



Implementing Outcomes-Based Education at JSPM's RS College of Engineering

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Customer: JSPM's Rajarshi Shahu College of Engineering

Website: www.rscocoe.org

Country or Region: Pune, India

Industry: Education—Higher education institutions

Technology Partner: InPods – Learning Platform

Customer Profile

JSPM's Rajarshi Shahu College of Engineering implemented a continuous program improvement process as a part of its transition to Outcome-Based Education (OBE), and used an innovative learning platform optimized to measure and improve learning outcomes

Partner Profile

InPods Inc. is a company based in Bellevue, USA with its India office in Pune. InPods offers a cloud-based Learning Enhancement Solution to make learning more interesting, interactive, intuitive and instructional to facilitate applicable learning improvement and measurable outcomes.

For more information, visit www.inpods.com

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The Challenge:

JSPM's Rajarshi Shahu College of Engineering (RSCOE) in Pune, India has successfully managed its programs for 15 years with good results and was accredited as part of an accreditation system which was an input/output-based, as opposed to outcomes-based.

After several rounds of internal reviews a primary focus on improving learning outcomes was determined to be more beneficial. The idea was to embark on such a journey informed by learning-data. It was decided to implement this change with a goal of building a closed-loop system which could be guided and informed by learning outcomes data relative to stakeholder's objectives. When the National Board of Accreditation (NBA), a regulatory body in India, became a member of the Washington Accord, it changed its accreditation process to OBE; giving a good framework to re-design the teaching and learning process.

There were multiple challenges while embarking on a significant cultural and change management process in the organization. The following three challenges are worth elaborating.

Data challenge:

One of the toughest challenges was to make sure that the learning platform collects all possible evidence of student learning via high quality assessments without increasing the faculty workload. This should benefit teachers and students from the dynamic, actionable insights at all levels rather than getting overwhelmed with the massive amount of assessment data involved.

Moving away from Rote Learning towards active learning:

Another challenge was to find ways to empower every student to take charge of his or her self-learning by providing online access to learning resources and opportunities to engage in a self-paced, adaptive, and personalized learning process.

Empowering faculty members to proactively help at-risk students:

Due to increasing class sizes, rich variety of student demography and compressed schedules dictated by university timelines, teachers were not able to get actionable insights into who was struggling with the concepts and who was not. Teachers needed a system for instant analytics based on formative-assessments, combined with the ability to assign appropriate mastering opportunities to the right group of students for self-improvement.

The Approach:

Overall process followed for this project involved several steps:

- **Designing the new teaching and learning process for better outcomes and identifying the role of technology in implementation.**
- **Working with strategic technology partner for solution architecture and project planning.**

The institute started looking for a strategic partner, who could work closely with them, one who had expertise in coming up with solution architecture, and one with proven track record in handling complex projects.



- **Faculty Development Program for OBE and effective use of learning technology**

More than 200 faculty members were trained on the fundamentals of outcomes-based education and provided with a technology framework that could help them implement the ideas, immediately after their training. These two objectives had to be creatively combined by working with the technology partner InPods.

- **Tagging all learning and assessment assets with outcomes and curriculum mapping**

The features of InPods were used to track progress towards the goal of ensuring that all programs, courses and learning assets were tagged and mapped appropriately before the start of the semester.

- **Implementing Assessment Plan via learning platform optimized for outcomes analysis**

InPods worked closely with the institution to ensure that some of their unique assessment plan structure imposed by the affiliated university system was represented in the platform for appropriate outcomes analysis data.

- **Engaging in topic level, course outcome level and program level outcomes assessment**

The institute aggressively implemented blended learning and online portal-based assessments. Since all the assessments were appropriately tagged to outcomes and Bloom's taxonomy, this automated the process of instant outcomes analysis and roll-up from section level to courses and from

course level to programs.

- **Reflecting on the outcomes assessment data to come up with an improvement plan**

With automation of assessment data using the learning platform, faculty members could focus on specific set of students to improve their performance.

The Impact:

The impact of this project was multifold:

Assessment Directors:

Assessment Directors now enjoyed enhanced transparency and consistency among assessment directors through this project. They were able to reduce the faculty workload and benefit from real-time insights while managing the continuous process improvement of student outcomes and program outcomes across all the programs of the institute.

Program Coordinators and Department Heads:

Department Heads managed the curriculum and course design, assessment planning, and the outcomes analysis process across all courses and programs offered in the department. The dashboards for the department heads for regular review of program, course and individual student learning outcomes were found useful. This gave them an insight into the outcomes data to drill-down for root-cause analysis and identify areas that needed immediate attention.

Faculty Members:

Faculty members were able to reduce the manual grading work and spend more time engaging with students. They could provide personalized feedback to students and help them learn from each other. The

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platform gave them insightful analytics in real-time to help at-risk and low-performing students with specific improvement plans.

Students:

Students got a better view into the gap between their performances relative to the desired learning outcomes. This gave them an opportunity to engage in self-learning beyond curriculum and beyond the walls of the classroom. The platform helped students to engage in collaborative learning and benefit from direct personal feedback from teachers and their peers.

The "Aha!" Moment:

During the visit of the accreditation committee, the head of the department proudly switched to the online, live system of InPods. He demonstrated the data and outcomes analytics dashboards to articulate the program design, program and course outcomes mapping and the various assessment tools used to measure outcomes. He also demonstrated the process in which data gets collected, reviewed, and included for further roll up. Using InPods he was able to drill-down from program outcomes to the performance of individual students on specific learning outcomes which contributed towards the program outcomes. He explained how the student was empowered to view the same data on his or her performance and engage in a self-learning process.

The entire project involved sifting through a massive amount of data and converting it into insights so that program, course and individual student outcomes could be improved.