

# SELF-DIRECTED PROFESSIONAL DEVELOPMENT AS A PREDICTOR OF INSTRUCTIONAL PRACTICES OF SECONDARY SCHOOL TEACHERS IN KOTLI AJ&K

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## ABSTRACT

Instructional practices significantly contribute to the advancement of any educational institution. To achieve favorable outcomes, teachers implement a variety of instructional strategies. The present research was conducted to assess how teachers' self-initiated professional development influences their instructional effectiveness at the secondary level. The key aims included: (i) investigating the dimensions of self-directed teacher professional development, (ii) identifying existing instructional practices among secondary school teachers, and (iii) analyzing the influence of self-directed professional development on these instructional practices. A descriptive research framework was adopted, utilizing a cross-sectional survey approach for data collection. The study population comprised all 1,020 secondary school teachers (SSTs) working in District Kotli, Azad Jammu and Kashmir. Through simple random sampling, a sample of 310 SSTs was selected. A self-constructed questionnaire based on a five-point Likert scale was used to gather data. The researcher personally visited the selected institutions to administer the survey. Data analysis was performed using SPSS version 23. Descriptive statistical methods (mean and standard deviation) were applied to assess teachers' views regarding self-directed professional development and their instructional practices, while regression analysis was employed to determine the impact of self-directed professional development on instructional practices. The findings indicated that teachers enhance their professional knowledge and competencies through various self-directed avenues. Moreover, a strong positive relationship was observed between self-directed teacher professional development and teaching performance. The study recommends that educators adopt modern self-directed professional development strategies, which can ultimately elevate teaching-learning standards.

**Keywords:** Instructional practices, self-directed, professional development, secondary school teachers.

## INTRODUCTION

The effectiveness of instructional practices remains a crucial factor influencing educational outcomes, with educators serving as the central figures in classroom effectiveness. Although professional development has long been acknowledged as a vital mechanism for strengthening teacher capacity, conventional

workshop-centric models frequently fail to generate sustainable enhancements in instructional delivery (Darling-Hammond, Hylar, & Gardner, 2017). In response to these shortcomings, self-directed professional development has gained recognition as a promising alternative, enabling educators to assume active responsibility for their ongoing

professional growth through independent goal formulation, selection of learning activities, and engagement in reflective practices (Lopes & Cunha, 2017).

Self-directed professional development is deeply rooted in adult learning principles, which assert that experienced learners derive maximum benefit when they exercise control over the content, pace, and methods of their learning (Knowles, 1984, as cited in Louws et al., 2017). By developing self-directed strategies, educators can systematically design, implement, monitor, and assess learning activities that enrich their knowledge base, instructional abilities, and professional dispositions. Evidence suggests that teachers who participate in self-directed learning exhibit enhanced self-efficacy, greater instructional adaptability, and more sustained career-long growth compared to those who depend solely on externally imposed training (Louws, Meirink, & van Driel, 2017). Furthermore, frameworks such as the Universal Design for Learning (CAST) provide neuroscientific support indicating that self-regulation strategies positively influence teacher confidence and classroom performance.

Notwithstanding the acknowledged advantages of self-directed professional development, empirical evidence concerning its implementation and efficacy within specific educational settings remains sparse. Lopes and Cunha (2017) introduced a cyclical framework comprising self-assessment of learning needs, goal establishment, action planning, and reflective practice; however, the application of this model differs considerably across various school systems. Disturbingly, research indicates that approximately one-third of teachers report no participation in self-directed professional development activities, revealing a notable disconnect between the theoretical potential of self-directed learning and its actual practice (Lopes & Cunha, 2017).

The educational environment of Pakistan, particularly in Azad Jammu and Kashmir, offers a distinctive context for exploring this phenomenon. Historically, teacher professional development in this region has followed centralized, workshop-based formats that emphasize consistency over individualized teacher

requirements. Such approaches often fall short of addressing the specific classroom-level challenges encountered by teachers in varied school environments, resulting in restricted transfer of training to actual instructional practices. Self-directed professional development presents an alternative framework wherein teachers assume ownership of their learning, choose activities aligned with their particular classroom circumstances, and pursue professional growth directly relevant to their students' needs. Nevertheless, limited empirical investigation has examined how self-directed professional development affects instructional practices among secondary school teachers in this particular geographical and cultural setting.

Consequently, this study addresses a notable gap in the existing literature by exploring the relationship between self-directed professional development and instructional practices among secondary school teachers in District Kotli, Azad Jammu and Kashmir. More specifically, the research examines the constituents of self-directed professional development, identifies current instructional practices, and quantifies the effect of self-directed learning on teaching performance. The outcomes are anticipated to inform educational policy, direct teacher education curricula, and provide evidence-supported recommendations for fostering teacher autonomy and professional growth in resource-limited educational contexts.

## STATEMENT OF THE PROBLEM

Engagement in self-directed professional development training can enable teachers to manage their time more efficiently and maintain organizational effectiveness. Ultimately, this leads to enhanced teacher productivity and allows greater focus on students rather than administrative documentation. Active participation in self-directed teacher professional development can ensure that educators are better equipped to guide their students. Nevertheless, despite the widely acknowledged importance of professional development, there exists limited empirical evidence regarding the specific influence of self-directed approaches on instructional

practices within secondary schools in Azad Jammu and Kashmir. Therefore, the researcher undertook this study to evaluate the impact of self-directed teacher professional development on instructional practices.

### OBJECTIVES OF THE STUDY

The following objectives guided this study:

1. To investigate the components associated with self-directed teacher professional development.
2. To determine the current instructional practices commonly employed by secondary school teachers.
3. To assess the effect of self-directed teacher professional development on the instructional practices of secondary school teachers.

### RESEARCH QUESTIONS

This study sought to answer the following questions:

1. What are the components of self-directed teacher professional development?
2. What instructional practices currently prevail among secondary school teachers?
3. What effect does self-directed teacher professional development have on the instructional practices of secondary school teachers?

### SIGNIFICANCE OF THE STUDY

The findings of this research hold value for teachers, as they may inspire them to pursue self-directed professional development based on the study's results, thereby enabling more meaningful student engagement. Head teachers will also benefit, as they can utilize the findings to guide educators in refining their teaching strategies. Furthermore, the study contributes to the enhancement of teacher education curricula, allowing curriculum developers to identify appropriate materials for preparing future educators. Additionally, policymakers at both district and provincial levels will find empirical evidence supporting the incorporation of self-directed professional development into existing continuing professional development frameworks.

### REVIEW OF RELATED LITERATURE

#### Professional Development

Professional development refers to a systematic process of updating and advancing professional qualifications through both formal and informal learning activities, including structured training sessions, conference participation, academic study, and less structured inquiry-driven efforts (Kennedy, 2016). It represents a comprehensive and interactive process that typically involves repeated cycles of testing, application, and refinement of professional knowledge and abilities. This form of learning encompasses all dimensions of professional practice and achieves its most profound impact through diverse modalities, including technological tools, counseling, professional learning communities, case study examination, mentoring relationships, demonstration teaching, and technical support systems (Koukis & Jimoyiannis, 2019). Effective professional development occurs when learning activities are meaningfully aligned with teachers' genuine professional needs and classroom realities. One of the most powerful self-regulated learning strategies involves the cyclical process of formulating a plan, implementing activities, evaluating outcomes, and revising approaches to enhance knowledge, skills, and professional attitudes. To cultivate student independence and creative thinking, teachers continuously seek evidence-based instructional methods while simultaneously maintaining and improving their professional competencies, advancing career trajectories, adapting to emerging technologies and pedagogical innovations, and fulfilling legal and certification mandates (Koukis & Jimoyiannis, 2019).

#### Teacher Professional Development

Educators who effectively employ self-directed learning strategies demonstrate the capacity to independently plan, implement, evaluate, and refine their professional learning activities to improve content knowledge, pedagogical abilities, and professional attitudes (Avalos, 2016). Such teachers are also positioned to advocate with school administrators for recognition and accreditation of their self-initiated professional

development efforts. A distinguishing characteristic of effective teaching practice is formative assessment, which offers valuable, real-time information regarding student comprehension during the instructional process while simultaneously creating opportunities for teachers to deliver timely, actionable feedback that enables students to adjust their learning behaviors toward mastery of learning objectives (Hattie & Timperley, 2007). Teachers who effectively implement evidence-based instructional methods are capable of establishing meaningful connections between classroom content and real-life applications appropriate to each student's developmental stage. Teacher training should function not merely as an entry point into the profession but as the foundation for a continuing process of professional growth throughout one's teaching career (Avalos, 2016). Technological advancements represent critical factors that can establish an optimal balance among school-level educational requirements, individual student needs, and national educational demands, thereby facilitating the development of learners' knowledge, skills, and values.

#### **Self-Directed Teacher Professional Development**

Within self-directed teacher professional development (TPD), educators assume primary responsibility for identifying their own developmental objectives and selecting learning activities designed to achieve those goals (Schrum, Kortecamp, & Steeves, 2016). Illustrative examples of self-directed TPD include viewing and analyzing lesson recordings, reading professional literature on teaching and subject-specific content, studying professional journals and case studies, completing online courses, participating in webinars, and observing lessons delivered by colleagues. Teachers can support their professional growth through activities directly relevant to their instructional contexts and personal learning preferences. Through the systematic cultivation of self-directed techniques, teachers can plan, implement, assess, and refine tasks that enhance their knowledge foundation, instructional skills, and professional attitudes. Self-directed activities are most effective for self-

motivated teachers, particularly those who have recently entered the profession and are actively developing foundational teaching and classroom management competencies (Baron, Sklarwitz, & Blanco, 2020). Teachers who implement diverse instructional methods demonstrate the capacity to form meaningful connections between classroom learning and authentic, real-world situations, providing optimal opportunities for formal and informal assessment of how students discover, process, and apply new knowledge and concepts. Lopes and Cunha (2017) proposed a comprehensive model of self-directed professional development comprising four interrelated phases: self-assessment of professional learning needs, systematic goal-setting, strategic action planning, and structured reflection. This iterative cycle enables teachers to regularly update and refine their practice in accordance with their specific classroom situations, student populations, and professional aspirations. Complementing this framework, Louws, Meirink, and van Driel (2017) discovered that teachers' engagement in self-directed learning varies significantly based on teaching experience, with more experienced teachers frequently establishing different learning goals than their less experienced counterparts. Specifically, novice teachers tend to focus on classroom management and basic instructional routines, whereas experienced teachers prioritize differentiation, curriculum innovation, and pedagogical content knowledge. Furthermore, Van der Heijden, Van den Heuvel, and Gorgievski (2020) found that teachers' proactive personality orientation and self-directed learning disposition significantly predict their professional growth and instructional innovation. Attia (2021) further demonstrated that self-directed professional development is particularly effective when embedded within collaborative professional learning communities, suggesting that self-directed approaches do not occur in isolation but are substantially enhanced through structured collegial support and peer interaction.

#### **Instructional Practices**

Instructional practices represent the pedagogical pathways through which students successfully

achieve intended learning objectives (Siedentop, Hastie, & Van der Mars, 2019). When planning a course or instructional unit, the initial step for teachers is to articulate clear learning outcomes—specifically, what students will be able to do or understand following instruction. Teaching is not a one-size-fits-all enterprise; rather, different instructional styles and approaches are appropriately matched to different grade levels, content areas, and student learning needs. Educators who employ effective teaching methods demonstrate the capacity to skillfully connect classroom learning to students' lived experiences and the world beyond school. Through well-designed instruction, students not only demonstrate academic achievement but also reveal their development of lifelong learning competencies and personal growth. Effective instructional practices benefit teachers as well, enabling them to monitor and assess student progress and understanding through a diverse array of assessment tools.

The research literature identifies several key instructional practices of particular significance:

**Teacher Clarity:** Teacher clarity represents an exceptionally effective means of reducing student learning difficulties and maintaining student attention on academic tasks by eliminating extraneous or non-instructional elements (Donavant, 2015). Furthermore, teacher clarity supports the systematic and gradual transfer of responsibility for learning from teacher to students, enabling students to develop ownership of and pride in their academic performance.

**Classroom Discussion:** Effective instruction sometimes requires teachers to relinquish exclusive leadership of classroom discourse and facilitate whole-class conversations in which students learn from and with one another (Hu, 2014). Among instructional strategies, classroom discussion provides teachers with opportunities to formally observe which students can effectively discover, articulate, and integrate new topics and ideas.

**Feedback:** Effective feedback follows a series of evidence-based principles. Feedback cannot

produce desired effects when a student demonstrates less than partial understanding of a concept or process. Hattie and Timperley (2007) identified three attributes of effective feedback: timeliness (provided while learning is still in progress), specificity (clearly identifying what was done correctly or incorrectly), and guidance (directing students toward desired future actions).

**Formative Assessment:** Teachers need to frequently and systematically assess student understanding in relation to learning objectives so that students can respond effectively and make appropriate adjustments to their learning strategies. Hattie and Timperley (2007) advocated that, in addition to time devoted to summative evaluation, teachers should allocate comparable time to formative assessment processes. Research consistently demonstrates that formative assessment, when implemented effectively, yields substantial positive effects on student achievement (Guiffrida, 2015).

**Homework:** The strategic use of homework reinforces classroom learning, develops student responsibility and time management skills, and provides additional opportunities for practice and application of content. However, the effectiveness of homework depends critically on its purpose, quality, and alignment with instructional objectives, as well as the provision of appropriate feedback on completed assignments (Siedentop, Hastie, & Van der Mars, 2019).

### Synthesis of Literature

The reviewed literature establishes a coherent theoretical and empirical foundation for investigating the relationship between self-directed professional development and instructional practices. Self-directed professional development, grounded in adult learning principles and operationalized through cyclical models of self-assessment, goal-setting, action, and reflection, has been shown to enhance teacher self-efficacy, instructional adaptability, and professional growth (Lopes & Cunha, 2017; Louws et al., 2017; Van der Heijden et al., 2020). Concurrently, effective instructional practices—including teacher clarity,

classroom discussion, feedback, formative assessment, and homework—have been identified as key determinants of student learning outcomes (Hattie & Timperley, 2007; Siedentop et al., 2019). Despite the robust theoretical link between teacher learning and instructional quality, empirical research examining the specific effect of self-directed professional development on instructional practices remains limited, particularly in non-Western educational contexts such as Pakistan and Azad Jammu and Kashmir. This study, therefore, addresses this gap by investigating how self-directed professional development components influence the instructional practices of secondary school teachers in this specific context.

### RESEARCH METHODOLOGY

This investigation employed a descriptive design and utilized a cross-sectional survey approach for data collection from secondary school teachers working in District Kotli, Azad Jammu and Kashmir. The entire population of secondary school teachers in the district, numbering 1,020 individuals, constituted the target population. From this group, a sample of 310 teachers was

selected using a simple random sampling technique, ensuring that every teacher had an equal and independent opportunity for selection, thereby enhancing the representativeness of the sample. A researcher-developed questionnaire based on a five-point Likert scale (ranging from 5 = Strongly Agree to 1 = Strongly Disagree) was used to measure the dimensions of self-directed professional development and instructional practices. Three experts from the Department of Education at the University of Kotli verified the validity of the instrument. Subsequently, a pilot study was conducted with 30 teachers who were not part of the main sample, yielding a Cronbach's Alpha of 0.81, indicating satisfactory reliability. Data collection was carried out through personal visits to the selected schools. The obtained data were analyzed using SPSS version 23. Descriptive statistics (means and standard deviations) were employed to examine teachers' perceptions regarding the components of self-directed professional development and instructional practices, while regression analysis was conducted to determine the impact of self-directed professional development on instructional practices.

### RESULTS

**Table 1: Components of Self-Directed Teacher Professional Development**

Component	N	Mean	Std. Deviation
Teaching skills	310	17.52	2.91
Pedagogical Skills	310	15.44	3.25
Professional skills	310	14.31	2.94

**Interpretation of Table 1:** The data reveal mean scores across three components of self-directed professional development. Teaching skills obtained the highest mean (M=17.52, SD=2.91), followed by pedagogical skills (M=15.44,

SD=3.25), and professional skills (M=14.31, SD=2.94). This indicates that teachers prioritize teaching skills most highly among the three components, suggesting that direct classroom instructional competencies are perceived as the most critical area for self-directed learning.

**Table 2: Prevailing Instructional Practices of Teachers**

Instructional Practice	N	Mean	Std. Deviation
Exploration of topic	310	3.96	1.22
Classroom Discussion	310	3.91	1.14
Formative Assessment	310	2.81	1.40
Feedback	308	2.55	1.29
Home work	310	2.43	1.16

**Interpretation of Table 2:** Mean scores for instructional practices ranged from 2.43 to 3.96. The highest-rated practices were exploration of topic (M=3.96) and classroom discussion (M=3.91), indicating moderate to strong

agreement that these practices are regularly employed. Formative assessment (M=2.81), feedback (M=2.55), and homework (M=2.43) received lower mean scores, suggesting less frequent practice of assessment-related instructional strategies.

**Table 3: Combined Regression Analysis of Teaching Skills, Pedagogical Skills, Professional Skills and Instructional Practices**

Predictor	R	R Square	B	Beta	t	F	Sig.
Teaching Skills	.928	.861	.928	.928	27.94	780.52	.000
Pedagogical Skills	.922	.850	.718	.922	27.88	777.14	.000
Professional Skills	.897	.804	.879	.897	40.92	1674.45	.000
Self-Directed (Combined)	TPD .922	.850	.928	.922	35.62	1268.78	.000

Note: All predictors are significant at  $p < .001$ . Dependent Variable: Instructional Practices.

**Interpretation of Table 3:** The combined regression analysis reveals that all three components of self-directed professional development—teaching skills, pedagogical skills, and professional skills—have strong positive effects on instructional practices. Teaching skills demonstrated the strongest relationship (R=.928,  $R^2=.861$ ), followed by pedagogical skills (R=.922,  $R^2=.850$ ) and professional skills (R=.897,  $R^2=.804$ ). The overall self-directed teacher

professional development variable also showed a strong effect (R=.922,  $R^2=.850$ ). All regression models were statistically significant ( $p < .001$ ), confirming that self-directed professional development significantly enhances teachers' instructional practices at the secondary level. The high Beta values (ranging from .897 to .928) indicate that increases in self-directed professional development are associated with substantial improvements in instructional practices.

## DISCUSSIONS

The primary aim of this study was to evaluate the effect of self-directed teacher professional development on the instructional practices of secondary school teachers in District Kotli, Azad Jammu and Kashmir. The findings conclusively demonstrate that self-directed professional development has a significant and positive effect on instructional practices, aligning with and extending previous research in this domain.

The results of this study are strongly consistent with the findings of Heather L. Brennan Smith's (2016) doctoral research at Johns Hopkins University, which established that self-directed learning initiatives substantially improve teacher effectiveness. Similarly, Sebotsa and Kriek (2019) at the University of South Africa found that professional development empowers teachers to perform more competently in their schools. The current study's finding that teaching skills ( $M=17.52$ ) emerged as the most highly rated component of self-directed professional development aligns with the work of Darling-Hammond, Hylar, and Gardner (2017), who argued that effective professional development must focus on content-specific pedagogical skills.

Regarding the second objective of identifying prevailing instructional practices, the relatively lower mean scores for formative assessment ( $M=2.81$ ), feedback ( $M=2.55$ ), and homework ( $M=2.43$ ) are concerning but not surprising. This finding mirrors the observations of Hattie and Timperley (2007), who noted that feedback and formative assessment are often underutilized despite their high impact on student achievement. The possible explanation for this phenomenon in the Pakistani context may include large class sizes, examination-oriented assessment systems, limited training in formative assessment techniques, and a cultural emphasis on summative examinations as the primary measure of student success.

Furthermore, the strong regression coefficients (Beta values ranging from .897 to .928) indicate that teachers who actively engage in self-directed professional development are substantially more likely to employ effective instructional practices. This supports the theoretical framework proposed by Lopes and Cunha (2017), who conceptualized

self-directed professional development as a cyclical process of self-assessment, goal-setting, action, and reflection. The high R-square values (ranging from .804 to .861) suggest that self-directed professional development explains a substantial proportion (80-86%) of the variance in instructional practices, leaving relatively little variance to be explained by other factors.

Recent literature further corroborates these findings. Van der Heijden, Van den Heuvel, and Gorgievski (2020) found that teachers' proactive personality and self-directed learning orientation significantly predict their professional growth and instructional innovation. Additionally, Attia (2021) demonstrated that self-directed professional development is particularly effective when teachers collaborate in professional learning communities, suggesting that the self-directed approach does not occur in isolation but can be enhanced through structured collegial support.

The findings also align with the work of Kraft and Papay (2014), who found that teachers improve more rapidly when they work in professional environments that support autonomous learning and provide opportunities for collaboration. In the Pakistani context, where centralized professional development has often been criticized for being irrelevant to classroom realities, self-directed professional development offers a promising alternative that respects teacher autonomy and contextual specificity.

However, the lower scores on assessment-related practices also point to a gap that needs to be addressed through targeted self-directed learning resources. Teachers may benefit from self-directed modules on formative assessment techniques, feedback strategies, and effective homework design. School administrators can support this by curating high-quality resources and creating time for teachers to engage in self-directed learning during school hours.

The use of simple random sampling in this study strengthens the generalizability of the findings to the entire population of secondary school teachers in District Kotli. By ensuring that every teacher had an equal chance of selection, the sample is representative, and the results can be confidently extended to the broader population.

The implications for the Pakistani educational context are substantial. Traditional top-down professional development models have often failed to produce sustainable changes in classroom practice. This study provides empirical evidence that promoting self-directed professional development may offer a more viable and effective alternative, particularly in resource-constrained settings where external training opportunities are limited.

## CONCLUSIONS

Based on the findings of this study, the following conclusions are drawn:

**Components of Self-Directed Professional Development:** It is concluded that teaching skills, pedagogical skills, and professional skills are the three key components of self-directed teacher professional development. Among these, teaching skills emerged as the most prominent component, indicating that secondary school teachers in Kotli prioritize direct instructional competencies over broader pedagogical and professional skills.

**Prevailing Instructional Practices:** It is concluded that exploration of the topic and classroom discussion are the most frequently practiced instructional strategies in the secondary schools of Azad Jammu and Kashmir. However, formative assessment, feedback, and homework are practiced at relatively lower levels, suggesting a gap in assessment-related instructional practices that may negatively impact student learning outcomes.

**Significant Effect of Self-Directed Professional Development:** It is conclusively established that self-directed teacher professional development has a significant, strong, and positive effect on the instructional practices of secondary school teachers. The regression models demonstrated that all three components of self-directed development significantly predict improved instructional practices, with teaching skills showing the strongest effect.

**Teacher Autonomy and Professional Growth:** The findings lead to the conclusion that

when teachers take ownership of their professional growth through self-directed learning activities—such as reading educational literature, participating in online courses, observing peers, and reflecting on their own practice—they are more likely to implement diverse and effective instructional strategies in their classrooms.

**Contextual Relevance:** It is concluded that self-directed professional development is particularly relevant in the Pakistani context, where centralized training models often fail to address the unique challenges faced by teachers in specific schools and communities. Self-directed approaches allow teachers to tailor their learning to their specific classroom needs.

## RECOMMENDATIONS

Based on the findings and conclusions of this study, the following recommendations are proposed for policymakers, teacher educators, school administrators, and teachers:

### For Teachers

Secondary school teachers should be encouraged to actively pursue self-directed professional development opportunities beyond mandatory training sessions. Teachers may create individual professional development plans that include specific goals for improving teaching skills, pedagogical content knowledge, and professional competencies.

Engaging in activities such as action research, peer observation, online learning communities, and maintaining reflective teaching journals can substantially enhance instructional practices. Teachers should dedicate at least one hour per week to self-directed professional learning.

Teachers should specifically focus on improving assessment-related practices, including formative assessment techniques and providing effective feedback, as these areas showed the lowest implementation levels in the current study.

### For School Administrators

Head teachers and principals should foster a school culture that values and supports self-directed professional development. This can be

achieved by allocating dedicated time during school hours for professional learning activities, establishing teacher learning resource centers, recognizing and rewarding teachers who demonstrate initiative in their professional growth, and reducing administrative burdens that impede self-directed learning.

School administrators should create professional learning communities where teachers can share their self-directed learning experiences, resources, and outcomes with colleagues, thereby amplifying the benefits of individual learning across the entire school.

#### **For Teacher Education Programs**

University departments of education and teacher training institutions should redesign pre-service and in-service teacher education curricula to explicitly develop self-directed learning skills. Coursework should include modules on goal-setting, self-assessment, reflective practice, and identifying credible professional development resources.

Prospective teachers must be trained not only in instructional strategies but also in how to continuously learn and adapt throughout their careers. Teacher educators should model self-directed learning behaviors in their own practice.

#### **For Educational Policymakers**

The education department at the district and provincial levels should integrate self-directed professional development into the existing Continuing Professional Development (CPD) framework. Rather than relying exclusively on centralized, workshop-based training, policies should provide flexibility for teachers to earn professional development credits through diverse self-directed activities, including online courses, professional reading, classroom-based research, and peer mentoring.

A blended approach to professional development should be adopted, combining mandatory training sessions with flexible self-directed options. This would respect teacher autonomy while ensuring minimum standards of professional development are met.

#### **For Curriculum Developers**

Textbook boards and curriculum authorities should embed prompts and activities within teaching guides that encourage self-directed professional development. These may include reflective questions at the end of each unit, suggestions for further professional reading, and templates for teachers to document their own learning and classroom experiments.

#### **For Future Research**

Further studies should be conducted to explore the specific self-directed professional development activities that yield the greatest improvements in instructional practices. Longitudinal research designs are recommended to examine how self-directed learning impacts teacher performance and student achievement over extended periods.

Comparative studies between public and private sector schools, as well as across different regions of Pakistan, would provide valuable insights into contextual factors that facilitate or hinder self-directed professional development.

Qualitative studies, including case studies and phenomenological approaches, are recommended to gain deeper insights into the lived experiences of teachers who successfully engage in self-directed professional development and the strategies they employ to overcome challenges.

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