



**CAPSL: An Initiative of the Thapar Institute Towards
Continuous Improvement of Outcome -Based Education**

Dr. Rajesh Khanna Dr. Dwarikanath Ratha and Dr. Ajay Batish

doi: 10.48047/ecb/2023.12.si4.1169

Abstract: In higher education, the quality of education is determined and dependent on the quality of teachers, which has become a cornerstone of any education system. Faculty development is central to the issues of quality and excellence. The training of all academic staff and on-going professional development has been instrumental in establishing the culture necessary for implementing the outcome-based education in the institute. TIET has set up a Centre for Academic Practice and Student Learning (CAPSL) to expose the entire faculty to in-house learning modules, including e-learning, to hone pedagogical skills. The entire training program is divided into two certificates Viz: New Directions program (NDP) certificate and the Advanced Development Program (ADP) in teaching and learning certificate. The training programs have been developed based on core needs identified in an Indian context and adapted to reflect the specific academic needs of the Thapar faculty. The institute has recognized key academic staff across different disciplines with specific interest and knowledge of different aspects of higher education pedagogy and got trained them at Trinity from January 2018. Continuous professional development modules and certified programs are delivered by faculty trained from Trinity College Dublin. This paper presents the journey of CAPSL from handholding to becoming independent and now training faculty of other institutes also.

Introduction:

Education is the single most important instrument for social and economic transformation. Attracting and incentivizing talented individuals to pursue teaching as a career is critical to ensure a continuous flow of qualified teachers to meet the expanding needs of higher education [1]. Education is a powerful instrument for social and economic transformation, and it is essential to have qualified and motivated faculty members to provide high-quality education. This higher education system focuses only on the domain (subject) knowledge of the faculty. It does not focus on the teaching-learning process, pedagogical content, and its various tools, which are very vital to increase the quality of learning experience in the different educational programs. So, the traditional learning methodologies have failed to get the most out of learners [2]. The traditional model of higher education is evolving to an Outcome Based Education (OBE) system due to factors such as increasing international competition, a surge in privately-funded institutions, changing demographics, an increasingly mobile population, new tech-savvy students

who expect customized learning, and the emergence of new commercial providers [3]. Hence Faculty development for Outcome -Based Education (OBE) system in higher education is the best way for institutes to achieve their goals. Teachers are essential to the success of any educational program, and great teachers can help students improve and discover their talents. Teachers are the foundation of any education system, and the quality of education is closely tied to the quality of teachers. In higher education, improving the quality and excellence of education is largely dependent on faculty development [4].

To ensure the highest level of academic achievement, teaching proficiency, research achievements, and overall leadership ability, it is imperative to bolster the expertise and skill set of teachers so that they can provide efficient and superior education [5].

At higher education institutions, special attention is given to bringing in gifted professionals who can take up teaching as a vocation. Inadequate hiring practices tend to overlook important factors such as pedagogical content and teaching-learning processes. A critical piece of fostering academic excellence and innovation is faculty development [6]. To this effect, mandatory induction programs are set to be carried for the motivation and sensitization of faculty to adopt learner-centered approaches, integrate ICT into their teaching and learning practices, and create new assessment tools for higher education. It is essential that Faculty Induction Programmes encompass the four types of development: **personal, instructional, organization, and professional** [7]. Personal development can involve interpersonal skills, career growth and life planning topics; instructional skills includes designing and developing courses as well as utilizing instructional technology; the organization skills will focus on how to enhance the institutional atmosphere to facilitate teaching; while professional skills advancement works to support faculty members in fulfilling their many roles such as teaching, research and service [8]. Such actions are intended to better equip teachers professionally so that effective yet quality learning can be delivered effectively. Overall, higher education institutions need to prioritize faculty development to ensure academic excellence and innovation in teaching and learning [9]. Therefore, newly recruited faculty should undergo a Faculty Induction Programme after their appointment in higher education institutions [10].

Faculty Induction at TIET:

It is evident that to meet global education demands, a well-planned in-service teacher education system is necessary to prepare an efficient generation of teachers. Therefore, in 2016, TIET implemented a major contemporization program mentored by global partners to become a globally acclaimed institute. One of the strategic parts of the contemporization program was designed to equip teachers with the knowledge of higher education in India and global perspectives. This was one of the priority actions identified by the Institute for improving the professional capability and performance of teachers to deliver effective and quality learning [11].

Under the contemporization program, TIET set up a Centre for Academic Practices and Student Learning (CAPSL) to train all of its faculty members in innovative and transformative approaches to teaching in collaboration with Trinity College Dublin. The training program called the New Directions Program (NDP) focused on delivering a research-inspired, outcome-based

educational experience to students at all levels [12]. The program's objective was to motivate and train faculty members to excel in their teaching by shifting from teacher-centric to student-centric learning. The NDP focused on professional development through various modules, showcase events, Community of Practices (COP), expert sessions, and more.

After completing the NDP module, the Institute identified important academic employees from many disciplines who had a particular interest in and expertise of various aspects of higher education pedagogy, sent them to Trinity for further advanced training in January 2018. Faculty members who completed the advanced modules became trainers for trainee faculty members.

Programs offered by CAPSL TIET:

CAPSL offers two different certificates for faculty members to improve their teaching skills. The first is the New Directions program (NDP) certificate, and the second is the Advanced Development Program (ADP) in teaching and learning certificate. These training programs are designed to provide continuous professional development to faculty members. Moreover, they will become knowledgeable concerning University policies and regulations, basics of governance, as well as administrative duties. The faculty with training from Trinity College Dublin deliver approved programs and modules for ongoing professional development. The training programs were created based on the fundamental requirements found in the Indian context and were modified to take into account the unique academic requirements of the Thapar faculty. The culture required for the implementation of outcome-based education has been established in large part through the training of all academic staff and ongoing professional development.

A. New Directions Program (2016-Present):

The basic objective of this new direction program is to motivate and train the faculty members of various Departments to excel in their teaching by shifting from Teacher-centric learning to student-centric learning. TIET teaching staff from numerous Departments including engineering, computer science, mathematics, biotechnology, and management have taken part in the program. The program familiarizes teachers with the fundamental aspects of teaching and learning, instructional methodologies, assessment, evaluation techniques, and the implementation of ICT in a classroom setting. The New Directions program provides a 'foundation'-level exposure to university teaching and learning in areas such as curriculum design, student-centred learning, assessment and feedback, the outcomes-based approach, and evaluation of teaching. NDP also covered topics such as flipped classrooms, collaborative learning, case approach, usage of technology, professional ethics best practices sharing, and advancements in related fields of study.

Communities of Practice (CoPs) have enabled the sharing of best-practice between the participants. Participants submitted an assignment describing and reflecting on a teaching innovation they implemented in their teaching. CAPSL also facilitated group poster development sessions. A Show Case event is held at the end of each year of the program, which includes a poster 'parade', panel discussions, and selected speakers.

In the first three batches after completion of the New Directions Program, the interested faculty members were also sent to Trinity College Dublin for further learning of advanced modules. These faculty members who have completed the advanced modules become the trainers for the trainee faculty. Twelve TIET Teaching Fellows have been hosted by CAPSL at Trinity for a total of 18 weeks. The Teaching Fellows have completed our Special Purpose Certificate in Academic Practice (SPCert) and a ‘Train the Trainers’ program, as well as working on projects areas of Teaching & Learning of particular interest to them and/or of value to TIET. The Teaching Fellows have all returned to TIET and are facilitating the current New Directions Programme and other professional development programs in Teaching & Learning, e.g., seminars, stand-alone workshops, Communities of Practice, Peer Observation network, and capstone projects, etc. This has enhanced the sustainability of the professional development of TIET academic staff in Teaching & Learning at TIET.

A total of 429 faculty members had successfully completed the New Directions Program, from 2016 to 2022. The distribution of the New Directions Program cohort by gender and cadre (from 2016 to 2022) are given in Figures 1 and 2. Faculty from all cadres have participated in these new direction programs. A total of 40 professors, 96 Associate Professors, and 293 Assistant/Lecturers have qualified the NDP, as shown in figure 1. Approximately 75% of the faculty members have been men, and 25% have been women. The number of female faculty members who qualified for NDP has increased in each year.

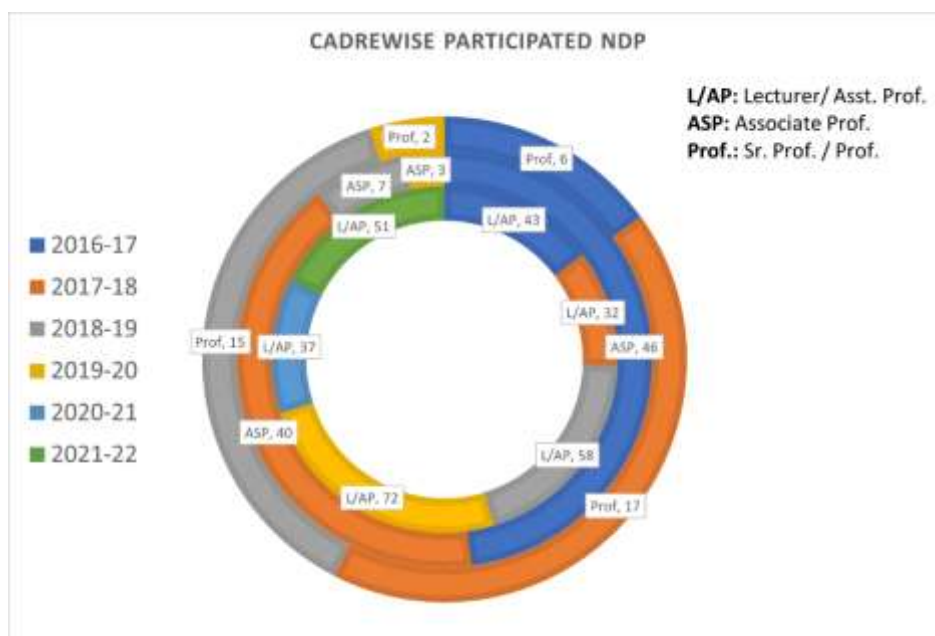


Figure 1: Cadre -wise distribution of faculty completing NDP

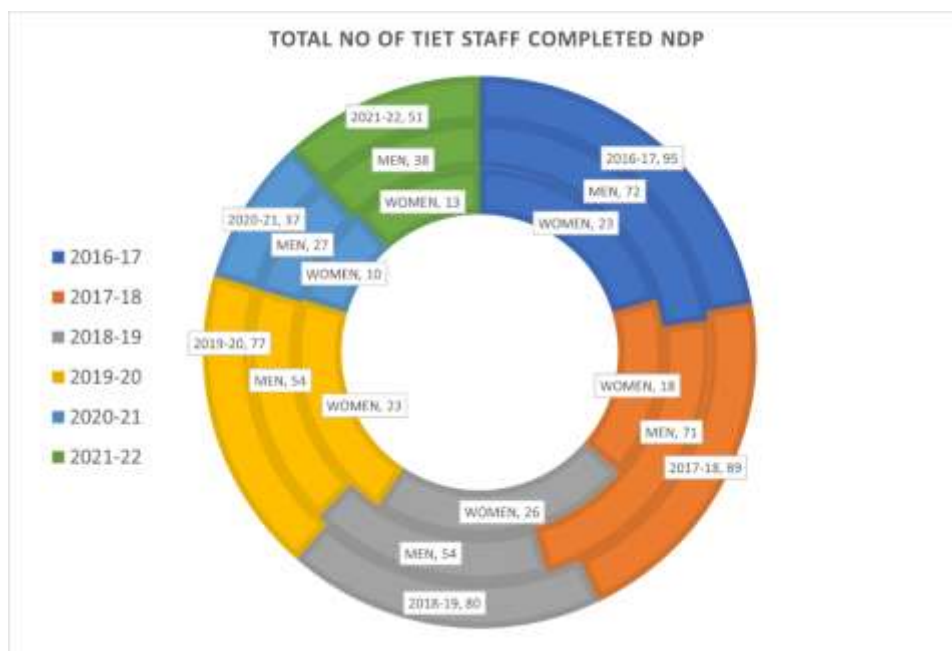


Figure 2: Gender -wise distribution of faculty members

Participants in this program are expected to implement a teaching innovation and reflect on their experience in an assignment. The goal of this assignment is to encourage faculty to think creatively about their teaching practices and to share their experiences with others in the field. By requiring participants to reflect on their teaching innovation, they are prompted to think deeply about what worked well and what could be improved in their approach. All assignments were graded and the best one are awarded distinction. The year -wise distribution of faculty members who have obtained distinction in the NDP program is shown in figure 3.

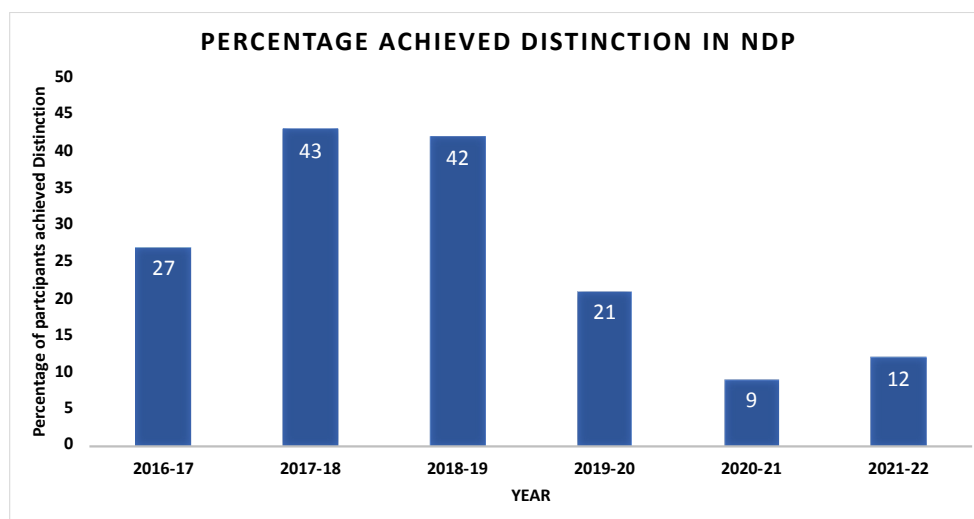


Figure 3: Number of distinction holder's year wise

Additionally, there are group poster development sessions facilitated by CAPSL, and a Show Case event held at the end of each year, which includes a poster parade, panel discussions, and selected speaker's presentations. The group poster development sessions and the Show Case event provide opportunities for participants to share their innovations with others, receive feedback, and learn from the experiences of their peers. An example of few posters designed by faculty is given in figure 4

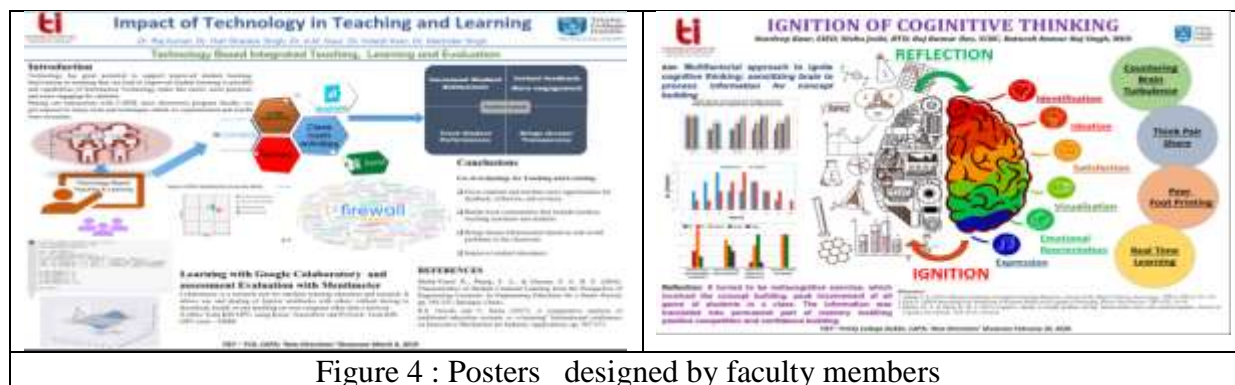


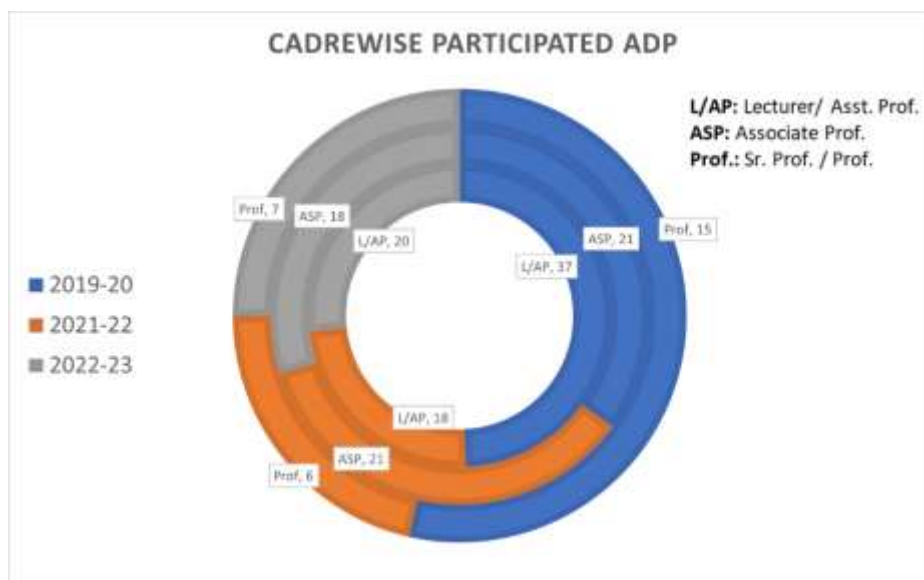
Figure 4 : Posters designed by faculty members

B. Advanced Development Programme in Teaching & Learning (2020-present):

TIET staff who had finished the New Directions program were encouraged to further hone their teaching and Learning abilities at a deeper level through the Advanced Development Programme. This program offers a professional qualification in academic practice for faculty in TIET and is designed to facilitate lifelong learning and help maintain high -quality practice throughout their careers. It encourages faculty members to select their own professional development agenda in academic practice and allows them to develop and evidence their academic practice, knowledge, and values throughout their careers at times that are appropriate to them. The Course is based on the premise that everybody educating our students in TIET should be committed to and supported in achieving an excellent student learning experience. In ADP, five modules were offered

- Assessment for Higher Level Abilities of Bloom's Taxonomy
- E-Content & Authoring Tools
- Team work and collaboration
- Design and development of e content
- Teaching Philosophy Statement

Each module in the program consisted of 2 master classes and ‘theory into practice’ workshops. 163 faculty members, who have completed the NDP program have completed the ADP program, as shown in figure 5. To the assessment of ADP Participants were asked to submit an assignment that was designed to apply to the disciplines and constructed to focus on the application of theory into practice. Assessment is both formative and summative, focusing on knowledge, application, skills and competencies, and reflection and evaluation



C. Impact of Faculty Development Programs:

The faculty of Thapar University has always exerted an important role in the development of teaching and learning practices. The university has fully adopted New Directions as a strategy for teaching innovation, professional development, and curriculum design.

After the implementation of the new direction program, a survey was conducted among Thapar University staff who completed the New Directions program facilitated by CAPSL to inform the continuing professional development of teaching and learning. The survey gathered information on demographics, pedagogical strategies, classroom assessment techniques, evaluation of teaching, limitations to implementation of new techniques, confidence in implementing new techniques, the impact of New Directions on teaching, contribution of New Directions toward teacher development, usefulness of Communities of Practice, willingness to contribute to professional development, and facilitation of staff development activities by Thapar University.

Data from the survey were collected through a self-administered online questionnaire, which was distributed to all the participants of the New Directions program. The data were analyzed using descriptive statistics. The program has been successful in changing the approaches of 89% of respondents to teaching to a great or reasonable extent, and 85.5% of respondents felt that the program contributed to their development as a teacher to a great or reasonable extent. The program has helped staff to ground their teaching in theory and various practices highlighted in the New Directions workshops, such as the use of think-pair-share and obtaining in-class feedback. This has led to a shift in attitude toward and engagement with students, bringing them more into the teaching and learning process. The ability to be more involved and engaging with students, as well as higher levels of motivation, satisfaction, open-mindedness, and confidence, have all been mentioned by other members of staff. The effect of Communities of Practice (CoPs) on teacher development is also covered in the work. Participating in CoPs gave respondents (79% of them) the chance to talk about problems with coworkers and exchange ideas, which they felt to be extremely or somewhat valuable.

However, some suggestions were made that CoPs should be set up with fewer people with more of a disciplinary focus, and that they should be held on a voluntary basis to improve motivation to attend. There were also concerns that CoPs simply became a forum for venting frustrations. Both interdisciplinary and disciplinary CoPs have their place and are not mutually incompatible.

The survey found that 75.5% of staff members were willing to help organize such activities, while 57% were willing to lead them. The respondents also felt that recognition for their participation in these activities could be incorporated into the promotion criteria, although some felt that this was not necessary. In addition, some respondents suggested that a reduction in workload in other areas would facilitate their involvement in professional development related to teaching and learning (T & L). In summary, the survey found that a majority of staff members were willing to participate in staff development activities and suggested ways to incentivize and facilitate their involvement.

It was also found that active learning strategies, classroom assessment techniques, and feedback on teaching are frequently used, which is a positive development. However, some limitations were noted in implementing these techniques, primarily due to the belief that they cannot be applied in large classes. The extensive syllabus material, time restrictions, and onerous workloads were also mentioned as problems. It was suggested that program- and course-level curriculum reviews and adjustments be made to address this, with an emphasis on decreasing content and investigating different strategies including flipped classroom methodologies.

Lack of infrastructure and technological assistance may make it difficult to deploy innovative teaching methods, which might reduce learning outcomes. Students must also be open to adjusting to new teaching and learning methods and become accustomed to them. It was recommended that Thapar students who had experience with these methods at TCD may speak with other students about their own experiences. Thapar students should be exposed to these methods in their first year of college in order to make them standard. Through extra training, opportunities for collaboration with colleagues, and experience, one might gain confidence in using new strategies.

Conclusions:

In this paper, we have discussed about the value of faculty development in higher education and how it might raise standards of instruction. To provide pedagogical training for its academic members, the Thapar Institute of Engineering and Technology established the Centre for Academic Practice and Student Learning (CAPSL). These programmes can assist educators in bettering their instructional strategies and eventually increase the learning opportunities for their students by encouraging a culture of innovation and cooperation. The CAPSL programme has been effective in educating professors and giving them the tools they need to deliver high-quality instruction. This essay comes to the conclusion that initiatives like CAPSL are essential for ensuring the standard of higher education.

Ultimately, to ensure the quality of higher education, efforts must be made to draw in and reward talented individuals who want to become teachers, as well as to adopt outcome-based

education systems and faculty development initiatives. The effectiveness of the CAPSL programme in educating faculty members and giving them the tools they need to deliver high-quality instruction is evidence of how important these initiatives are. A start in the right path towards reaching this goal are initiatives like CAPSL.

CAPSL has grown and developed along the way, from providing assistance to becoming a stand-alone training facility for faculty members. In addition to training faculty members at Thapar, CAPSL has grown to include training faculty members at other institutions. Its growth is evidence of the program's success and the high calibre of the training that CAPSL offers. Its success has been crucial in ensuring that the faculty at Thapar and other institutions has the abilities and knowledge required to offer their students a high-quality education.

Acknowledgement:

The assistance provided by Mr. Manoj Arya in preparation of graphs are greatly appreciated.

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