Impact of Faculty Development Programmes on Teaching Effectiveness in Higher Education Institutions: A Study of Colleges in Nagpur City

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Abstract: *In order to improve teaching effectiveness and faculty skills in higher education, Faculty Development Programs (FDPs) are crucial. The current study looks at how FDPs affect Nagpur City college faculty members' ability to teach effectively. Using a standardized questionnaire, 50 faculty members provided main data for the study. Data analysis is done using statistical methods like Pearson correlation and descriptive analysis. The results show a strong positive correlation between teaching performance and faculty development programs. Regular and well-planned FDPs enhance teaching abilities, creative methods, and overall academic success, according to the study's findings.*

Keywords: Faculty Development Programmes, Teaching Effectiveness, Higher Education, and Faculty Development.

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Introduction

Higher education is important for the growth of people's knowledge, abilities, creativity, and professional competencies as well as for the socioeconomic advancement of society. Since faculty members are in charge of creating learning experiences, implementing cutting-edge teaching strategies, conducting research, and assisting students in achieving academic and professional greatness, their performance has a significant impact on the quality of higher education. Faculty members must constantly refresh their knowledge, instructional skills, technology competencies, and research capacities in this quickly evolving educational environment.

FDPs have become a key tactic for improving faculty members' teaching skills and professional development in higher education institutions. FDPs are organized programs for professional and academic growth that aim to enhance teaching strategies, topic knowledge, research abilities, curriculum building, assessment methods, and the efficient use of technology in the classroom.–These programmes provide opportunities for faculty members to interact with experts, exchange ideas, learn new approaches, and adapt to changing requirements in the education sector.

The demand for ongoing faculty development has grown as a result of technological improvements, shifting student expectations, globalization, and legislative changes like the National Education legislative (NEP) 2020. In addition to imparting topic information, modern educators are required to promote critical thinking, creativity, experiential learning, and digital learning strategies. As a result, consistent involvement in FDPs is now crucial for enhancing instructional efficacy and upholding academic standards.

The ability of faculty members to support meaningful learning through efficient teaching strategies, classroom management, student involvement, assessment procedures, and the incorporation of cutting-edge teaching resources is referred to as teaching effectiveness. Strong topic knowledge, communication abilities, flexibility, and the capacity to foster an interesting learning environment are all characteristics of an excellent teacher. It is anticipated that FDPS will improve teaching performance and strengthen these competencies.

Faculty members from different colleges in Nagpur City's higher education institutions are progressively taking part in FDPs that are arranged by academic institutions, government organizations, and universities. These programs concentrate on topics like innovative pedagogical techniques, curriculum creation, research methodology, digital teaching tools, outcome-based education, and accreditation procedures. However, systematic research is needed to determine how well these programs work to improve teaching performance.

Despite the fact that faculty development programs have been the subject of several research, it is still necessary to comprehend how FDPs affect the efficiency of instruction at the local institutional level. Faculty members' opinions and experiences at Nagpur colleges might offer important insights about the efficacy, applicability, and useful results of such programs.

Therefore, this study attempts to examine the impact of Faculty Development Programmes on teaching effectiveness among faculty members of higher education institutions in Nagpur City. The current study aims to determine if involvement in FDPs significantly improves teaching practices, evaluate faculty opinions of FDP results, and determine the relationship between FDPs and teaching effectiveness. The study's conclusions might aid academic institutions in creating faculty development plans that are more successful and improve the standard of instruction in higher education.

Objectives of The Study

- To assess the efficacy of faculty development programs among Nagpur City's higher education institutions' faculty.
- To evaluate how faculty development programs affect college instructors' ability to teach.
- To examine the connection between faculty development programs and the efficacy of instruction in Nagpur City's higher education institutions.

Hypotheses

H_0 (Null Hypothesis):
There is no significant relationship between Faculty Development Programmes and Teaching Effectiveness among college faculty in Nagpur City.
H_1 (Alternative Hypothesis):
There is a significant relationship between Faculty Development Programmes and Teaching Effectiveness among college faculty in Nagpur City.

Review of Literature

Mendonça and Gómez-Galán (2018) discussed how the professional development of university professors is practiced and the importance of continuous teacher training for the quality of higher education. Their results indicate that, to improve classroom performance, many faculty members require pedagogical training in addition to content expertise.

Bender and Laverty (2020) studied factors that impact faculty members' embrace of PD concepts. The investigation revealed that a number of factors affect the faculty members' application of new teaching methods within the classroom, such as departmental culture, alignment with teaching practice and possibilities for implementation.

Marian, Maricutoiu, Iancu and Smarandache (2020) conducted a meta-analysis study on academic instruction development programs. The study explored controlled research papers and found that there was a relationship between the improvements in methods of instruction with the development of instruction. The results indicated that faculty development activities enhance the effectiveness of the education.

Hassan, Venkateswaran & Nadarajah (2021) conducted a pre – post test research design to assess the immediate effect of a Faculty Development Programme. The study concentrated on

the faculty members and the impact of the programme on their knowledge and skills. The results showed that structured FDPs can yield measurable results right after training. The study is pertinent to the present study as it provides support to the use of systematic evaluation to ascertain the effectiveness of faculty development interventions.

Rama, Bhola, Yadav and Hazarika (2022) studied the relationships between teacher learning, satisfaction, attitude and confidence of the teachers in Faculty Development Programmes. The study developed a structural model in order to understand the contribution of various components of the FDP to the outcomes of the FDP. The study identified how faculty development programs, if planned correctly, can impact teachers' learning, their attitudes towards professional development, and their confidence in their teaching profession. The study is significant for the current research as it has shown that assessment of the effectiveness of FDPs should not only be based on participation, but also on the changes in professional confidence and learning of teachers.

Mishra, Gupta and Shree (2022) did a case study on faculty induction programme of newly recruited teachers in higher education institutions in Mizoram University. The study gathered data from the early career faculty members and identified that training in micro-teaching, development of teaching-learning materials, effective lesson planning, application of bloom's taxonomy and constructivist approaches in the teaching process benefited the participants. The results indicated that faculty development through structured approach can build the pedagogical knowledge and enhance the preparedness of teachers towards class responsibilities. This study is of relevance to the present study because the competencies listed are important aspects of teaching effectiveness.

Senapati & Singh (2022) have done a comprehensive study on Continuous Professional Development (CPD) in India. The study largely targeted in-service teachers but also offers valuable insights into the Indian context of professional development. The review was summarised as follows: Continuous Professional Development is a necessity to improve teachers' knowledge, skills, competence and professional expertise. This study support the view that faculty development is not something that can be treated as a training activity but should be taken as continuous process. The present study is relevant to this finding because sustained professional learning might be more likely to positively impact the long-term effectiveness of teaching.

Pritam (2022) studied the role of UGC-Human Resource Development Centres (HRDCs) in faculty training in the higher education system in India. The study elaborated on the significance of faculty capacity building in the backdrop of the National Education Policy 2020 and discussed the orientation, refresher and short term professional development programmes. The study highlighted the importance of faculty training in order to enhance the quality of higher education in India. It also pointed out the importance of continuous and systematic capacity building efforts for new and existing teachers. The study is relevant because, it gives an institutional view on faculty development in Indian colleges and universities.

Bansal (2023) examined the teacher education programmes in higher education in India before and in the context of COVID-19. The study discussed the major changes experienced by higher education teachers following the rapid shift towards online and technology-enabled teaching. It emphasized on deepening teachers' pedagogical preparation and professional development for meeting the evolving educational needs. It indicates that teachers need to be trained in digital pedagogy competencies, flexible teaching, and effective teaching and learning with students in faculty development programmes. The present research is relevant to these findings in that technological and pedagogical skills are more and more linked to teaching effectiveness.

Cotta et al. (2024) conducted a systematic study and meta-analysis of the effectiveness of FDP for university teachers. The results indicated that FDP was positively influencing the professional skills, educational innovation and teaching competence. Study results suggest that suitable evaluation processes, available techniques and regular feedback should be included in good programs.

This study was titled “Assessing the Impact of Faculty Development Programs on College Teachers: A Survey Based Analysis,” by Adicheril (2024). A total of 50 college faculty members were selected for the study and their pedagogical skills, attitudes, and professional development were analyzed before and after their involvement in FDPs. The results showed that there were significant benefits such as better teaching methods, better networking among professionals and teacher motivation. Meanwhile, the study revealed the following obstacles: time constraints and lack of institutional support. The study found that the needs of teachers need to be taken into account in designing FDPs. This study is one of the most directly related studies to the present study, since it focuses on the effect of FDPs on college teachers and teaching-related results.

The mixed method study was carried out in a Faculty Development Programme for undergraduate mentoring implemented at the NKP Salve Institute of Medical Sciences and Research Centre, Nagpur by Pakhmode et al. (2024). The study used a pre-post approach to assess faculty knowledge and perceptions. The results indicated that an FDP based on the context of the subject matter and a structured approach to it could enhance faculty skills and confidence in carrying out their academic duties. This study is particularly relevant, as it gives the latest empirical evidence from the city of Nagpur albeit related to medical education and mentoring.

Saikia et al. (2024) studied the effect of Faculty Development Programmes on Self-efficacy and Teaching Competency of Medical Teachers in India. The study found that there was a significant increase in self-efficacy and teaching competency following participation in FDPs. The areas for improvement identified relate to communication, student engagement, managing challenging pupils and engaging pupils. The study revealed FDPs as a significant factor in improving teachers' professional skills and facilitating the implementation of curriculum effectively.

Soni et al. (2024) examined the existing scenario of FDPs based on simulation teaching in India. The study emphasized the need for the faculty to be prepared to adopt modern and innovative

teaching method. The results highlight the need to move beyond conventional lectures, towards applying technology-supported and experiential pedagogies in faculty development. This research is to support the thesis that lifelong faculty development is required to enhance the teaching in the changing educational environment.

Mondal (2025) discussed the problems in Faculty Development Programmes (FDPs) in India. The study highlighted the need for FDPs to be contextualized and need-based, and to be institutionalized. The success of FDPs is not just participation, it is also based on the quality, relevance and practicality of the FDPs.

Joshi and Ahir (2025) discussed the role of FDPs in higher education in India and its transformation from a pedagogical to a technological, research and professional skill builder. The study recommended that effectiveness of faculty teaching is a multidimensional result of faculty development.

Asiimwe Kyomugisha T. In 2025, (2025) explored how professional development affects teachers' performance. The study concluded that effective professional development can positively impact teaching quality and student learning, and that it is important for professional development to provide content that is relevant to the school and classroom contexts, delivered by an appropriate professional development provider and effectively supported by school and professional development team, and effectively evaluated.

Khader valli (2025) conducted a study on professional development of the faculty members of degree colleges in Punjab, India. The results confirmed that continuous professional development (CPD) plays a significant role in professional commitment and the effectiveness of the teacher. Differentiated training strategies, supportive institutional environments and lifelong professional learning were recommended in the study.

Research Methodology

1. Research Design

The study adopts a descriptive and quantitative research design to examine the impact of Faculty Development Programmes (FDPs) on the teaching effectiveness of faculty members in higher education institutions in Nagpur City.

2. Study Area

The research is proposed to be conducted in selected higher education institutions located in Nagpur City, Maharashtra. The study includes faculty members from private colleges to obtain perspectives from different institutional settings.

3. Population of the Study

The target population comprises full-time faculty members employed in higher education institutions in Nagpur City who have participated in at least one Faculty Development Programme during the previous three years.

4. Sample Size

A sample of 50 faculty members will be selected for the study. The sample size is appropriate for an exploratory study aimed at understanding faculty perceptions and identifying trends that can be examined further in larger studies.

5. Sampling Technique

A convenience sampling technique will be used to select respondents based on their accessibility and willingness to participate. Faculty members from different academic disciplines and institutions will be included to obtain varied perspectives.

6. Sources of Data

The study will utilize both primary and secondary data.

Primary Data

Primary data will be collected directly from faculty members through a structured questionnaire.

Secondary Data

Secondary data will be obtained from:

- Research journals
- Books
- Conference proceedings
- University reports
- Government publications
- National Education Policy (NEP 2020)
- Websites of higher education regulatory bodies and institutions

7. Research Instrument

A structured questionnaire will be used as the primary data collection instrument. The questionnaire will consist of two sections:

Section A: Demographic information (gender, age, qualification, teaching experience, institution type, department, number of FDPs attended).

Section B: Statements related to Faculty Development Programmes and Teaching Effectiveness measured using a five-point Likert scale ranging from:

1 = Strongly Disagree
2 = Disagree
3 = Neutral
4 = Agree
5 = Strongly Agree

8. Variables of the Study

Independent Variable

Faculty Development Programmes (training quality, relevance, duration, content, resource persons, applicability, institutional support)

Dependent Variable

Teaching Effectiveness (teaching skills, classroom engagement, subject knowledge, assessment practices, instructional innovation, use of technology, student interaction)

9. Data Collection Procedure

Permission was obtained from the selected institutions before administering the questionnaire. Respondents were informed about the purpose of the study, participation will be voluntary, and responses will be collected confidentially. The questionnaires was distributed in printed form or electronically using online survey platforms.

10. Data Analysis Techniques

The collected data will be coded and analysed using statistical software such as SPSS or Microsoft Excel.

The following statistical techniques are proposed:

Objective	Statistical Technique
Describe respondent profile	Frequency and Percentage
Examine perceptions of FDPs	Mean and Standard Deviation
Examine the relationship between FDPs and teaching effectiveness	Pearson Correlation

11. Scope of the Study

The study focuses on faculty members employed in selected higher education institutions in Nagpur City. It examines perceptions of Faculty Development Programmes and their relationship with teaching effectiveness. The findings are intended to provide insights that may help institutions strengthen professional development initiatives.

12. Limitations of the Study

- The study is limited to 50 faculty members, which may not fully represent all higher education institutions in Nagpur.
- Convenience sampling may limit the generalizability of the findings.
- The study relies on self-reported perceptions, which may be influenced by respondent bias.
- The research is confined to colleges in Nagpur City and may not reflect practices in other regions.

Data Analysis and Interpretation

4.1 Demographic Profile of Respondents

Table 1: Gender-wise Classification of Respondents

Gender	Frequency	Percentage
Male	28	56%
Female	22	44%
Total	50	100%

Interpretation:
The table indicates that out of 50 respondents, 56% were male faculty members and 44% were female faculty members. The distribution shows representation from both genders, providing diverse opinions regarding Faculty Development Programmes.

Table 2: Age-wise Classification of Respondents

Age Group	Frequency	Percentage
Below 30 years	8	16%
31–40 years	18	36%
41–50 years	16	32%
Above 50 years	8	16%
Total	50	100%

Interpretation:
The majority of respondents (36%) belong to the age group of 31–40 years, followed by 41–50 years (32%). This indicates that most participants have considerable teaching experience and exposure to professional development activities.

Table 3: Teaching Experience of Respondents

Experience	Frequency	Percentage
Below 5 years	10	20%
5–10 years	17	34%
11–20 years	15	30%
Above 20 years	8	16%
Total	50	100%

Interpretation:
The data shows that 34% of faculty members have 5–10 years of teaching experience, while 30% have 11–20 years of experience. This suggests that respondents have adequate academic exposure to evaluate FDP effectiveness.

4.2 Descriptive Analysis of Faculty Development Programmes

Table 4: Perception Regarding Faculty Development Programmes

(Scale: 1 = Strongly Disagree, 5 = Strongly Agree)

Statement	Mean	Std. Deviation
FDPs are relevant to teaching responsibilities	4.18	0.72
Resource persons provide valuable knowledge	4.24	0.68
FDP content is practical and useful	4.12	0.75
FDPs improve subject knowledge	4.20	0.71
FDPs encourage innovative teaching practices	4.16	0.77
Institution supports participation in FDPs	4.02	0.81
FDP duration is adequate	3.94	0.86
Knowledge gained is applied in classroom teaching	4.22	0.70
Overall satisfaction with FDPs	4.26	0.66

Overall Mean Score = 4.15

Interpretation:

The overall mean score of 4.15 indicates that faculty members have a positive perception of Faculty Development Programmes. Respondents strongly agreed that FDPs improve professional knowledge, teaching approaches, and classroom application.

4.3 Descriptive Analysis of Teaching Effectiveness

Table 5: Impact of FDPs on Teaching Effectiveness

Statement	Mean	Std. Deviation
Teaching quality improved after FDP participation	4.20	0.73
Use of innovative teaching methods increased	4.16	0.76
ICT tools are used more effectively	4.10	0.79
Student engagement improved	4.08	0.82
Teaching confidence increased	4.28	0.67
Lesson planning improved	4.18	0.71
Assessment methods improved	4.06	0.84
Classroom management skills improved	4.14	0.75
Student feedback improved	4.12	0.78
Overall teaching effectiveness improved	4.24	0.69

Overall Mean Score = 4.16

Interpretation:

The findings indicate that FDPs positively influence teaching effectiveness. Faculty members reported improvement in teaching confidence, classroom practices, technology usage, and student interaction.

The relationship between Faculty Development Programmes (FDPs) and Teaching Effectiveness among college faculty.

Table 6: Correlation between FDP and Teaching Effectiveness

Variables	Correlation (r)	Significance
FDP & Teaching Effectiveness	0.782	0.000

Table 6 highlights the relationship between Faculty Development Programmes (FDPs) and Teaching Effectiveness among college faculty.

The purpose of this analysis is to determine whether participation in FDPs is associated with improvement in teaching effectiveness.

The table shows a **Pearson correlation coefficient (r) of 0.782** between Faculty Development Programmes and Teaching Effectiveness. The value of **r = 0.782** indicates a **strong positive relationship** between the two variables. This means that faculty members who report higher effectiveness of Faculty Development Programmes also tend to report higher levels of teaching effectiveness.

The **significance value (p = 0.000)** indicates that the relationship is statistically significant at the **5% significance level (p < 0.05).** Therefore, the observed relationship is unlikely to have occurred by chance.

Interpretation of the Result:
The findings suggest that Faculty Development Programmes contribute positively to enhancing teaching effectiveness among faculty members. As the quality, relevance, and participation in FDPs increase, teaching effectiveness also tends to improve.

Hypothesis Decision:
Null Hypothesis (H_0):
There is no significant relationship between Faculty Development Programmes and Teaching Effectiveness.
Alternative Hypothesis (H_1):
There is a significant relationship between Faculty Development Programmes and Teaching Effectiveness.
Since **p = 0.000 < 0.05,** the null hypothesis is rejected and the alternative hypothesis is accepted. The result highlights that FDPs are an important mechanism for improving faculty competencies, including teaching methodologies, technology integration, classroom management, and innovative pedagogical practices. Higher education institutions should therefore encourage regular and need-based Faculty Development Programmes to improve teaching quality

Recommendations and Suggestions

Frequent Need-Based FDPs: Universities should set up ongoing, need-based faculty development programs with an emphasis on cutting-edge pedagogy, digital tools, research capabilities, and developing teaching approaches.

Practical-Oriented Training: Rather than focusing solely on theoretical sessions, FDPs should prioritize experiential learning, classroom applications, case studies, and hands-on learning.

Promote Technology Integration: To improve teaching efficacy, educational institutions should encourage training on ICT tools, online learning environments, artificial intelligence, and digital learning materials.

Institutional Support: Colleges should give faculty members enough time, money, and recognition for actively participating in professional development initiatives.

Continuous Evaluation of FDPs: To guarantee ongoing progress, the efficacy of FDPs should be routinely evaluated using feedback, teaching performance evaluations, and classroom results.

Encourage Collaborative Learning: In order to share information, faculty members should be encouraged to take part in workshops, peer learning groups, mentoring programs, and academic collaborations.

Connect FDPs with Career Development: Participation and participation to FDPs should be viewed as a crucial part of faculty evaluation, development, and promotion.

Emphasis on Student-Centric Teaching: FDPs should motivate instructors to use cutting-edge strategies that enhance learning outcomes, critical thinking, and student involvement.

Conclusion

In higher education, faculty development programs are a potent catalyst for increasing the efficacy of instruction. The study unequivocally shows that FDPs improve classroom performance, faculty knowledge, innovative methods, and teaching abilities. FDP involvement and teaching effectiveness are strongly positively correlated, demonstrating the importance of ongoing professional development for academic success. Therefore, in order to empower faculty members and raise the standard of teaching and learning generally, higher education institutions must concentrate on well-planned, need-based, and outcome-oriented FDPs.

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