

Technical Education in India: 102024 Student Success: Which Support Systems Work?

Background/Context/Key Challenges



Regardless of how rigorous the admission process is, many students who pursue higher education are often unready to deal with the transition process. Some must move far away from their villages in order to attend school, others must grapple with an English-language only medium of instruction, and yet more experience significant knowledge gaps between what they learned in secondary school and the new curriculum.

Whatever the challenges, it is important that institutions have support programs in place to help students succeed, both academically and socio-emotionally. This is critical in maintaining the caliber and reputation of the institution, and more importantly, it helps ensure that students are confident in their ability to lead productive lives post-graduation.

Despite the benefits of such programs, some institutions may not have fully realized the potential of them, and continue to experience less than ideal transition rates between first and second year. This is when most dropouts take place, as some students begin to decide that college just is not meant for them. The purpose of this case study is to share characteristics of effective support programs that have been developed by a number of TEQIP institutions.

Why TEQIP?

For institutions that are part of the Government of India-World Bank [Technical Engineering Educational Quality Improvement Program](#) (TEQIP II), now in its second phase, TEQIP II has brought the issue of poor transition rates to the forefront.

TEQIP II required all institutions to complete an Equity Action Plan (EAP) that outlines how they plan to assist lower performing students. The EAPs were developed under a [guidance brief](#) that offers suggestions on the types of interventions that could be implemented.

In order to determine which interventions were most successful, field visits were carried out in August 2015 to seven TEQIP-supported institutes with consistently high transition rates, as reported in the TEQIP management information system (MIS), and as recommended by the [National Project Implementation Unit](#) (NPIU), the body that has been implementing TEQIP II. Of the institutions, two are NITs, three are government-aided and two are private unaided colleges.

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Lessons for Other Institutes

Many institutions across India have enacted a number of support programs for students who have been identified as “weak”. At all of the institutions consulted for this case study, these students are generally identified through three channels:

- 1) Failing a certain number of exams related to their field of study
- 2) Failing other diagnostic tests administered by the institution in other subjects
- 3) Observations by faculty members of poor performance

Once certain students are classified as “weak”, there is often a bombardment of services made available – professional counseling, remedial and summer courses, mentorship – to name a few. While this blanket approach appears reasonable, it does not necessarily improve student performance, and often dilutes the efforts and resources of the institution. The most effectual programs had the following characteristics:

Inclusive Mentorship – Offer Support to All Students

The majority of the institutions visited for this case study indicated that peer-to-peer mentorship and tutoring seemed to work best, since students are likely to feel most comfortable with other students. This does not discount the importance of faculty mentors, who play an integral role in observing and monitoring student progress and serve as guides throughout students’ higher education experience.

At VNIT, the EAP coordinator modeled their mentorship program after the one at IIT-Bombay, and then adapted it to fit their school’s needs. In the VNIT model, senior student mentors are trained, and all first year faculty members are also given a student to mentor. If struggling students still have trouble, they are also offered the opportunity to take remedial classes, also led by older students, not faculty, or summertime courses.

NITK – Surathkal adds a small, but meaningful twist to their program: all first-year students regardless of performance are assigned to an older peer mentor, and students are not explicitly labeled as “weak” students. Mentors are recruited based on their interest in becoming a mentor and assigned 15 students each. Student mentors seem to take pride in their role. As one mentor explained, “It helps me learn the subject even better by teaching, and it also helps with placement.” The expectation was not that all students would access their mentor, but rather, that they could if they wanted to. In addition, to provide even more structure, NIT – Surathkal designed their peer mentorship program to be continuous; first year mentorship concentrated on core courses; for second years, more broad-based themes, and for third years, the attention moves to communication skills and other industry important traits like entrepreneurship.

Interviews with students indicated that they felt very comfortable with their peer mentors, and received good advice from them, not just on academic matters, but also on personal issues. Students remarked, “it’s like talking to a friend”, “sometimes it’s hard to find faculty

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to talk to, but it's always easy to find your mentor", and "we can call them anytime to share any problems we have."

This was also an important distinction: that administrators and faculty members were able to recognize the difference between students who struggle because of personal reasons versus those who struggle due to academic ones. A peer mentorship program is a good way to address both.

Though mentors should be recruited based on their interest and commitment, at NITK – Surathkal they are also paid a small stipend. However, there are also non-monetary incentives that institutions can employ. For example, GH Raisonni provides incentives for both high performing and lower performing students. For instance, for high performing students, the institution gives them additional textbooks and invites them to participate in Board of Governors' meetings. Another low-cost incentive can be providing complimentary snacks or meals during peer mentorship get-togethers, as students often grow weary of hostel food.

Some subtle but essential elements to these high-impact support programs include the widespread knowledge of such services across campus and the mix of formality and informality. As the administrators at VJTI declare, "Students have the choice to decide whether or not they need these services, but we believe in rehabilitation, not expulsion."

An Open Access Campus

Since the field visits were conducted during a regular academic day, courses were underway and students crowded the halls and common areas of the various colleges, institutes, and universities. This was a welcome sight, as their energy permeated the atmosphere.

The openness, with both space and time, at each of these institutions was quite striking. At many of the institutions, such as ICT – Mumbai, faculty members made themselves available after lecture hours, academic and computer labs were left open late, and open spaces were provided for students to congregate and study together.

In fact, at ICT – Mumbai, specific classrooms were dedicated to open study hall hours, where students were encouraged to leave their mobile phones and other devices at home or hostel, in order to remove all distractions. Faculty members were also available during these times to answer any questions.



At BMS, many of the classrooms have inexpensive webcams installed to document lectures. Students can then access the videos later if they want to review certain content. Even if an institution does not have an intranet system, they can still distribute videos using public Cloud-based services such as Google Drive. Many times, students themselves are the ones

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to come up with inventive solutions. At ICT – Mumbai, some students were learning how to use a scientific calculator, so they made a YouTube video tutorial to help others.

Creating these types of spaces for students to collaborate and access resources allows for more natural peer-to-peer exchange, and promotes a more flexible learning environment.

Ultimately, if the lights go dark and all of the labs are locked once courses finish, students may feel more isolated and discouraged from seeking help. Making physical spaces, and people, available, can make a big difference in boosting student satisfaction and achievement.

Fostering School Spirit

A less tangible, but significant thing that institutions can do is to encourage camaraderie amongst students. What does this mean exactly? Most institutions have student clubs and associations, isn't that enough?

While student clubs and associations are great ways for students to engage in extracurricular activities, they are a bit different from an overall affinity for the institution. Clubs often bring together individuals with similar interests, and people can self-select for their own preferences. "School spirit" is more about treating students as valued alumni the minute they set foot on campus.

One relatively easy way to build relationships and goodwill amongst students and faculty is to host a first year orientation. Many of the institutions visited had some type of welcoming for new students, PESIT has a "collegifest" where freshers get to know seniors, BMS has different orientations for culture clubs and academics, other institutions have both institutional-level, department level or hostel orientations to set expectations for students. These orientations can also be led by older students, removing the burden from administrators and faculty. Creating positive, friendly bonds between students also helps overcome younger students' fears of ragging, and more reason for older students to discontinue such behaviors. Hence, taking the time to familiarize students with the campus, existing student body and faculty is another cost-effective and meaningful gesture that can lead to smoother student transition.

Another way to prioritize the student experience is to give students a voice. At PESIT it is compulsory for students to evaluate their professors, and their feedback is taken into consideration for additional class instruction – the top-voted faculty are usually the ones chosen to lead those courses, which is seen as a reputational advantage. The Head of Institution also reviews the evaluations and discusses them with faculty during their performance review.

Though "school spirit" can seem somewhat esoteric, it is easily developed through considering the needs of students, and coming up with ways to help them feel more connected to the institution. This can also reap future benefits by creating a strong alumni base for future industry contacts, BoG members, benefactors and more!

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Conclusion

For institutions looking to improve their first to second year transition rates, it may not take a complete overhaul of existing support programs to make a difference. Sometimes all it takes is a little refinement – and maybe even soliciting feedback from students about the types of programs that they would like to see or giving them the freedom to set up their own informal ones.

As illustrated by the various interventions mentioned above, it does not necessarily take heavy financial investment to improve student retention rates. Rather, it is an emphasis on creating a diverse and accessible learning environment for students to help them develop good academic and personal habits, with guidance from more mature peers and faculty members.

For more information about TEQIP II, please visit: <http://www.npiu.nic.in/> or write to npiuwb@hotmail.com.

Methodology

Data was collected from interviews (based on a list of standard questions) and observations from students, faculty and administrators from seven institutions in the states of Maharashtra and Karnataka. The following institutions (A-Z) were visited:

- BMS College of Engineering (BMS) – Bangalore (Government Aided)
- GH Rasoni College Of Engineering – Nagpur (Private Unaided)
- Institute of Chemical Technology (ICT) – Mumbai (Government Aided)
- National Institute of Technology, Karnataka (NITK) – Surathkal (NIT)
- PES University (PESIT) – Bangalore (Private Unaided)
- Veermata Jijabai Technological Institute (VJTI) – Mumbai (Government Aided)
- Visvesvaraya National Institute of Technology (VNIT) – Nagpur (NIT)

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