

a) Communication skill: Students at first year undergo communication skill training. A dedicated teacher is available to conduct these sessions. A separate language lab with required ICT facilities is available in institute.

b) Soft-skill: For second year students separate soft-skill training is provided by external experts, which helps students to improve their nonverbal communication and leadership qualities

c) Aptitude training: Third year students undergo aptitude training which has different modules as quantitative and logical reasoning. This helps students to prepare for aptitude tests required for placements and competitive examinations.
d) Pre-placement training: When students enter in final year they are trained on company specific modules which include soft-skills and aptitude training from corporate trainers.
To help institute, alumni also join their hands in this training program and share their expertise as and when required.

5. Obstacles Faced and Strategies Adopted

As most of students come from poor socio-economic background, students are not self-motivated to understand importance of these developmental programmes. To overcome this, the mentoring scheme at institute i.e. Teacher Guardian Scheme is used. Teacher Guardians allotted to every batch of students, conduct meetings and have one to one counselling of students. This helps in making students realise the requirements of professional world and need for putting extra bit of effort for overall development with technical knowledge.

6. Impact of Practice:

By implementing this In-house Student Development Programme institute has been able to have enhanced placements and participation of students in different competitions and challenges at local and national level.
It has been significantly observed that our alumni have shown remarkable progress at their respective workplaces. Most of them have received best employee awards for their contributions. It is due to the active participation of these alumni during their graduation days in overall student development activities.

7. Resources Required:

a. Training of teachers to take up these training programmes and well planned academic cum activity calendar at institute level.
b. Presentation and activity rooms equipped with necessary ICT facilities.

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Email :	principal.nbnscoe@sinhgad.edu
Website :	www.sinhgadsolapur.org
Contact Person :	IQAC Coordinator, iqac.nbnscoe@gmail.com