

Criterion 7-Institutional Values and Best Practices

Key Indicator - 7.2 Best Practices

7.2.1 Describe two best practices successfully implemented by the Institution as per NAAC format provided in the Manual

Best Practice- 1

Strengthening Outcome-Based Education (OBE) through Advanced ICT Integration in Teaching-Learning Processes at Acharya Institute of Technology

1. **Title of the Practice:** Strengthening Outcome-Based Education (OBE) through Advanced ICT Integration in Teaching-Learning Processes at Acharya Institute of Technology
2. **Objectives of the Practice:**
 - Enhance student learning outcomes by aligning teaching methodologies with clearly defined, measurable objectives through the use of ICT tools.
 - Foster active student participation and engagement using interactive, collaborative ICT platforms.
 - Equip faculty and students with the necessary ICT skills and knowledge to seamlessly integrate technology into the Teaching-Learning Process (TLP).

3. The Context:

Acharya Institute of Technology, with 9 eligible undergraduate programs 6 of which are NBA-accredited is strongly committed to Outcome-Based Education (OBE). This approach emphasizes developing specific skills, knowledge, and attitudes that students must demonstrate upon graduation. To support OBE, the institute employs student-centric methods such as project-based learning, flipped classrooms, case studies, quizzes, and peer learning, resulting in measurable outcomes. ICT integration, particularly through the in-house LMS ALIVE (Acharya Live), enhances content delivery, tracks student progress, and ensures alignment with OBE goals. The vision is

to create a tech-driven educational ecosystem that supports personalized learning and equips students for real-world challenges.

4. The Practice:

Implementing OBE with effective ICT integration at Acharya Institute of Technology involves a systematic approach that ensures technology supports the achievement of educational outcomes. The following steps outline this practice:

a. Establish Learning Outcomes

- Clearly define specific and measurable learning outcomes for each course or program, integrating ICT tools to enhance learning.
- Utilize ICT tools such as online simulators/compilers, Inhouse e-content, e-books, interactive whiteboards, and PowerPoint, to support these outcomes.
- Employ the ALIVE-LMS to organize and deliver course content and assessment (Quiz and Discussion forum) and ensure that all study materials are accessible and aligned with the learning outcomes.

b. Develop ICT-Enhanced Instructional Strategies

- Well-defined e-content development and deployment policy are followed.
- The instructional strategies are developed that leverage ICT to support learning outcomes as per the guidelines laid by academic council.
- Incorporate multimedia presentations and interactive content to facilitate deeper understanding of course materials.
- **Facilitate faculty in preparing videos lectures, like recording and editing. Train faculty with the required skills in preparing the video lectures. Provide access to the digital library for resources.**
- Implement flipped classroom models, where students engage with content online before class, allowing for more in-depth discussions and problem-solving activities during in-person sessions.
- Provide a variety of learning materials, including videos, readings, and quizzes, to cater to different learning styles and preferences.

- Utilize online assessment tools for quizzes, assignments, and exams that align with the defined learning outcomes and provide timely feedback to students.
- c. Facilitate Collaborative and Interactive Learning**
 - Promote collaborative learning using platforms such as Google Workspace, Microsoft Teams and Moodle.
 - Integrate discussion forums, social media, and video conferencing tools to facilitate communication and collaboration among students.
- d. Provide Professional Development for faculty**
 - Train faculty on the effective use of ICT tools and OBE Practices.
 - Offer regular workshops and online courses on using the LMS, digital tools and data analytics in education.
- e. Ensure Inclusivity and Accessibility**
 - Ensure that all students have access to the necessary technology and resources to participate in ICT-driven OBE.
 - Provide internet access to students and faculty on campus.
 - Students are provided with the user manual, and orientation on the ALIVE-LMS at the commencement of the programme to ensure the effectiveness of the TLP.
- f. Evaluate and Refine the Implementation**
 - Conduct regular reviews of student performance data, faculty feedback, and the effectiveness of ICT tools.
 - Refine teaching strategies and ICT tools based on the feedback collected from students and stakeholders.

5. Evidence of Success:

The strategic integration of ICT at Acharya Institute of Technology has significantly enhanced learning outcomes, increased student engagement, and improved the overall effectiveness of educational practices.

- Acharya Institute of Technology's dedication to quality education is demonstrated by the NBA accreditation of 6 out of its 9 eligible undergraduate

programs, highlighting the success of its OBE practices supported by ICT integration.

- The use of e-content (videos, study material) has enhanced student engagement, allowing them to interact with content at their own pace.
- The ALIVE virtual classroom platform ensured a smooth transition to online education during the COVID-19 pandemic, facilitating online classes and tracking individual progress.
- ICT integration in the Teaching-Learning Process (TLP) has progressively increased the number of student-centric practices.

The statistical report for ALIVE, the Learning Management System (LMS) at Acharya Institute of Technology, highlights the following key data:

- **Study Materials:** Over 1,800 materials are available, with over 10,000 files in the repository.
- **Assignments:** 465+ assignments created, with over 1,000 student submissions.
- **Online Exams:** 600+ exams conducted, with participation from over 30,000 students.
- **Quizzes:** More than 1,000 quizzes were conducted, with over 30,000 student attempts.
- **Question Banks:** 525 question banks were created, featuring over 15,000 questions.
- **Discussions:** 100+ discussion threads initiated on the platform.

6. Problems Encountered and Resources Required:

Challenges:

- Unequal access to technology and internet connectivity among students, leading to disparities in learning opportunities.
- Resistance from faculty and students towards ICT-driven OBE practices due to unfamiliarity with new technologies or a preference for traditional methods.

- Lack of skills and knowledge among faculty to effectively use ICT tools in alignment with OBE, with continuous professional development often being neglected.
- The need to upgrade to a more stable server to accommodate a surge in users.

Resources Required:

- High-speed internet access throughout the campus.
- Modern hardware, including computers and servers, to meet technological demands.
- Regular training programs and workshops to enhance educators' ICT skills and understanding of OBE principles.
- Updates to Acharya LMS features based on stakeholder feedback to support enhanced interactive learning.
- Budget allocation for purchasing and renewing software licenses and upgrading hardware.



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SOLDEVANAHALLI, BENGALURU - 560 107

Criterion 7-Institutional Values and Best Practices

Key Indicator - 7.2 Best Practices

7.2.1 Describe two best practices successfully implemented by the Institution as per NAAC format provided in the Manual

Best Practice- 2

Acharya Assessment and Training: A Comprehensive Pathway to Student Employability and Career Development.

1. Title of the Practice:

Acharya Assessment and Training: A Comprehensive Pathway to Student Employability and Career Development.

2. Objectives of the Practice:

At Acharya Institute of Technology (AIT), we prioritize equipping our students with the skills, knowledge, and confidence needed for successful careers through the following objectives.

- **Facilitate Career Development:** Guide students in identifying their career interests, strengths, and areas for improvement, helping them to make informed career choices.
- **Enhance Employability Skills:** Equip students with essential skills such as communication, problem-solving, teamwork, and adaptability, which are crucial for today's job market.
- **Provide Industry-Aligned Training:** Offer training programs that align with industry standards and requirements, ensuring that students are job-ready upon graduation.
- **Assess and Improve Student Competence:** Regularly assess students through various evaluation methods to track their progress and identify areas that need further development.

3. The Context:

In today's competitive and rapidly evolving engineering landscape, students face numerous challenges as they transition from academic life to professional careers or pursue higher studies. Acharya Assessment and Training program is designed to address these challenges by providing a structured and holistic approach that enhances student employability, providing a structured approach to enhance student employability, supports higher studies, fosters entrepreneurial skills, and promotes overall career development.

- **Employability skills:** The demands of the job market are constantly evolving, and engineering graduates need more than just academic knowledge to thrive. They must be equipped with practical skills, industry insights, problem-solving, Team-building and Leadership skills
- **Holistic Skill Development for Diverse Career Paths:** Acharya Assessment and Training focuses on holistic development, integrating technical skills, soft skills, and entrepreneurial thinking. This prepares students to pursue various career paths, whether they seek employment, higher education, or entrepreneurial ventures.
- **Preparation for Higher Studies:** For students aiming for higher studies, the program provides guidance on standardized tests (such as GRE, GATE, GMAT, TOEFL, and IELTS), research opportunities, and application processes. This support helps students prepare effectively for postgraduate programs, both in India and internationally, ensuring they are competitive applicants.
- **Entrepreneurship and Innovation:** The program fosters an entrepreneurial mindset by offering training in innovation, startup management, and business planning. Students are encouraged to think creatively, identify market opportunities, and develop the skills needed to launch and manage their own ventures. Workshops, mentorship from successful entrepreneurs, and access to incubation centres provide practical insights into the world of startups.

4. The Practice:

a. Practice for Employability

To support students' career aspirations, AIT offers a comprehensive training model starting from the **first semester**, preparing them for placement drives and industry demands. Pre-assessments, conducted online by partners like AMCAT and Cocubes a standard assessment for recruitment, categorize students into three skill bands (Green, Yellow, Red) based on their performance. Training is then customized to address individual needs, with assessment modules covering analytical reasoning, quantitative aptitude, employability skills, English, domain knowledge, and coding. A "Super 100" program supports high-potential students aiming for higher salary packages. Conducted online to assess students' current skill levels, AIT's training model is structured into three key phases:

1. Pre-Assessment Phase:

- Identifies skill levels and learning needs.
- Categorizes students into bands for customized training.

2. Training Phase:

- Provides tailored curriculum, updated every two years, designed by industry experts and Talent Acquisition Teams (TAT).
- Focuses on communication, problem-solving, technical skills, and soft skills.

3. Post-Assessment Phase:

- Conducted after each training year to evaluate the effectiveness of the training and track student progress.
- Measures knowledge and skills acquired, providing insights into readiness for career challenges.
- Post-assessment results are used to offer career counselling and job placement support, ensuring students are well-prepared for the job market.

b. Practice for Higher studies

Recognizing the importance of higher education in a competitive global environment, the program offers strong support for students pursuing postgraduate studies, research, or certifications. Key features include:

- Structured coaching for entrance exams like GATE, GRE, GMAT, TOEFL, and IELTS through the campus GRE/TOEFL nodal centre.
- Collaborations with foreign universities, leading to student exchange programs and opportunities for higher studies.
- Acharya IAS Academy provides coaching for civil service aspirants.
- Step-by-step guidance on applications, including SOPs, LORs, and resumes.
- Expert feedback on SOPs and LORs to highlight students' qualifications and motivations effectively.

c. Practice for Entrepreneurship

- The institute fosters entrepreneurial development through the Acharya Technology Business Incubation (TBI) centre, MSME nodal centre, IPR cell, and Entrepreneurship Development Cell (EDC).
- The AIT-EDC plays a vital role in cultivating a culture of innovation, encouraging students to explore unconventional career paths and empowering them to launch their ventures.
- Emphasizing an entrepreneurial mindset, the institute encourages creative thinking, and resilience, and views failures as learning opportunities. Workshops and seminars teach students the traits of successful entrepreneurs, such as risk-taking and problem-solving.
- To spark creativity, the institute hosts ideation workshops and hackathons, where students brainstorm, identify market gaps, and develop innovative solutions, focusing on idea validation, business model creation, and building a Minimum Viable Product (MVP).
- Potential student projects are curated for patent applications through the Acharya IPR cell approved by KSCST, with financial support and incentives provided.

5. Evidence of Success:

- **Improved Assessment Scores:** Post-assessment scores have shown an 85% increase compared to pre-assessment results, highlighting the training program's effectiveness.
- **Increased Placement Success Rate:** A systematic training approach has significantly boosted the placement success rate over the past five years.
- **Positive Student Feedback:** Students consistently report positive experiences regarding the training content's relevance, the support provided, and the program's overall effectiveness in preparing them for their careers.
- **Higher Studies Pursuit:** The percentage of students pursuing higher education and successfully passing competitive exams has risen to 7.5%.
- **Patents Filed:** A promising total of 51 patents have been filed over the last five years.
- **Start-up Incubation:** Acharya TBI has successfully incubated 12 startups.
- **Recognition and Funding:** The E-Yuva project won the Smart India Hackathon (SIH) 2023 and secured funding from BIRAC and Samsung.

6. Problems Encountered and Resources Required:

Challenges:

- **Resource Allocation:** Ensuring sufficient resources, including assessment tools, training materials, and qualified trainers, to support the training process.
- **Student Engagement:** Maintaining high levels of participation and motivation throughout the training and assessment phases.
- **Customization:** Continuously updating training content to meet diverse student needs and the evolving demands of the industry.

Resources Required:

- **Technological Infrastructure:** Robust online platforms for conducting assessments and tracking student progress.
- **Qualified Trainers:** Subject matter experts and industry professionals to deliver high-quality, industry-relevant training.



ACHARYA INSTITUTE OF TECHNOLOGY

Affiliated to Visvesvaraya Technological University, Belagavi
Approved by AICTE, New Delhi, Recognized by Govt. of Karnataka
and accredited by NBA (AE, BT, CSE, ECE, ME, MT)

- Assessment Tools: Comprehensive and validated tools for both pre- and post-assessments.
- Feedback Mechanisms: Systems for continuous monitoring and feedback to ensure the training remains aligned with industry standards.

Acharya Assessment and Training thus serves as a transformative initiative that prepares engineering students for diverse career paths, equipping them with the skills, knowledge, and mindset needed to succeed in a competitive global landscape.

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Best Practice -1

Strengthening Outcome Based Education (OBE) through Advanced ICT Integration in Teaching – Learning Process to achieve graduation outcomes.

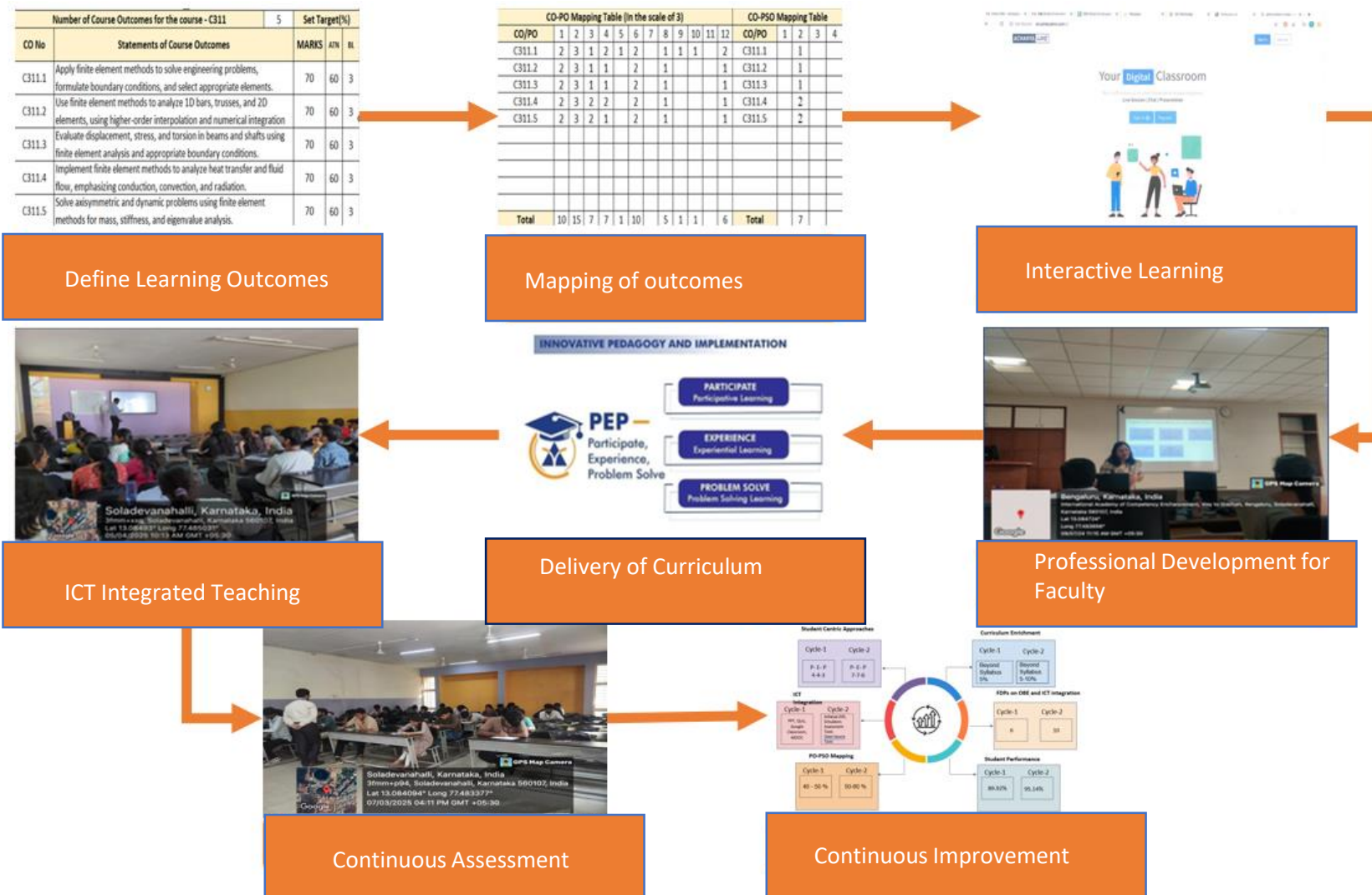
Objectives

- Enhance Student Performance and Learning outcomes
- Foster Active Student Learning
- Integrate Advanced e-Content and Digital Resources

Objective	Practice	Outcome
Enhance Student Performance	Continuous Assessment –online and offline	Increase in pass percentage and quality of results with more students achieving FCD.
Foster Active Student Learning	ICT-enabled active learning & project-based tasks, Interactive classes, LMS, assignments , quizzes	465+ assignments, 1000+ student submissions, positive feedback on teaching
Integrate e-Content & Digital Tools	Use of digital platforms, MOOCs, simulations.Enhanced digital learning resources	1,800+ assignments online, 10,000+ Online Study Materials, 30,000+ quiz attempts
Achieve CO-PO Attainment	CO-PO Mapping Focus Program quality and accreditation	6 of 9 UG programs received NBA accreditation

Best Practices-1

Strengthening Outcome – Based Education (OBE) through Advanced ICT Integration in Teaching – Learning Process to achieve graduate outcomes

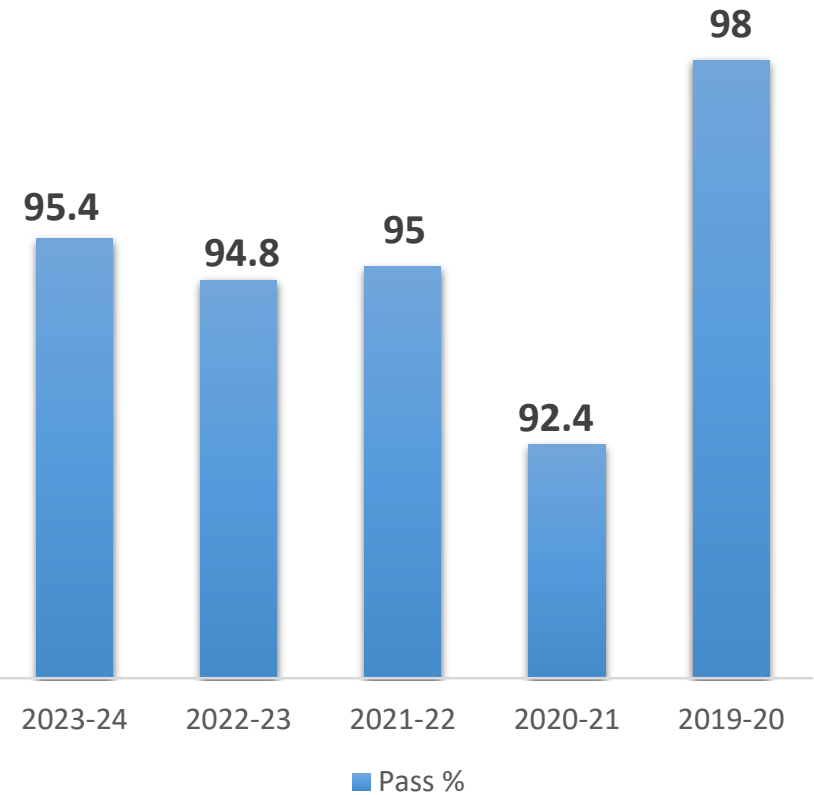


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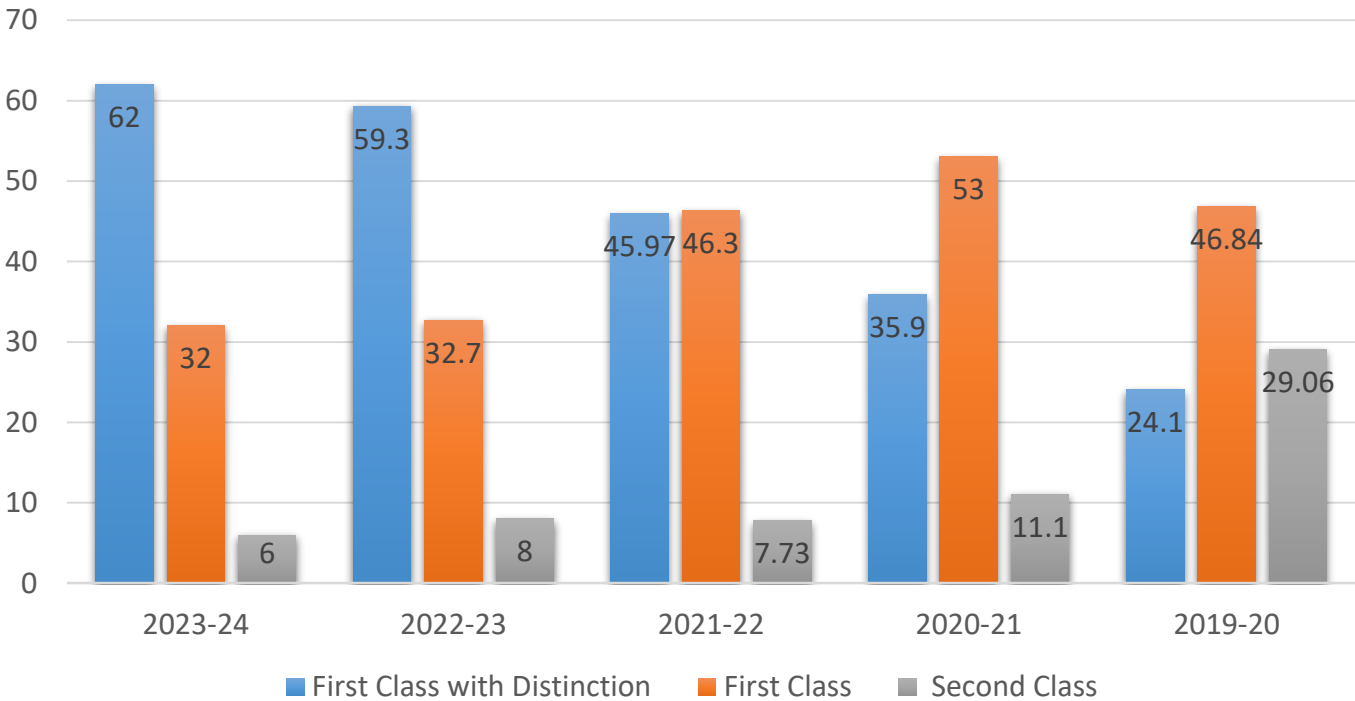


Best Practice -1 Evidence of Success –Student Performance

Pass Percentage



Result Classification (Percentage)

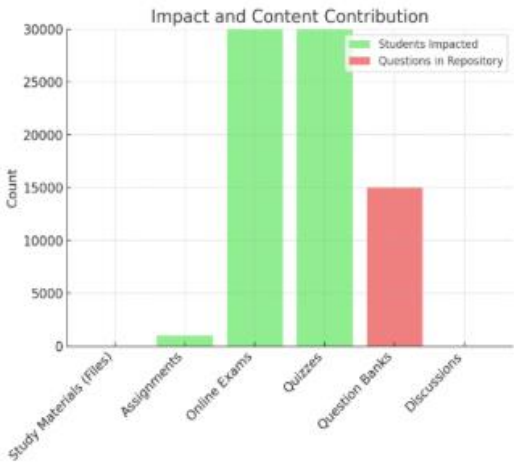
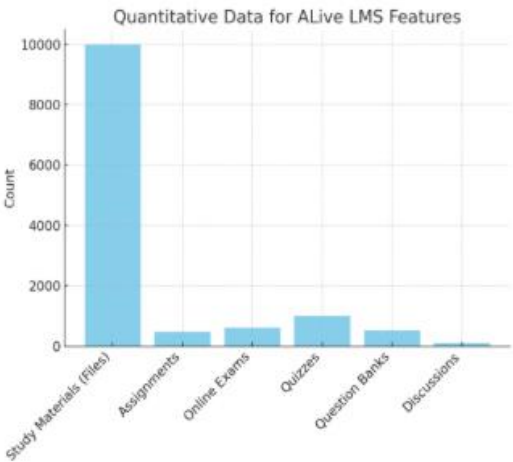
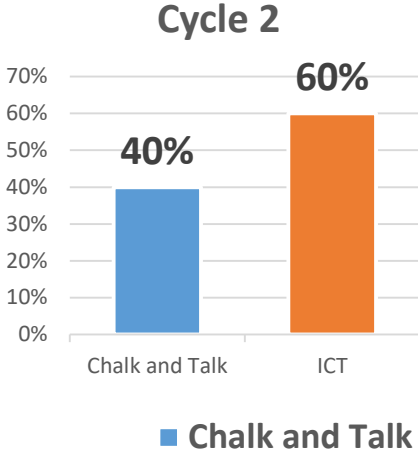
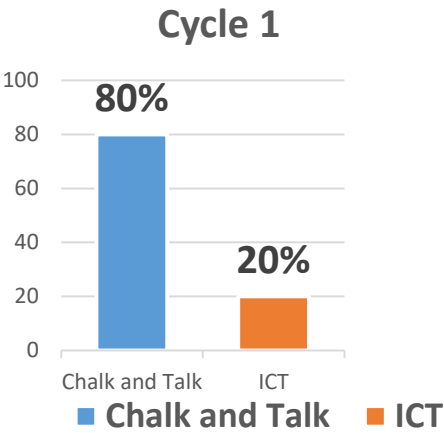


15 Gold Medals
Improvement in success index and Quality of results

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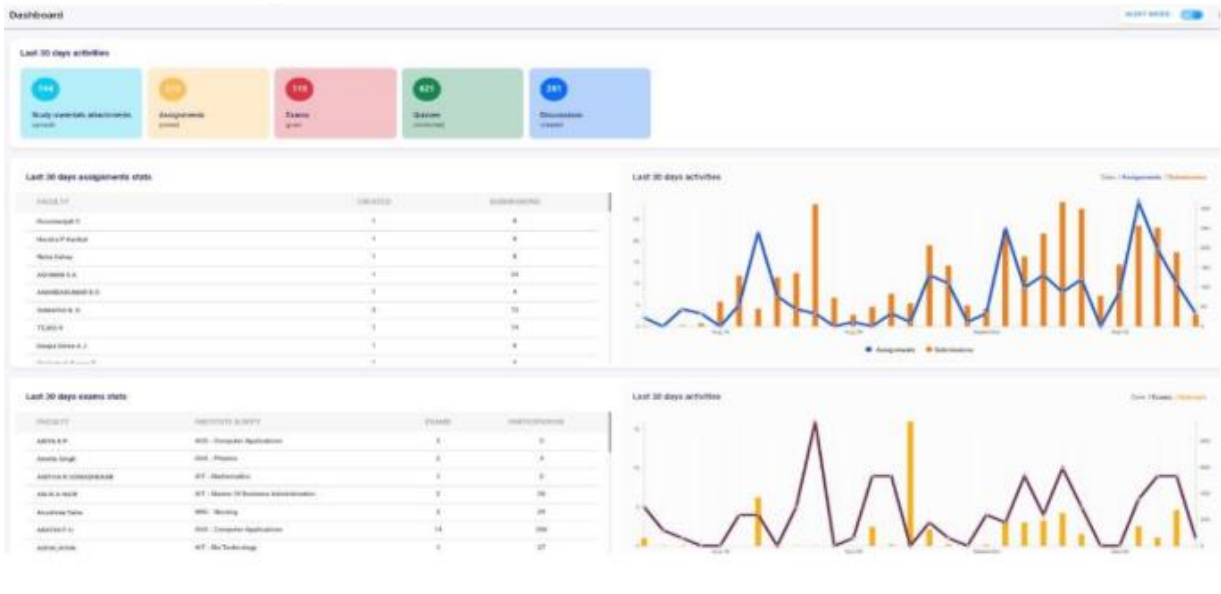


Best Practice -1 Evidence of Success-Student Learning



Assignment

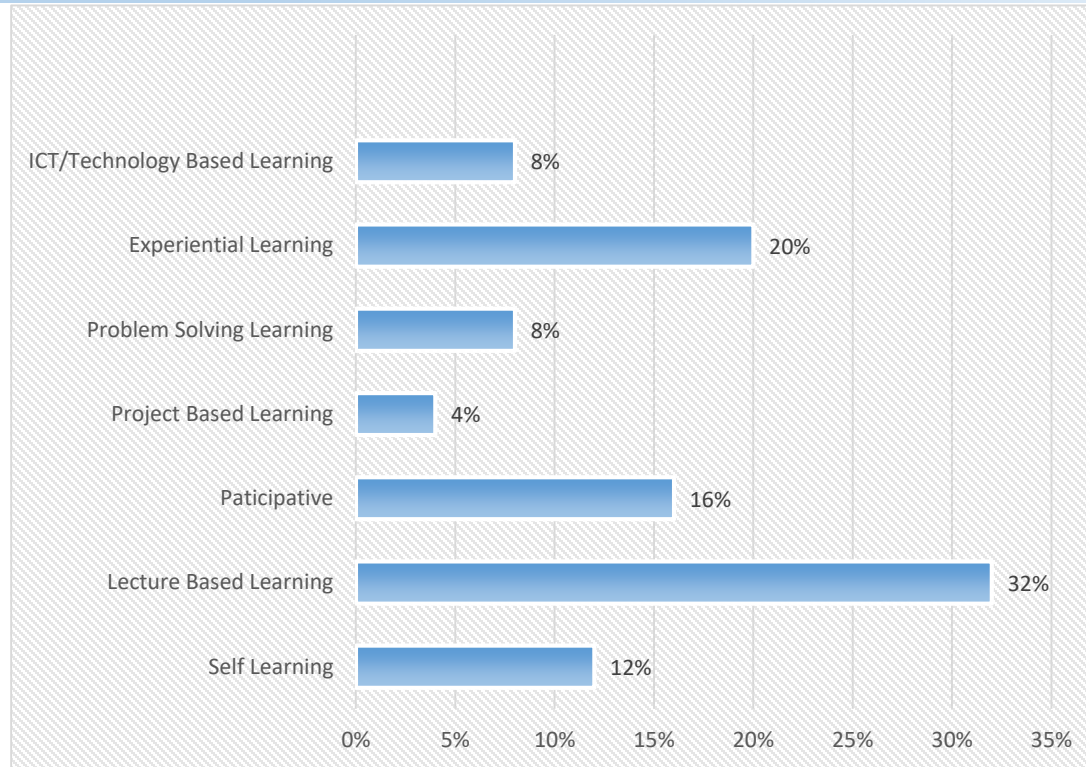
More than 465 assignments have been created, with over 1,000 student submissions.



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Best Practice -1 Evidence of Success-Advanced E-Content and Digital Resources



Platform	Purpose
Acharya LMS	Interactive and Collaborative Learning, Quiz, Repository, Online Sessions, e-content development
Simulators used for TLP	Matlab, Solidworks, ANSYS, Solid Edge V19, Cadem-CNC S/W,
Open Source Tools	Open CV, AutoCAD, Catia, Solidworks, Fusion 360, LTSpice, Multisim, Keil, Python Libraries, TinkerCAD, Proteus, HFSS, ModelSim, Wireshark & NS2, Eclipse IDE, VS Code
Assessment Tools	Alive, Moodle, Google Quiz, Kahoot, AICTE Parakh, MOOC.



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Best Practice -1 Evidence of Success -CO-PO Attainment

Program Outcome	Cycle 1	Cycle 2
PO1 - Engineering Knowledge	2.0	2.22
PO2 - Problem Analysis	1.9	2.02
PO3 - Design / Development of Solutions	1.6	2.03
PO4 - Conduct Investigation of Complex Problems	1.5	1.73
PO5 - Modern tool usage	1.5	2.20
PO6 - The Engineer and Society	1.6	1.80
PO7 - Environment and Sustainability	1.3	1.77
PO8 - Ethics	1.4	1.82
PO9 - Individual and Team work	2.0	2.21
PO10 - Communication	2.0	2.31
PO11 - Project management and Finance	2.05	2.12
PO12 - Life long Learning	2.1	2.33

Metric	Impact	
	Cycle 1	Cycle 2
Value added programs/MOOC courses	VAP=9 MOOC=0 Total students benefited= 8529 Percentage of students benefited= 38.66%	VAP= 89 MOOC = 462 courses Total VAP/MOOC courses = 565 Total students benefited= 11606 Percentage of students enrolled =55.67%
Projects/internships	18.13% (858)	62.88% (2803)
University Ranks	12 Gold medals	15 Gold medals
Pass percentage	89.92%	95.14%
Student Centric method	Limited adoption	Highly integrated
PEP	4-4-3	7-7-6
Curriculum Enrichment	Beyond Syllabus-5%	Beyond Syllabus-5-10%
Percentage of ICT usage in TLP	20%	60%
PO-PSO Mapping	40-50%	50-80%

Six out of nine eligible undergraduate programs at AIT have received NBA accreditation - **AE, BT, CSE, ECE, ME and MT**

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Best Practices - 2

Acharya Assessment and Training: A Comprehensive Pathway to Student Employability and Career Development

Objectives: Assess and Train for

Skill enhancement

Career Support

Employability	Pre Assessment Phase
	Training Phase
	Post Assessment Phase
Higher Studies	Coaching for Entrance Exam (CAT, IETS,GRE, GMAT)
	Acharya Civil Service Academy
Entrepreneurship	Acharya Technology Business Incubation (A-TBI)
	Innovation and Entrepreneurship Development Cell(IEDC)
	Acharya IPR Cell
	MSME Nodal Center





Best Practice 2 : Acharya Assessment and Training

Pre- Assessment

- Briefing
- Assessment
- Gap Identification & Analysis
- Customize Training Content

Pre- Assessment conducted before the training to gauge students current skill level and identify areas for improvement

Focus on Specific Areas

- Analytical Reasoning Test (ART)
- Quantitative Aptitude Test (QAT)
- Domain Test

Training

- Hands-on training
- Regular Practice Test
- Monitoring
- Continues Feedback

Training Model to students has been prepared for the future by embracing the advancements of Industry 5.0

Objective of the Training

- Develop key skills and knowledge
- Bridge the gap between academics and industry
- Promote continuous learning and improvement
- Boost Employability and Career Prospects
- Prepare for Internships and Placements

Post Assessment

- Briefing
- Practice Sessions
- Assessment
- Progress Made
- Action Plan for Future

Post-assessment: Conducted after each training year to measure students progress and track program effectiveness.

Objectives

- Demonstrate effectiveness
- Continuously improve
- Empower students
- Selection for Super 100

Progressive Training Curriculum

UG: Year - 1

- 1 Employability Skills: Quantitative Aptitude & Verbal Aptitude - Basics 24 Hours
- 2 Employability Skills: Quantitative Aptitude & Verbal Aptitude - Intermediate 24 Hours

UG Year - 2

- 3 Employability Skills: Quantitative Aptitude & Verbal Aptitude - Advanced 24 Hours
- 4 Employability Skills: Quantitative Aptitude & Verbal Aptitude 12 Hours
- Employability Skills: Domain Specific Training- 36 Hours

UG Year - 4

- 7 Interview Prep: Company-Specific Training
 - Crash Course on QA and VA •
- Company Specific Training Based on requirement

UG Year - 3

- 5 Employability Skills: Quantitative Aptitude & Verbal Aptitude- 12 Hours
- Employability Skills: Domain Specific Training- 36 Hours
- 6 Employability Skills: Quantitative Aptitude & Verbal Aptitude 12 Hours
- Employability Skills: Domain Specific Training- 36 Hours

PG: Year - 1

- 1 Employability Skills: Quantitative Aptitude & Verbal Aptitude - Basics 36 Hours (MBA) ,12 Hours (MCA)
- 2 Employability Skills: Soft Skills- 36 Hours (MBA) Soft Skills- 24 Hours (MCA) Advanced Coding (MCA)-36 Hours

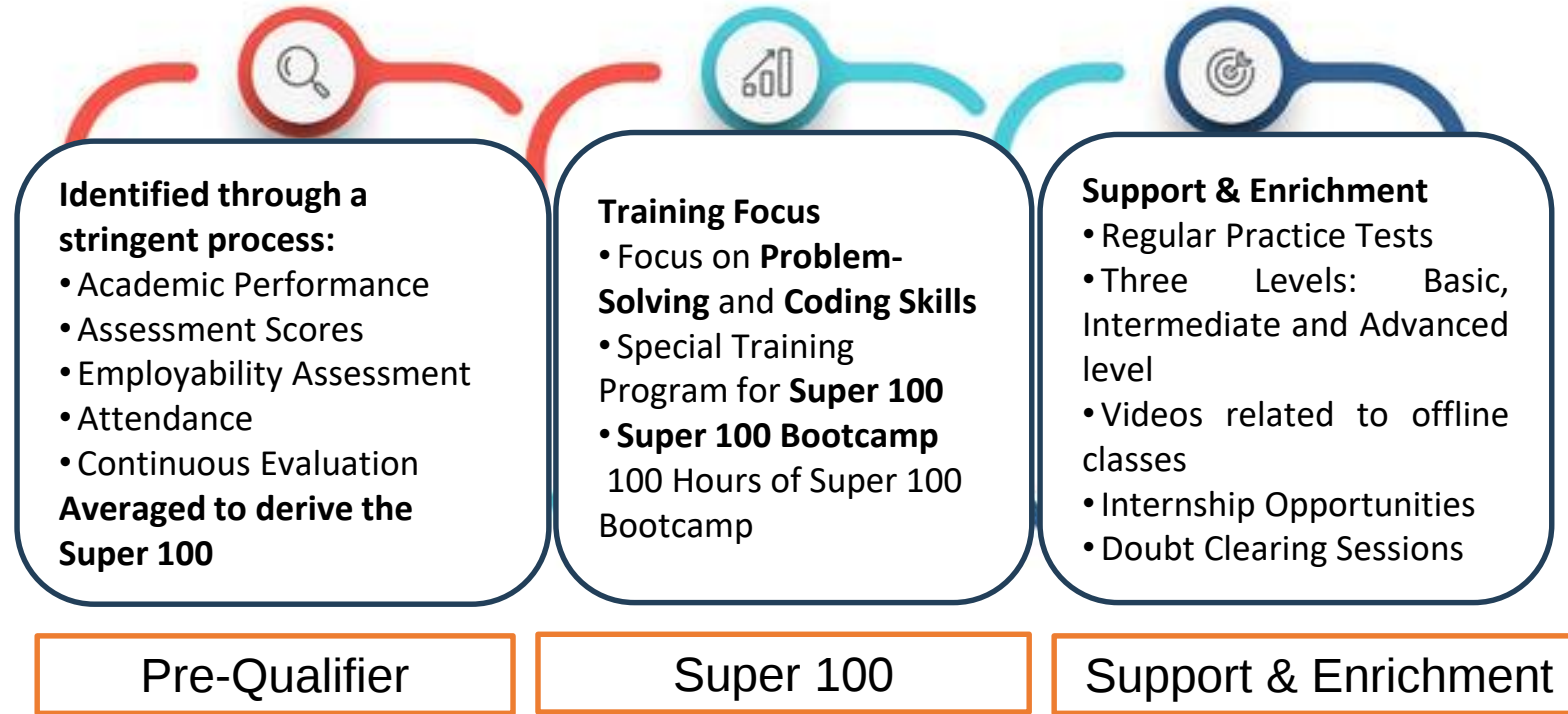
PG: Year - 2

- 1 Employability Skills: Soft Skills-36 Hours (MBA), Advanced Coding (MCA)-36 Hours
- 2 Employability Skills: CST- 36 Hours (MBA/MCA)





Acharya Super 100 Boot Camp:



Duration

- 50 Hours of Offline Training
- 34 Hours of Self-Paced Learning
- 16 Hours of Holistic Development

Focus

- Problem-Solving Skills
- Coding Expertise

Takeaways for Students

- Exclusive Tailor-Made Training
- Special Rewards for Selected Students
- Guaranteed Placement Opportunities
- Fee Waiver Based on Placement Packages
- Hands-On Coding Experience
- Bootcamp for Technical Interviews

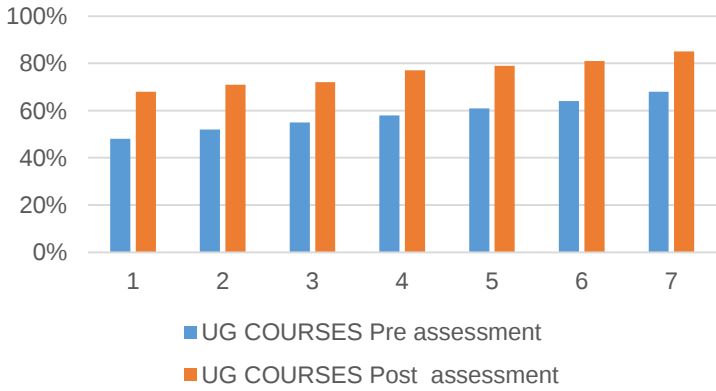
Assessment Score Improvement

UG COURSES		
Semester	Pre assessment	Post assessment
1	48%	68%
2	52%	71%
3	55%	72%
4	58%	77%
5	61%	79%
6	64%	81%
7	68%	85%

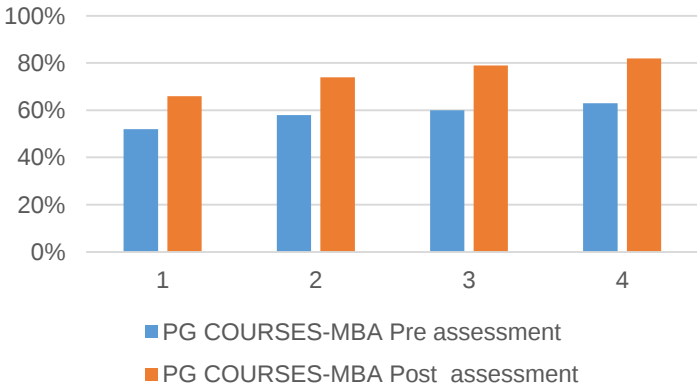
PG COURSES-MBA		
Semester	Pre assessment	Post assessment
1	52%	66%
2	58%	74%
3	60%	79%
4	63%	82%

PG COURSES-MCA		
Semester	Pre assessment	Post assessment
1	50%	64%
2	55%	69%
3	59%	69%
4	61%	84%

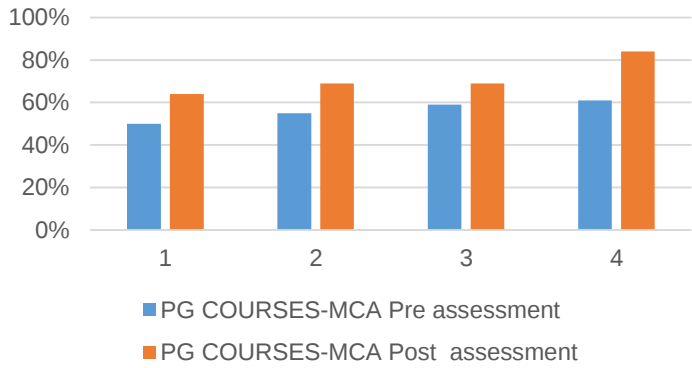
UG-Pre vs Post Assessment Scores Across Semesters



MBA-Pre vs Post Assessment Scores Across Semesters



MCA-Pre vs Post Assessment Scores Across Semesters





Industry Certified Specialization

AERONAUTICAL ENGINEERING
MECHANICAL ENGINEERING
MECHATRONICS ENGINEERING

SIEMENS

Specialization in Product Life Cycle Management (PLM)

AI & ML ENGINEERING
COMPUTER SCIENCE & ENGINEERING
INFORMATION SCIENCE & ENGINEERING
MASTER OF COMPUTER APPLICATION

EC-Council

Specialization in Cyber Security

CIVIL ENGINEERING
ELECTRICAL & ELECTRONICS ENGINEERING
ELECTRONICS & COMMUNICATION ENGINEERING



LARSEN & TOUBRO

Specialization in Advance Practice in Construction

AI & ML ENGINEERING
COMPUTER SCIENCE & ENGINEERING
INFORMATION SCIENCE & ENGINEERING
MASTER OF COMPUTER APPLICATION

ORACLE

IBM

Specialization in Cloud and Full stack

MASTER OF BUSINESS ADMINISTRATION

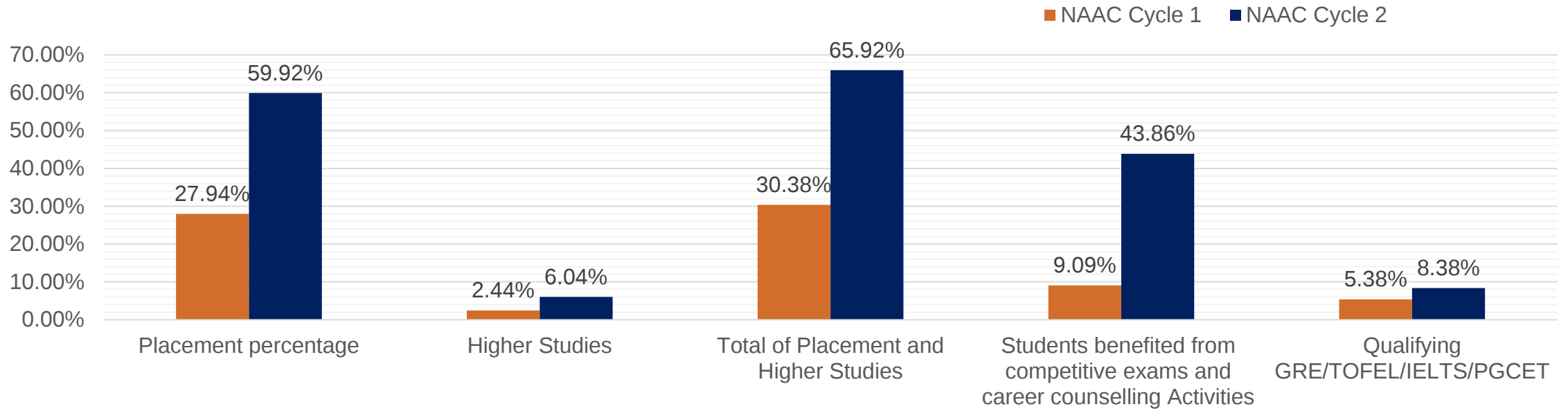
Specialization in Digital Marketing and Business Analytics

Microsoft

Best Practices-2: Evidence of Success- Career Support

Career Support:

Placement, Higher Studies & Competitive Exams



Entrepreneurship

-IPR & Patent Support – 51

-Innovation & Entrepreneurship Development Cell - 28 Activities-11 startups Incubated

-MSME Sponsored Projects- 30 Lakhs

Acharya Technology Business & Incubation

-MSME Idea Hackathon

-Annual Project Exhibition – Technotsava

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