

# Professional Development of University Teachers in Relation to Gender and Subject Stream

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**Abstract:** *Professional development is an important component of professional growth, and it is necessary to ensure that university teachers are able to keep up with the changing times. The researchers used a descriptive method and Professional Development Index Scale-PDIS (2017) developed by Tariq Ahmad Wani and Prof. N.A. Nadeem to measure the level of Professional Development of the subjects. The sample size of 300 University Teachers based on random sampling technique was collected from the total population of three main academic universities in Kashmir valley viz, University of Kashmir, Central University of Kashmir and Islamic University of Science and Technology. The results of the study showed that majority of university teachers about 67 % have moderate PD level. The study also revealed that professional development of university teachers differ significantly on the basis of gender but were found to have almost same level of PD on the basis of subject stream (science and arts).*

**Keywords:** Professional development, University teachers, gender, subject stream.

## I. INTRODUCTION

A teacher plays a pivotal role in order to lead the nation and mould children's personalities for the future. Student's personality and aptitude are greatly influenced by his teacher's personality and teaching abilities. Teachers are expected to maintain strong teaching standards and enhance accomplishment levels in schools and higher education institutions (Campbell, McNamara, & Gilroy, 2004).

The quality of a country's higher education is regarded as the single most significant predictor of its future. "If everything is well with the universities, all will be well with the nations", (Pandit Jawaharlal Nehru). The preparation of leaders for many life tasks, including intellectual, social, political, cultural, scientific, and technological ones, is a key function of university education. The administration is working hard to improve higher education at all levels. But the quality cannot be achieved without a professional teacher.

As we approach the 21st century, there is a growing understanding among educational policy makers, researchers, and administrators that teacher professional development is very essential to educational reform. Therefore, professional development for teachers is the backbone of educational progress in order to meet society's expectations (Dede, Whitehouse, Breit & McCloskey, 2009). Professional development is the term used to describe learning opportunities that encourage teachers to use their creativity and reflection to improve their practice (Bredeson, 1999). Professional development is a crucial tool for teachers to use in order to increase their potential and better adapt to the changing demands of their pupils in order to improve the transition of information into practical performance (Avalos, 2011).

In order to improve the quality of teaching in accordance with the widely accepted pedagogical aspects of university education, the rapidly progressing higher education system in the twenty-first century has given rise to the establishment of quality assurance cells, academic staff colleges, online professional development courses, orientation programmes for faculty development, faculty exchange programmes, etc.

Professional development of university teachers is a process intended to improve the knowledge, skills, and attitudes of university teachers. This can be accomplished through a variety of activities, such as attending workshops and seminars, participating in online learning programs, or engaging in self-directed learning activities. Professional development can help university teachers become more effective instructors and better able to serve their students. It

can also provide opportunities for career advancement, as university teachers can demonstrate their commitment to professional development through their achievements. Professional development can help university teachers stay abreast of changing trends in education and keep their teaching strategies up to date.

Professional development can improve student achievement, teacher motivation, and job satisfaction (Lam, 2015). One meta-analysis of professional development research, (Darling-Hammond et al., 2009) found that teachers who participated in high-quality professional development programs had a positive impact on student achievement, especially in mathematics.

### 1.1 Objectives

The following are the research objectives.

1. To study the current level of professional development of University Teachers in Kashmir valley.
2. To compare the professional development of University Teachers on the basis of Gender (Male & Female).
3. To compare the professional development of University Teachers on the basis of Subject Stream (Science & Arts).

### 1.2 Hypotheses

- **H<sub>01</sub>**) There is no significant difference between the mean scores of University Teachers on professional development in relation to gender (male & female).
- **H<sub>02</sub>**) There is no significant difference between the mean scores of University Teachers on professional development in relation to Subject Stream (Science & Arts).

### 1.3 Operational Definitions Variables

- **Professional Development (PD):** Professional development can be operationally defined as a continuous process of learning, growth, and improvement that helps individuals enhances their skills, knowledge, and expertise to effectively perform their job responsibilities and meet the changing needs and expectations of their profession. Here, PD denotes the scores obtained by respondents on PDIS (2017) scale developed by Tariq Ahmad Wani and Prof. N.A.Nadeem.
- **University Teachers:** University teachers in the current study refer those who are teaching post graduate students in universities.
- **Subject Stream:** Mainly two streams have been taken in present study. 1) Science stream includes all pure and applied science faculties. 2) Arts stream includes faculties of languages, social sciences, humanities and behavioural sciences.

## II. LITERATURE REVIEW

**Salmerón et al. (2022)** found that teachers' interest is the importance of beginning, continuing, and lifelong learning as a catalyst for professional development. Generational differences were also noted in this study. Older instructors possess a higher level of pragmatic and relational competence in the classroom, despite the fact that younger teachers have more advanced ICT training. The study also revealed that teacher training related to professional development has an impact on school environment, particularly if it is carried out from a perspective of intergenerational collaborative learning.

**Leary et al. (2020)** examined that the professional development of online instructors in this literature review is based on findings and major recommendations. Based on the findings, it appears that the majority of the study questions were centered on professional development programmes, teachers and teachers' online courses. The majority of programme recommendations were centered on professional development programmes, the setting of professional development, and the activities of teachers while pursuing professional development.

**Algahtani et al. (2020)** assessed faculty members' perceptions of professional development procedures and the elements that influence their achievement in medical universities in Saudi Arabia's Western area. According to the findings, faculty members consider that the most important purpose of the professional development programme is

motivation to enhance teaching skills. The study also found that methods to create a positive environment for teaching and learning, as well as variables supporting a trained and dedicated staff, influence professional development achievement.

**Masoumi et al. (2019)** investigated and identified cultural hurdles, centralized hierarchical systems, insufficient resources, and livelihood considerations as barriers to professional development.

**Sharma (2019)** investigated the levels of Professional Commitment as one of the dimension in Professional development among Teacher Educators. It was revealed that nearly half of the teacher educators have ordinary or less than average levels of professional commitment. Unmarried teacher educators were also shown to have a much higher level of professional commitment. There is no substantial variation in the professional commitment of teacher educators based on the stream (science and arts) or teaching experience.

**Nudrat and Mehmood (2018)** investigated professional development by examining demographic differences in Professional Ethics practices among university professors. There was a substantial difference between male and female instructors in terms of professional ethics practices in teaching and research.

**Bashir (2017)** investigated the professional commitment factor of secondary teachers' professional development in Punjab (India). It was discovered that there is no substantial variation in secondary teachers' professional commitment based on gender. However, the mean score of male teachers is greater than that of female teachers.

**Eshraghi (2017)** investigated the factors influencing the professional development of teachers in higher education institutions. It was discovered that structural-service maturity, organisational maturity, individual and character maturity, and network-social maturity are important factors influencing faculty members' continuous faculty development.

**Mishra (2017)** investigated the teaching competency aspect of professional development in secondary school teachers in relation to gender and teaching experience. There is a significant difference in teaching competencies among secondary school teachers based on gender and teaching experience.

**Hayat et al. (2016)** investigated the impact of gender on professional development in secondary school teachers. The researcher concluded that there is a significant difference in professional development between male and female teachers.

**Wei et al. (2013)** examined the impact of a three-year professional development program on teachers' instructional practices in math and reading. The program used a combination of face-to-face and online instruction, and the authors found that the program had a positive effect on teachers' instructional practices.

### III. METHODOLOGY

The method for the present study is descriptive in nature. The data for the present study consisted of 300 University Teachers which were collected from the total population of three main universities in Kashmir Valley viz, University of Kashmir, Central University of Kashmir and Islamic University of Science and Technology. Random sampling technique was used with equal chance for every University teacher get selected in the sample. Out of 300 sample teachers, 150 were taken from University of Kashmir and 75 each from Central University (Kashmir) and IUST. The breakup of the sample is as under:

Categorical Variables	Group	No.of Teachers selected	%age
Gender	Male	195	65%
	Female	105	35%
Subject Stream	Science	145	48.33%
	Arts	155	51.67%
<b>Total</b>		<b>300</b>	<b>100%</b>

The outcomes of the data analysis performed with SPSS are presented using descriptive statistics (%age, Mean & SD) and inferential statistics (Independent Samples t-Test).

**3.1 Tool Used**

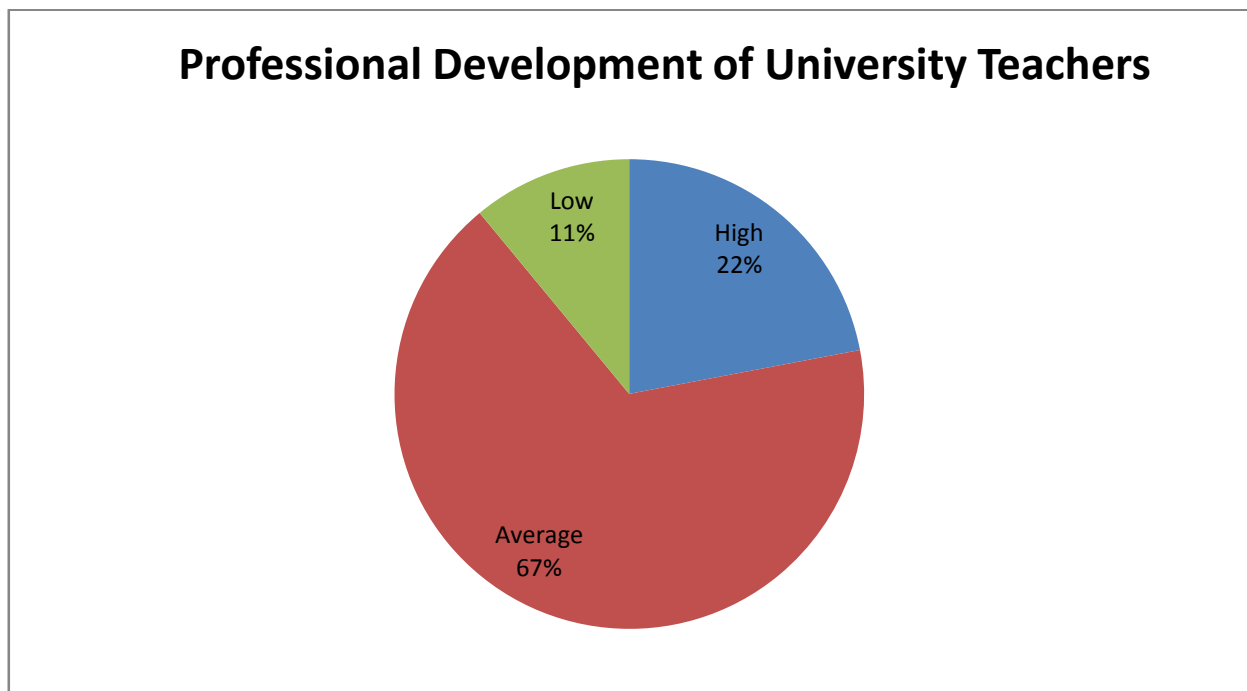
**Professional Development Index Scale, 2017 (PDIS):** It was developed by Tariq Ahmad Wani and Prof. N.A. Nadeem to measure the level of Professional Development of the subjects. It has five factors viz, Professional Knowledge, Training & Development, Teaching Competency & Professional Practice, Professional Commitment and Professional ethics. There are 40 items in the scale and each statement has a three point rating which is based on yes, uncertain and no type.

**IV. ANALYSIS AND INTERPRETATION**

**Objective No. 1:** “To study Techno-Pedagogical Competence of University teachers.” The mean and SD of the overall 300 university teachers was calculated as 32.31 and 3.69 respectively. Data was evaluated to meet this objective using percentage statistics and the results are displayed in Table 1 and Figure 1.

**Table 1**

Variable	Range of Raw Score	Frequency	Percentage (%)	Level of Professional Development
Professional Development	36 and above	66	22%	High
	28-35	201	67%	Average
	27 and below	33	11%	Low
Total		N=300	100.0	



**Figure 1. Level of Professional Development of University Teachers**

**Interpretation:-** The Table 1 reveals that 33 (11%) of university teachers have low, 201 (67%) have average and 66 (22%) have high professional development. It means that majority of university teachers have moderate level of techno-pedagogical competence and a low percentage of teachers have high and a very chunk percentage of teachers have low professional development.

**Objective No.2:-** To compare the professional development of university teachers on the basis of gender (male & female). Inferential statistics, such as Independent Sample's t-test and descriptive statistics (mean and SD), were used to evaluate the data. The results are presented in Table 2 & 2.1 and Figure 2.

**Table 2:** Showing overall mean comparison of professional development on the basis of gender (male & female).

Professional development	Gender	N	Mean	S.D.	t value
	Male	195	32.75	3.71	<b>2.86**</b>
	Female	105	31.49	3.52	
<b>** Significant at 0.01 level</b>					



**Fig.2.** Overall mean comparison between male and female university teachers on professional development

**Interpretation:**

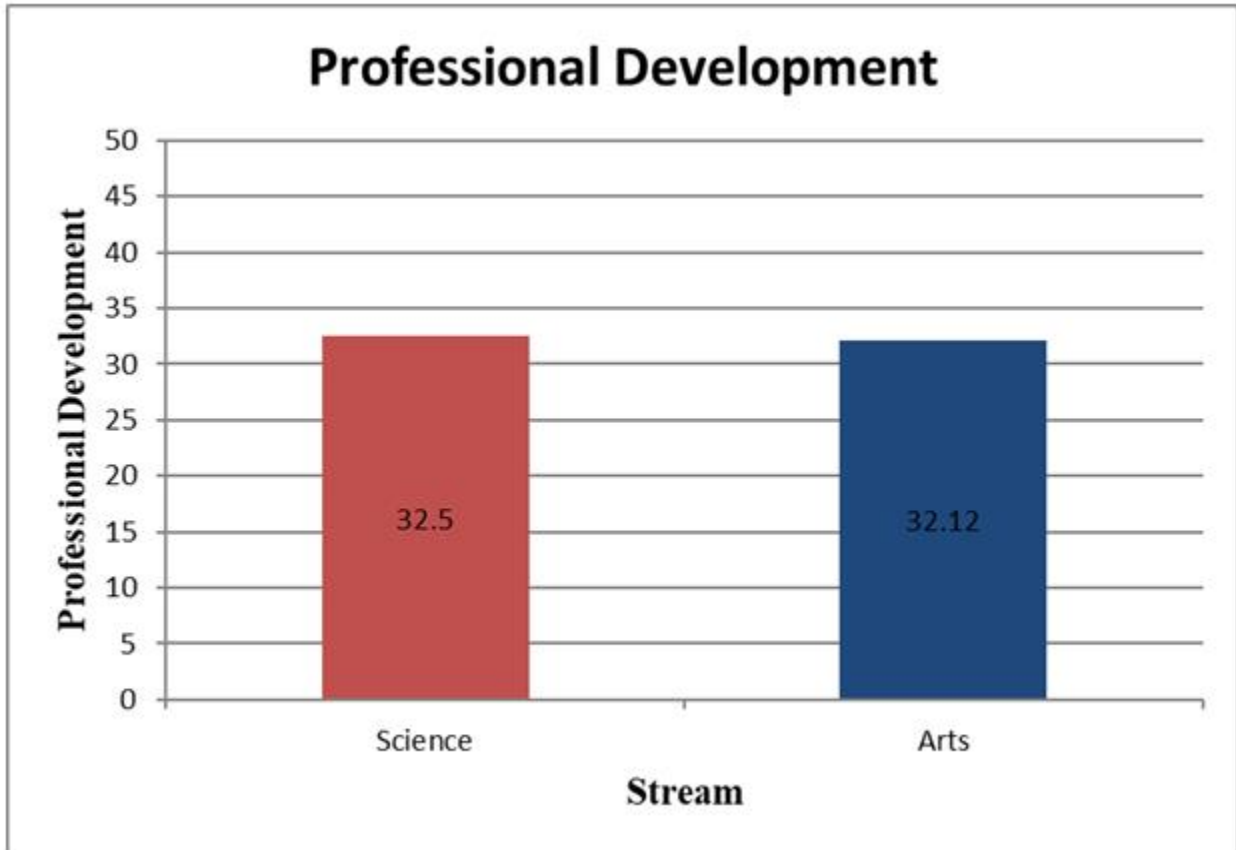
From Table 2, it is clear that the t-value, which is 2.86 which is significant at 0.01 level. Table 2 and figure 2 also demonstrates that there is a significant difference between male and female university teachers in their professional development. Therefore, the null hypothesis  $H_0$  gets rejected. It may, therefore, be said that University teachers on the basis of gender differ were significantly in terms of their professional development.

**Objective 3:**

To compare the professional development of University Teachers on the basis of subject stream (Science and Arts). Inferential statistics, such as Independent Sample's t-test and descriptive statistics (mean and SD), were used to evaluate the data. The results are presented in Table 3 and Figure 3.

**Table 3**

Professional development	Stream	N	Mean	S.D.	t value
	Science	145	32.50	3.73	<b>0.893**</b>
	Arts	155	31.12	3.66	
<b>** Insignificant at 0.05 level</b>					



**Fig.3** Overall mean comparison between Science and Arts university teachers on professional development

**Interpretation:**

From Table 2, it is clear that the t-value, which is 0.893, is not significant. It demonstrates that there is no significant difference between science stream and arts stream university teachers in their professional development. Therefore, it is not possible to reject the null hypothesis  $H_0$ . It may, therefore, be said that University teachers on the basis subject stream were found to have almost same level of professional development.

**V. RESULTS AND DISCUSSION**

Professional development of university teachers is an important aspect of ensuring that they are equipped with the necessary knowledge and skills to effectively deliver their teaching responsibilities. It involves a continuous process of learning and improvement, aimed at enhancing the quality of education provided to students. There are several approaches to professional development for university teachers, including workshops, conferences, seminars, online courses, mentoring, and peer observation. The choice of approach may depend on the specific needs of the teacher, the institution's goals, and available resources.

The results of the study showed that majority of university teachers about 67 % have moderate PD level and a low percentage of teachers have high and a very chunk percentage of teachers have low professional development. The study also revealed that professional development of university teachers differ significantly on the basis of gender but were found to have almost same level of PD on the basis of subject stream (science and arts).

In terms of results, professional development for university teachers can lead to a range of positive outcomes. These may include increased confidence in teaching, improved classroom management, better student-teacher relationships, enhanced subject knowledge, and the ability to use new teaching technologies effectively.

**5.1 Educational Implications**

Here are some important potential educational implications of the study:



- **Improved pedagogy:** Professional development can help university teachers improve their teaching skills and become more effective instructors. This can lead to better student outcomes, including higher grades, increased engagement, and improved learning.
- **Reduced gender bias:** Professional development can help teachers become more aware of their own biases and how these biases can affect their teaching. For example, teachers may become more aware of the ways in which they may unconsciously favor male students over female students in STEM subjects. Professional development can help teachers develop strategies to reduce bias and create a more equitable learning environment for all students.
- **Increased diversity in subject stream:** Professional development can also encourage teachers to explore new subjects and expand their areas of expertise. This can lead to a more diverse range of subjects being taught at universities, which can help students develop a wider range of skills and knowledge.
- **Improved retention:** Professional development can help university teachers feel more supported and engaged in their work. This can lead to improved retention rates, as teachers who feel valued and supported are more likely to remain at their institutions.
- **Increased collaboration:** Professional development can provide opportunities for teachers to collaborate with colleagues from different subject streams and backgrounds. This can lead to new ideas and approaches to teaching, as well as a greater sense of community within the university.

Overall, professional development can have a significant impact on the quality of teaching and learning at universities, as well as the culture and climate of the institution. By focusing on gender and subject stream, professional development can help create a more equitable and inclusive learning environment for all students.

## VI. CONCLUSION

Professional development is crucial for university teachers to keep up with the changing educational landscape and to deliver quality education to students. It is important for institutions to provide adequate support and resources to ensure that teachers can participate in relevant and effective professional development programs. Research has shown that there are still significant gender disparities in the higher education sector, including in terms of professional development opportunities for university teachers. In terms of subject stream, different academic disciplines may offer different types of professional development opportunities, depending on the field and the demands of the job. For example, a science professor may attend conferences or workshops to stay up-to-date on the latest research in their field, while a humanities professor may focus more on pedagogical techniques and teaching strategies.

To address these disparities and ensure that all university teachers have equal access to professional development opportunities, institutions may need to implement policies and programs that are specifically designed to support women and individuals from underrepresented subject streams. This could include mentoring programs, funding for conference attendance, and targeted training and workshops. Overall, ensuring that university teachers have access to high-quality professional development opportunities is crucial for both their own career growth and the success of their students.

## REFERENCES

- [1] Algahtani, H., Shirah, B., Subahi, A., Aldarmahi, A., & Algahtani, R. (2020). Effectiveness and needs assessment of faculty development programme for medical education: Experience from Saudi Arabia. *Sultan Qaboos University Medical Journal*, 20(1), e83.
- [2] Avalos, B. (2011). Teacher professional development in teaching and teacher education over ten years. *Teaching and teacher education*, 27(1), 10-20.
- [3] Bashir, L. (2017). Job satisfaction of teachers in relation to professional commitment. *The International Journal of Indian Psychology*, 4(4), 52-59.
- [4] Bredeson, P. V. (1999). Negotiated Learning: unions contracts and teacher professional development. paper presented at the Annual Meeting of the American Educational Research Association in Montreal, 20 April.

- [5] Campbell, A., McNamara, O., & Gilroy, P. (2004). Practitioner research and professional development in education. Sage.
- [6] Darling-Hammond, L., Wei, R. C., Andree, A., Richardson, N., & Orphanos, S. (2009). Professional learning in the learning profession. Washington, DC: National Staff Development Council, 12.
- [7] Dede, C., Jass Ketelhut, D., Whitehouse, P., Breit, L., & McCloskey, E. M. (2009). A research agenda for online teacher professional development. *Journal of teacher education*, 60(1), 8-19.
- [8] Eshraghi, R. (2017). Factors affecting the professional development of faculty members: A case study of Ilam Branch, Islamic Azad University, Iran. *International Journal of Agricultural Management and Development*, 7(4), 509-515.
- [9] Hayat, I. R. U. M., Rehman, A. T. T. I. A., Hayat, M. F., & Bibi, T. A. H. I. R. A. (2016). Effects of gender on emotional intelligence and professional development in secondary school teachers. *European Journal of Educational and Development Psychology*, 4(3), 20-33.
- [10] Lam, B. H. (2015). Teacher professional development in Hong Kong: compared on anglosphere: the role of confucian philosophy.
- [11] Leary, H., Dopp, C., Turley, C., Cheney, M., Simmons, Z., Graham, C. R., & Hatch, R. (2020). Professional Development for Online Teaching: A Literature Review. *Online Learning*, 24(4), 254-275.
- [12] Masoumi, D., Hatami, J., & Pourkaremi, J. (2019). Continuing professional development: policies, practices and future directions. *International Journal of Educational Management*.
- [13] Mishra, S. (2017). Teaching Competencies among Secondary School Teachers of Sikkim. *Pedagogy of Learning*, 3(1), 17-26.
- [14] Nadeem, N. A., & Wani, T. A. Construction and Standardization of Professional Development Index Scale (PDIS). *Journal of Research & Innovations in Education (JRIE)*, 10.
- [15] Nudrat, F., & Mahmood, N. (2018). Practices of Professional Ethics among University Teachers: An Analysis of Demographic Differences. *Journal of Educational Research (1027- 9776)*, 21(1).
- [16] Salmerón Aroca, J. A., Moreno Abellán, P., & Martínez de Miguel López, S. (2022). Teachers' Professional Development and Intelligent Ways of Coping with It: A Systematic Review in Elementary and Middle School Education. *Journal of Intelligence*, 11(1),