Criterion7-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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Criterion7-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.

- 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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