Describe two best practices successfully implemented by the Institution.

INDEX

Any additional information:

Khammam Institute of Technology & Sciences ★ KITS ★ Ponnekal (V), Khammam (R), Kmm Dt.

PRINCIPAL

KHAMMAM INSTITUTE OF TECHNOLOGY&SCIENCES

Ponnekal (V), Khammam (R)-507170

Khammam (Dist.) T.S.

Best Practice-1

Estd: 2008

Sri Kavitha Educational Society's

KHAMMAM INSTITUTE OF TECHNOLOGY & SCIENCES

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BEST PRACTICE-1

ADD ON

PROGRAMS

IMPROVING EMPLOYABILITY THROUGH SKILL DEVELOPMENT

Format for Presentation of Best Practice

1. Title of the Practice

Improving Employability Through Skill Development

2. Goal

In an attempt to bridge the above gaps as well as enhance the employability of its graduates, KHAMMAM INSTITUTE OF TECHNOLOGY AND SCIENCES has actively been involved in the design and implementation of add-on programs across different engineering streams. Thefollowing are the educational objectives and expected outcomes of such add-on programs:

1. To expose students to industry culture and practices
2. To inculcate in students a flair for problem definition and build problem-solving capability
3. To provide hands-on training to students in currently used industry tools and techniques
4. Organized Hackathon

3. The Context

Despite best efforts at developing a curriculum for bring out professional engineers, a targeted and well-established approach towards bridging the gap between the talent pool and the demands of core engineering sectors still needs to be clearly defined. Attempts are being made in pockets to understand the industry need and address the same through add-on programs at the undergraduate level. However, the effectiveness of such programs critically depends upon thorough understanding the industry's needs and skill requirements and developing programs, in collaboration with the concerned industry sectors, in order to fill the gap. Educational institutions typically tend to work in isolation with the demands of the industry leading to engineering content delivery being mostly textbook oriented and traditional. Students hardly ever get to understand or be exposed to state-of-the-art developments in their respective fields.

4. The Practice

Administering an add-on program requires careful consideration of the Engineering curriculum already being delivered, the gaps in the curriculum that needs to be plugged to make the student industry-ready and the ability of the administering department to effectively bridge this gap. The following is the procedure adopted by departments in introducing an add-on program to bridge curricular gaps:

i. Review the academic curriculum and identify gaps in the content

ii. Define industry sector requirements and identify potential skill development/training programs/Certification to augment student capability

iii. Prepare a clear mapping of the curricular gaps with the proposed skill development program

iv. Identify available infrastructure with the department and propose additional facilities (if any) required (with budgetary requirements)

v. Identify faculty competency available in the department (if any) in the proposed area and/or propose faculty skill enhancement plan (with budgetary requirements)

vi. Anticipated intake, proposed course fee and viability of the programme

A Detailed Project Report covering the above activities along with the estimated budget, possible intake, and proposed course fee and repayment scope within 5 yearsis prepared by the department proposing to introduce an add-on program. The report of the department is reviewed by the central administrative team of the college chaired by the Principal. Upon approval of the proposed program, the department proceeds with implementation of the add-on program. The central administrative team is responsible for monitoring the effectiveness of delivery ofthe add-on programme and in ensuring that the stated objectives and outcomes are met while the departmental program committee, consisting of a team of faculty with relevant training, bears the responsibility for implementation and successful delivery of the program.

The college has put in place several add-on programs in collaboration with industry to bridge skill gaps. The course content for these programs are detailed based on discussions with the concerned industry and the individual delivery modules and their contents are finalized. The programs are delivered to the

students during their course of study at the undergraduate level typically beginning from the later half of their II year and ending in the first half of their final year of study. By the time they complete their B.Tech program, they also receive certification of completion of these industry-oriented training modules.

5. Evidence of Success

The college has so far started 7 such add-on programs some of which are given below:

1. Oracle Certified Java Programmer (OCJP): - This is certified by Oracle Corporation. Over 100 students from the Computer Science and Engineering department have the prestigious OCP certification

2. IBM:- This is certified by I B M Technology P V T L t d . The coursewas started in 2009 and till date, 160 students have completed the course. Of these, 41 students were placed in various MNCs on the strength of theircertification training

3. Amazon:- Amazon Academy has been set up in the college by training on design and deployment of applications

4. Hackathon - KHAMMAM INSTITUTE OF TECHNOLOGY AND SCIENCES has set up and organized every year the Hackathon in collaboration with JHUB & TITA in order to offer technical skill training to students ,Problem identification and find the solution continuously 36 in 17 SDGS(Sustainable Development Goals) training in entire program.

5. CRT Program

These and many other such add-on programs currently being administered in the college have given a big edge to the students in enhancing their employability. Many of these students easily get placed on the strength of their skill enhancement.

6. Problems Encountered and Resources Required

When applied practically, a few gaps exist between the proposed methodology and practical implementation. This is mainly because of the financial constraints as each department is permitted to work on a fixed budget which is generally revised for each academic year. Hence the need for procurement of auxiliary infrastructure to meet the industrial demand needs to be carefully planned and administered properly. To avoid this, measures are taken to anticipate the requirements so that resources can be not only being well maintained but also managed to enhance the purpose of skill development.

Apart from this, faculty has to be properly trained to justify the objective of the value added program by being flexible to the changes in the current trend. Should there be lack of pace with the contemporary versions of the technology, an aggregate overview of the package is lost. Faculty with suitable background is therefore sent for training at the respective organizations in advance to be able to handle the training programs.

7. Contact Details

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Best Practice-2

BEST PRACTICE-2

PARTICIPATIVE MANAGEMENT

Format for Presentation of Best Practice

1. **Title of the Practice**

Faculty Development

Objectives of the Practice: When faculties are motivated, energized, and capable, they can enhance the learning of the student and support his personal development. They are responsible for shaping the careers of the students. The underlying principles of faculty development are to motivate, energize and update faculty. The University shares with faculty about the changes in educational philosophy, new patterns of student behaviour, use of technology in the teaching-learning process, recent developments in subject knowledge, and emerging research horizons.

The objectives of faculty development are to:

- Bring out an awareness among the faculty about the global trends in higher education
- Adapt to new technology in the teaching-learning process
- Inculcate research skills and aptitude among faculty
- Explicate student behavior for improving the quality of teaching
- Transform a teacher into a competent facilitator

The Context: A well-groomed teacher can perform successfully and exceed the expectations of students. The learner centric philosophy of education and requirements of inexperienced faculty member who is yet to explore own teaching abilities often mismatch. Teachers for primary schools and for non-professional institutes undergo rigorous training; however, the same is not available for the professional education teacher, as it is desired to be tailor-made. Faculty development is a must to acquaint the faculty to institutional practices, to orient them to student centricity, to enrich the content, and to explore the research avenues. The training by experts provides them with an insight into the nuances of various processes; hence, faculty development is essential.

The Practice: The very purpose of faculty development is to prepare the teacher to meet the institutional requirements – academic and administrative, to enhance their stature on professional fronts, to adhere to the standardized practices in the learning-teaching activities, and to achieve the societal good. The various steps of the practice are as under:

Step 1: The training needs for faculty members were identified on the basis of the discussions and deliberations done through the Center for Quality Assurance and Academic Development (CQAAD) meetings at the university level with all Heads of the Institute and Internal Quality Assurance Cell (IQAC) at institute level. A survey is carried out to explore expectations from the faculty for classroom delivery. In addition, guidelines by regulatory authorities are also vetted.

Step 2: Faculty development programmes (FDPs) are developed based on the understanding of requirements of different professional fields in addition to the identified areas for improvement. The FDPs are designed to meet the faculty needs at different times of the career span. The programmes carried out by University are: Induction training, Orientation programme in the initial phase of the teaching career, discipline-specific training on regular interval to update the trends in the discipline, and research orientation programme. The faculty member is offered a blend of several modules, e.g., knowledge enrichment, student engagement, time management, communication, mentoring, leadership in classroom, team activities, articulation, presentation, research writing, etc.

Step 3: Programme schedule is designed based on the areas that require improvement.

Step 4: After finalizing the programme schedule, different experts from across the country are invited.

Step 5: During the training programme, the faculty are guided by experts in various areas. In induction training and orientation programmes, the faculty are mentored based on the classroom delivery and learning of general and discipline-specific skills. They are motivated and oriented to become a life-long learner. The faculty members introspect on the course content, course delivery methods, teaching-learning strategies, pattern of evaluation, and map each component to recognize the flaws, if any.

Step 6: All the programmes have a feedback mechanism to know whether they have met the expectations and delivered as per the defined programmed outcomes, wherein the participants describe course effectiveness; achievement of learning outcomes, and feedback for the improvement.

Step 7: Faculty are continuously evaluated. Further, at the end of the programme, they take the test of learning. Finally, they are assigned to a mentor wherein they have to complete the assigned work for which they are evaluated by the mentor.

Evidence of Success: Faculty vitality is the main ingredient to enhance the professional education and competence of students. Enriching the faculty vitality in key domains of teaching, assessing, research, professionalism, and administration is well-known to significantly improve the educational environment and to increase the academic performance of learners. FDPs have been considered as a significant intervention for fostering the knowledge and professional skills of faculty. New Education Policy 2020 also emphasizes the role of faculty development in improving the quality of education. Prime Minister Shri ND Modi has rightly said: "Acche shikshak acchchi shiksha."

The well-planned FDPs at Khammam Institute of Technology and Sciences have been conducted since the very beginning. However, we have conducted them systematically in the last five year.. Faculty feedback indicates their enhanced level of confidence. The training programmes have shown smooth floating of a novice teacher in his classroom handling, approach to guiding students, improved personal communication, and inclination to research. The same is reflected in students performance.

In a unique case of paradigm shift in the mode of teaching from offline to online during the Covid-19 pandemic, Faculty Development Programmes were conducted to equip the faculty with all the desired skills that are required for increasing the effectiveness of online teaching. The result of this intervention was visible in the performance of faculty as well as students.

Problems Encountered and Resources Required: Faculty development programmes are for the benefit of both the faculty and the institution. The content of training interventions varies on many aspects and the major constraint experienced is resource faculty availability. The faculty need to invest time in evolving various techniques for subject-specific delivery.

Though the practice has a lot of merits, there are certain challenges in developing faculty:

- To bring the faculty members at the same level through the training modules.
- To have experienced and qualified trainers
- To assess the learning and to evaluate training programme effectiveness.

Best Practice 3

Title of the Practice: Adopting Outcome Based Education for the effective teaching-learning process

Objectives of the Practice: The objectives of the OBE are as follows:

a. To define outcomes of learning accurately and precisely.
b. To organize the curriculum, instruction, and assessment right from the beginning to make sure that the learning outcomes are achieved.
c. To develop a culture of continuous improvement.

Outcome based education (OBE) is a student-centric instructional model that focuses on measuring student performance through outcomes. At the University, we use Revised Bloom's Taxonomy for implementing the OBE. Its focus is on evaluation of outcomes of the programme by stating the knowledge, skill and behavior a graduate is expected to attain upon completion of a programme. In the OBE model, the required knowledge and skill sets for a particular programme is predetermined and the students are evaluated for all the required outcomes during the course of the programme. We adopted this approach way back in 2013 and now it has matured.

At the Khammam Institute of Technology and Sciences, the teaching-learning and assessment methods are learner-centric and all the outcomes are defined and are made tangible. Instruction is given and learning outcomes are measured. If there are any lacunas, corrective actions are taken; thus, ensuring Continuous Quality Improvement (CQI).

The Context

Traditionally, higher education in India has been examination-oriented. The students were expected to pass examinations and get a degree. There was a poor link between education and employability. As a result, a large number of graduates had poor employability. Students would mug up information delivered in a course without acquiring skills to apply it in a real-life setting. Grades were more important thanlearning. Students thus focused on grades, not learning.

Input-based model of education focused on delivery of information, infrastructure, and resources. Accordingly, higher education institutions depended on institutional activities and faculty behavior. Studentswere seen as empty vessels to be filled with information. It did not help students and they were dissatisfied with education. Student centricity was conspicuous by its absence.

Outcome based education (OBE) questions the traditional model of education and puts the student at the heart of all educational activities. It emphasis on what students do in the classroom and what they would be able to do after undergoing a programme. The teacher is a facilitator who supports each student to achieve his learning outcomes. Consequently, all educational activities – curriculum, delivery, assessment, and co-curricular activities – have undergone a 180- degree change. In the OBE, the focus of education is on dealing with real-life problems and student support.

The development of programme learning outcomes is the first step in outcome-based education. It decides curricular, co-curricular, and extra-curricular activities. It also decides the choice of the courses and the syllabus of each course. In the same vein, assessment activities are related to course learning outcomes, hence to programme learning outcomes. Another important feature of the OBE is continuous improvement through Assurance of Learning.

The Practice: As a part of the OBE implementation, graduate attributes programme objectives and programme outcomes are determined for a programme. Further, every course in a programme has course learning outcomes. Each course helps achieve one or two programme learning outcomes. Rubrics for different assessment components are prepared in advance. They are shared with students to apprise them about the nature of assessment for a course.

We use both direct and indirect methods of Assurance of Learning (AoL). The direct methods of the AoL are: End-Semester Examination, Multiple Choice Questions, Lab Exam, Class Presentations, Assignments, Projects / Group Activities, and Simulation / Animations /Model / Chart Making, Case Study, etc. Besides, indirect assessment methods are also deployed. These are: Student Exit Survey, Student Satisfaction Survey, and Employer Survey. Assessment Rubric is formed for each course for the AOL wherein the course outcome attainment level, in terms of percentage and grading, is predefined. At the end of the semester, the same is confirmed by closing the loop. At the end of the completion of the programme, programme attainment level is also determined.

Evidence of Success: As a part of the implementation of the OBE, programme design, delivery, and assessment have been changed. Any teaching-learning method is as effective as the faculty member using it. In other words, a teacher should not only focus on what to teach but also on how to teach it. All teachers are familiarised with the OBE approach. Various constituent institutes conduct short and long faculty development programmes, focusing on the different facets of the OBE.