Teacher Professional Development

The Gulf Arab States Educational Research Center (GASERC)

Teacher Professional Development

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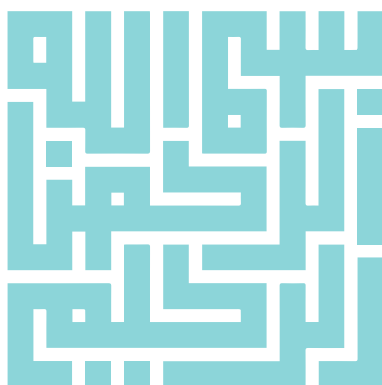
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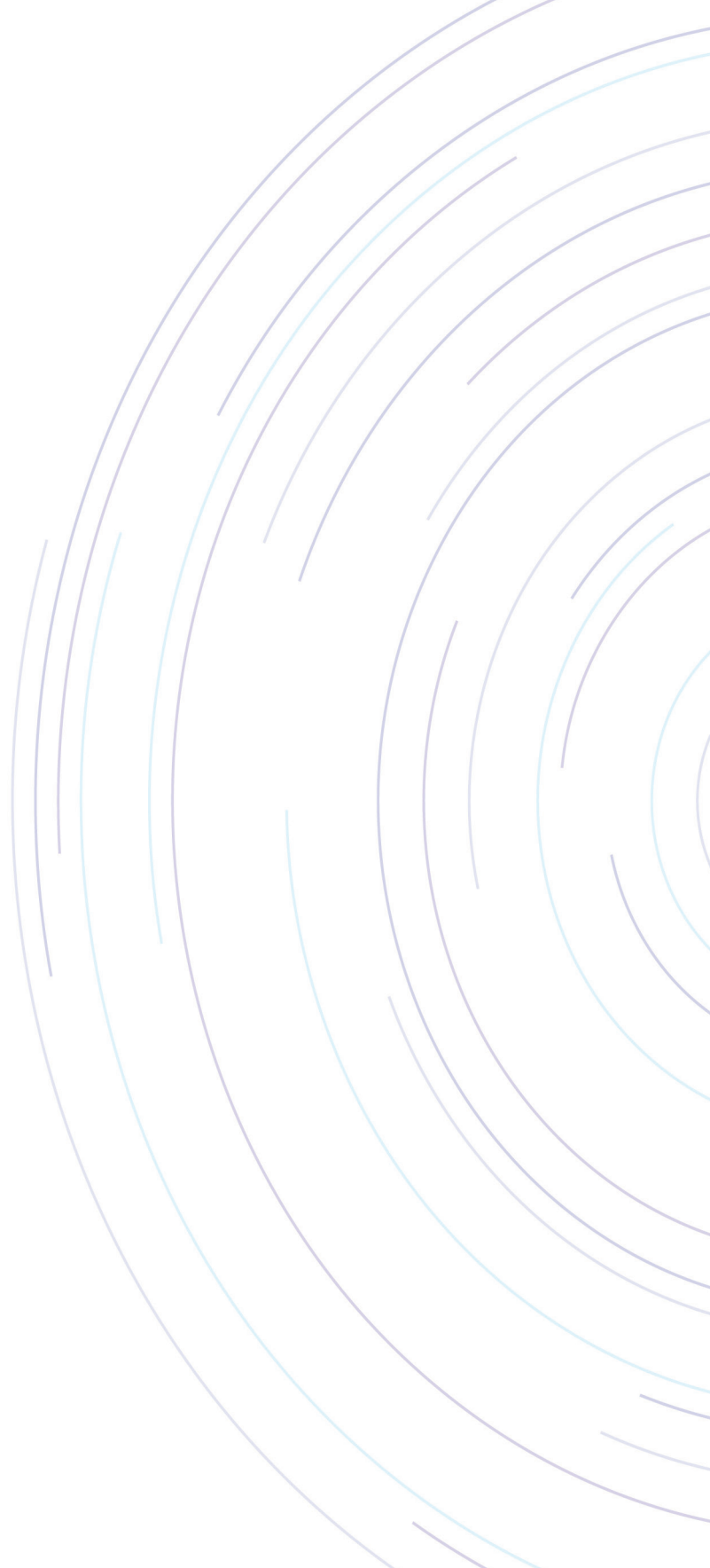We are pleased at the Gulf Arab States Educational Research Center to present to our esteemed readers the third issue in the "Specialized Scientific Reports" series, which continues our mission of shedding light on pivotal educational issues grounded in scientific evidence while responding to the policy priorities of education systems in the Gulf States. Through these reports, we aim to provide in-depth analytical reviews of Gulf-based educational literature, thereby enhancing the capacity of decision-makers and educational practitioners to adopt more effective policies and practices aligned with the specificities of the local educational context.

This issue is dedicated to the theme of **"Teacher Professional Development"**, reflecting our recognition of the teacher's central role as the cornerstone of any successful educational reform. Investing in sustainable teacher development is a key gateway to improving education quality and achieving national development goals across the region. Both regional and international studies have emphasized that a teacher who is pedagogically and professionally empowered is best equipped to foster an engaging classroom environment, adopt innovative teaching practices, and directly improve student learning outcomes.

Accordingly, this report explores several interrelated themes, including: the current state of teacher professional development in the Gulf States, the factors influencing it, the impact of training programs on classroom performance, practical recommendations for teachers and decision-makers to improve policies and practices, and finally, proposed directions for future research in this field.

We hope that this report will serve as a valuable contribution to the Gulf educational discourse on teacher professional development, and that it will help build a more coherent strategic vision that supports teachers and empowers them to meet the evolving challenges of the teaching profession in a rapidly changing era. We also aspire for this report to be a rich reference tool—filled with analyses, data, and recommendations—for decision-makers, researchers, and educators seeking to enhance the effectiveness of educational reform and elevate the future of education in the Gulf States.

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Report Topic: Teacher Professional Development

Dear Reader,

Teacher professional development is a fundamental concern for policymakers, researchers, and practitioners across the Gulf Cooperation Council (GCC) countries, due to its direct impact on educational quality and the effectiveness of education systems. Investing in the professional growth of teachers not only improves their performance in the classroom but also contributes to the development of the overall school learning environment. This, in turn, supports national development goals and enhances the competitiveness of educational outcomes. Educational literature has consistently emphasized that competent and motivated teachers are the key drivers of sustainable educational transformation capable of meeting 21st-century demands.

This third issue in the *Specialized Scientific Reports* series addresses the theme of **Teacher Professional Development** through multiple, complementary components. The first section examines the current state of teacher professional development in the Gulf States by analyzing prevailing trends, institutional efforts, and existing challenges. The second section explores the various factors that influence teacher professional development, with a focus on institutional, personal, technological, and cultural dimensions that shape the professional environment of teachers. The third section investigates the impact of professional development programs on teacher performance, drawing on experimental and quasi-experimental studies conducted in the region to measure program outcomes. In the fourth section, the report provides practical recommendations for both teachers and decision-makers to improve the design, implementation, and sustainability of professional

development practices and programs. The report concludes with a fifth section outlining proposed directions for future research, helping to guide researchers toward areas that warrant deeper exploration.

By presenting these interconnected themes, the report aims to enrich the Gulf educational dialogue around teacher professional development and to offer a robust knowledge base that supports the formulation of more responsive education policies. These policies should address teachers' needs, reflect the realities of educational practice, and ultimately enhance the quality of education across the Gulf region.

The Editor

The Current State of Teacher Professional Development in the Gulf States

Over the past two decades, the countries of the Gulf Cooperation Council (GCC) have made rapid efforts to develop their educational systems. A prominent feature of these reforms has been the strong push to enhance teacher professional development as a cornerstone for improving education quality and achieving the desired transformation in learning outcomes. These efforts have taken various forms, including formal initiatives led by Ministries of Education, institutional partnerships between universities and teacher preparation institutions, and emerging practices within both public and private schools.

Nevertheless, professional development in the region continues to face several challenges. Chief among them is the need for unified national frameworks, inconsistent effectiveness of training programs, misalignment with teachers' needs, and a weak integration between theoretical and practical aspects. This section presents key studies that have examined the current state of teacher professional development across the Gulf States by analyzing policies, practices, and field experiences. It aims to highlight the main challenges, identify potential opportunities, and explore future development pathways.

One of the most documented cases is that of the United Arab Emirates (UAE). A recent study by Bacsal et al. (2022) explored the evolution of teacher professional development in the UAE, tracing its progression from the use of untrained foreign teachers in the 1970s, to the establishment of teacher preparation colleges, and eventually to more specialized and comprehensive programs addressing educational leadership, special education, early childhood, and physical health.

Despite the variety of initiatives, the study noted the lack of a unified national framework to guide professional training, which has resulted in fragmented and inconsistent efforts. Many programs struggled to bridge theory and practice, relying on traditional training methods that were not directly relevant to school realities. However, there were notable successes, such as a two-year gifted education training program which was marked by flexibility, formative assessment, and hands-on application.

The study also highlighted the major impact of the COVID-19 pandemic on the education system, prompting a rapid shift to digital learning and the launch of intensive training programs for teachers. Despite these efforts, many teachers reported feeling unprepared for online instruction, especially when working with students with disabilities. The study concluded by recommending the development of a flexible, context-sensitive national framework for teacher professional development that integrates theory with practice. It also called for the design of continuous training programs tailored to the needs of teachers across stages and specialties, incorporating interactive practical training, reflective practice, and constructive feedback.

The recommendations emphasized the importance of involving teachers in the design and delivery of training programs to strengthen their professional empowerment. Furthermore, the study urged greater collaboration between universities and education authorities, such as the Ministry of Education, the Abu Dhabi Department of Education and Knowledge (ADEK), and the Knowledge and Human Development Authority (KHDA), to develop high-quality training content. It also stressed the need for systematic evaluation of program effectiveness using clear measurement tools, and for linking outcomes to student performance and educational results. Finally, the study called for providing dedicated technical and institutional support to teachers working with students with

disabilities to ensure inclusive education and equal opportunities.

In Saudi Arabia, Mohammad (2021) investigated the status and mechanisms of activating partnerships between colleges of education and local education authorities to enhance teacher professional development, in line with the goals of *Vision 2030* to build a leading educational system and elevate the quality of general education. This study is particularly valuable as it tackles a key pillar in educational reform—building integrative relationships between higher education institutions and the school field to better prepare new teachers for dynamic classroom realities.

The study employed a descriptive-analytical methodology and relied on quantitative and qualitative approaches. A survey was distributed to a sample of education faculty members and officials from education departments, in addition to analyzing relevant official documents. The study aimed to assess the current state of these partnerships, the challenges they face, and strategies to improve them. Results indicated weak institutional coordination between colleges and education departments, along with legal, regulatory, and administrative barriers hindering professional development collaboration. The study also identified misalignment between university preparation programs and schools' needs, limiting the effectiveness of field training and graduate readiness.

A proposed framework was developed to activate partnerships through the creation of a formal institutional structure outlining areas of collaboration, implementation mechanisms, and role definitions. This included the establishment of a joint council or committee to oversee program coordination and impact assessment, along with clear regulations mandating collaboration and ensuring sustainability beyond informal agreements. The framework also recommended the creation of *Professional Development Schools* in partnership with education colleges to deliver training programs for teachers and school leaders, promote a culture of sustainable

collaboration, and leverage academic expertise to support school-based professional development. This comprehensive vision aims to establish a long-term partnership model that fosters mutual engagement and empowers teachers to meet national development goals (Mohammad, 2021, pp. 248–252).

Similarly, Al-Qahtani (2021) evaluated the current state of professional development programs in Saudi Arabia from the perspective of teachers and proposed a model for enhancing the role of universities in this field. Using a descriptive survey method and a questionnaire covering three areas, program design, implementation, and outcomes, the study surveyed 891 teachers across all education stages. Findings revealed major gaps in current professional development offerings and underscored the urgent need for universities to play a larger role in program design and delivery.

The proposed model drew inspiration from leading international institutions such as Harvard and Cambridge, integrating two key principles: the *Teacher Needs-Based Professional Development* (TNBPD) model, which emphasizes problem-solving, and *Backward Design*, which starts with intended outcomes. The model promotes collaboration between the National Institute for Educational Professional Development and Saudi universities to create more effective professional development programs.

Recommendations included adopting the proposed model to strengthen university partnerships, drawing lessons from global experiences, and enhancing university involvement in all stages of professional development. Additional recommendations included identifying training needs before program design, introducing graduate-level programs in professional development, and offering targeted support for underperforming teachers preparing for licensure exams (Al-Qahtani, 2021, p. 129).

In Qatar, Sadiq et al. (2023) conducted a study analyzing the current *induction program for new teachers* in public schools and proposed improvements. The study is noteworthy as the first of its kind in Qatar's educational system and focuses on the critical issue of teacher attrition, especially among Qatari nationals. The methodology combined document analysis with semi-structured interviews with school leaders, aiming to gain deeper insights into the implementation of the program.

Findings revealed that current activities fall under "low-intensity activities" based on the conceptual framework by Stansbury and Zimmerman. These include emotional support and assigning mentor teachers. While low-cost and intended to retain new teachers, these measures were found insufficient for enhancing professional performance.

The study recommended integrating "high-intensity activities" such as structured mentoring and specialized workshops to improve teaching performance to ensure retention and development. This recommendation is crucial to enhance teacher effectiveness and overall quality within the Qatari education system.

In another Qatari study, Qadhi and Floyd (2021) explored the perceptions and experiences of English language teachers regarding *Continuous Professional Development (CPD)*. Employing a *narrative approach* through semi-structured life history interviews, the study involved 16 experienced female English teachers working in Qatari schools. The qualitative design allowed teachers to share rich personal and professional reflections.

Findings revealed highly varied CPD experiences shaped by personal and professional attributes. Influencing factors included passion for teaching, time constraints, attitudes toward program providers, peer learning, practical experience, and self-reflection. These results suggest that a one-size-fits-all CPD model may be

ineffective.

The study recommended a shift from traditional CPD to a more dynamic and responsive model that addresses individual teacher needs, encourages self-directed growth, and supports professional dialogue. Such a model would significantly improve English language teaching by ensuring that development programs are relevant, adaptive, and sustainable.

In Oman, Al-Harthiya et al. (2022) tested a *four-dimensional measurement model* of professional learning to evaluate its applicability in the Omani educational context and to identify the most common activities among teachers. The sample included 315 teachers from Muscat, and the dimensions measured were: reflection, experimentation, collaboration, and inquiry.

The results confirmed the model's compatibility with the local context. Teachers reported highest engagement in "experimentation," followed by "reflection," "collaboration," and "inquiry." Interestingly, no statistically significant gender or experience-based differences were found, except for experimentation, where female teachers scored higher, indicating a greater willingness to try new methods.

The study recommended structured programs to support underrepresented practices (e.g., collaboration, inquiry), and proposed establishing a *professional teachers' association* to advocate for the profession. It also emphasized encouraging intentional reading of educational literature and using the validated model to assess teachers' training needs (Al-Harthiya, Al-Mahdi et al., 2022, pp. 48–49).

These results are confirmed by another study (Al-Harithiya, Al-Fahdi, et al., 2022) on the relationship between teachers' developmental power and informal professional learning in public schools in the Sultanate of Oman. The findings showed that teachers in Oman possess a high level of developmental power in learning

efficacy, teaching efficacy, optimism, and constructive engagement. Those dimensions were rated at a "very high" level. Among them the dimension of "optimism" was the most prominent. The study also revealed that teachers intensively engage in informal professional learning activities and found a positive and effective impact of developmental power on teachers' professional learning, thus confirming the strong relationship between these two concepts.

Based on its results, the study recommended that educational systems should focus on strengthening and sustaining teachers' developmental power by providing them with opportunities to actively participate in improving the educational process. It also emphasized the importance of the "constructive engagement" dimension as the key factor directly influencing teachers' motivation to practice professional learning. This finding indicates that creating a work environment that encourages teachers to interact and participate effectively in decision-making and share professional experiences is a vital key to enhancing their professional learning and improving their performance.

In Kuwait, Aljassar and Altammar (2020) proposed a framework for improving in-service teacher training programs. Using a qualitative design with in-depth interviews, the study included 18 supervisors and 36 teachers. Results highlighted weaknesses in current initiatives, including limited training centers, repetitive program content, imbalances between supervisors and teachers, and the absence of a clear strategy for continuous professional growth. Teachers also criticized evening schedules, irrelevant content, outdated methods, and unqualified trainers. Supervisors, meanwhile, pointed to overwhelming administrative burdens limiting their capacity to provide effective professional support.

The study proposed an *interactive framework* consisting of five pillars: program description, target groups, objectives, content development, and implementation/evaluation mechanisms.

Recommendations included establishing a *national professional development framework*, mandating annual training, expanding training centers, integrating technology, and offering both financial and moral incentives such as promotions and scholarships. The study also stressed the need to redefine the role of supervisors, reduce administrative tasks, and increase classroom visits for closer monitoring and support (Aljassar & Altammar, 2020, pp. 382–383).

Building on this, Al-Hashem (2022) analyzed the *Continuous Professional Development (CPD)* program in Kuwait, which was part of a larger World Bank initiative to improve education quality. Using qualitative methods, the study gathered insights from 127 participants across the education sector. Findings revealed fragmented CPD activities, theoretical and generic content, insufficient training in special needs and professional ethics, and a lack of alignment between different stages of teacher preparation and development.

The study recommended transforming CPD into a teacher-centered model, redesigning pre-service programs to include practical experiences, creating an interactive database to track teachers' professional records, and establishing clear mentoring systems for new teachers. It also called for stronger quality assurance for training providers and the creation of an advisory committee including education faculty and policymakers to align national CPD with international best practices. The study concluded that a new flexible CPD framework is needed to encourage teacher excellence, improve student outcomes, and support personalized professional pathways (Al-Hashem, 2022, pp. 582–583).

In Bahrain and Oman, Al-Mahdi et al. (2023) examined *Professional Learning Communities (PLCs)* in private schools, analyzing two case studies led by the researchers themselves as school leaders. Results showed that PLCs are highly compatible with local contexts when supported by strong leadership, collaborative

school culture, and a focus on collective learning. Key practices included collaborative planning, curriculum pathway design, teacher-parent-student teamwork, and peer lesson observations. Differences emerged between countries: Bahrain emphasized extended professional networks and technology use, while Oman implemented an intensive 21CAST program to transform subject teachers into professional homeroom teachers.

The study recommended adopting PLCs more broadly, adapting global practices to local cultures, and shifting from traditional training to collaborative networks that empower teachers. It also stressed the need to prepare school leaders to sustain PLCs with adequate resources, and to involve students and parents to maximize impact.

A further study, Pitychoutis et al. (2025), investigated the professional development of expatriate teachers across the Gulf. Using a survey of 144 foreign teachers, the study found significant differences in perceptions based on age and experience. Experienced teachers valued professional development for long-term growth but doubted its daily relevance. Those with many years in the Gulf viewed PD as unproductive, offering little chance of promotion, reflecting frustration and misalignment between training and career realities.

The study concluded that Gulf States must design *tailored PD programs* for expatriates, moving away from generic models toward dynamic, interactive approaches that recognize expatriates' professional contexts. Recommendations included linking PD participation to career progression (promotions, recognized certifications), providing institutional support such as study leave and resources, and evaluating programs regularly to ensure relevance and effectiveness (Pitychoutis et al., 2025, p. 195).

The reviewed literature and field studies highlight that, despite the Gulf States' significant expansion of teacher professional development initiatives, persistent challenges remain. Chief among these is the need for unified national frameworks, weak integration of theory and practice, insufficient responsiveness to teachers' real needs, fragmented and unsustainable programs, and lack of systematic evaluation tools to measure real impact. Studies repeatedly pointed to the dominant top-down, government-centered approach with limited teacher involvement in program design, undermining effectiveness.

At the same time, several partially successful experiences were noted, such as *Professional Development Schools* in Saudi Arabia, specialized inclusive programs in the UAE, induction programs in Qatar, and PLCs in Bahrain and Oman. These showed promise when supported by strong leadership, infrastructure, and evaluation mechanisms.

Overall, the findings emphasize the urgency of restructuring professional development systems in the Gulf, transforming them from fragmented initiatives into comprehensive national strategies grounded in evidence-based planning, cross-sector partnerships, and sustainable teacher empowerment. Only then can professional development effectively improve education quality and support broader educational reforms in the region.

Factors Influencing Teacher Professional Development

Effective teacher professional development cannot be realized in isolation but from a set of interrelated factors that influence its nature, quality, and sustainability. The success of professional development programs depends on the quality of content, the design of training activities, and on a range of institutional, personal, technological, and cultural determinants. These include educational leadership, the role of higher education institutions, administrative support, funding, pedagogical practices within schools, as well as professional incentives and teachers' own attributes such as motivation, self-reflection, and professional competence. In the Gulf context, the uniqueness of these factors becomes particularly evident amid the rapid transformations of educational systems, varying levels of decentralization, and the diversity of organizational structures and school environments. This section reviews key studies that have examined those factors in the Gulf States, with the aim of developing a deeper understanding of the enabling and constraining conditions for professional development, and of identifying strategies to maximize its broader and more sustainable impact on teacher performance and education quality.

In this regard, several field studies in the Gulf have addressed the specific roles of some of these factors. Among the most notable is the study by Al-Salmi and Al-Harthiya (2021), which sought to explore the reality of *voluntary online learning* and its role in enhancing teacher professional development in Saudi Arabia. The study also aimed to identify potential obstacles that teachers might face in this area and to propose practical solutions for overcoming them. Additionally, it investigated whether statistically significant differences existed in teachers' views on the role of voluntary learning, based on variables

such as years of experience and frequency of participation. To achieve these objectives, the researchers adopted a descriptive-analytical and survey-based approach, designing a comprehensive questionnaire structured around three main dimensions, which was administered to a random sample of 380 male and female teachers.

The study's findings indicated strong teacher agreement that voluntary online learning significantly contributes to their professional growth. At the same time, it did not overlook the limitations, as teachers acknowledged the presence of obstacles that hindered them from fully benefiting from this type of learning. Moreover, the study revealed statistically significant differences in teachers' perceptions of voluntary learning, linked to factors such as years of experience and frequency of participation. Overall, however, the results affirmed that voluntary learning via digital platforms plays an important role in teachers' professional development, strengthening their teaching skills, cultivating qualities that support self-improvement, and providing them with a variety of new experiences.

Based on its findings, the study offered several recommendations and suggestions to expand the role of voluntary online learning in enhancing teacher professional development. Chief among these were: the establishment of formal regulations to organize voluntary learning and position it as a key avenue for teacher professional growth, raising awareness of the importance of such learning for professional development, making voluntary learning an official requirement for teacher promotion within the licensing system, and removing barriers to ensure teachers can gain the maximum benefit from this type of professional development (Al-Salmi & Al-Harthiya, 2021, pp. 227–228).

Another study, conducted by Al-Saif (2025), examined the role of *artificial intelligence (AI)* in the professional development of secondary school teachers in Hail, Saudi Arabia. The study aimed to activate this role, identify the obstacles hindering the use of AI

in education in general and in teacher professional development in particular, and propose practical solutions to overcome them.

Adopting a descriptive methodology, the researcher designed a questionnaire as the primary data collection tool. The survey was administered to a random sample of 316 male and female secondary school teachers in Hail, with the goal of exploring their perceptions regarding the current state of AI use and the challenges they face in applying it to their professional growth.

The results revealed that teachers possessed a moderate level of awareness regarding the importance and potential of AI in the educational process. However, their actual use of AI tools in classrooms remained limited. The study highlighted a clear gap between teachers' theoretical knowledge of these technologies and their ability to apply them in practice. It also identified the most significant obstacles to effective AI integration: insufficient knowledge and specialized training, inadequate institutional support from education authorities, and teachers' apprehensions about the implications of using AI in classroom settings.

Based on these findings, the study presented a set of practical recommendations to strengthen the role of AI in teacher professional development. These included: the need to provide intensive, hands-on training programs for teachers focusing on the practical application of AI tools; the importance of enhancing institutional support from the Ministry of Education and local education authorities through the provision of appropriate infrastructure and technological resources; and the establishment of professional learning communities to encourage teachers to exchange experiences and knowledge about AI use in education. The study also suggested creating specialized AI-based educational platforms that enable teachers to participate actively in using such tools to enhance their skills and improve their instructional performance (Al-Saif, 2025, pp. 62–63).

Educational leadership is also among the most significant factors influencing teacher professional development. In this regard, Al-Harthiya (2021) conducted a study to explore the impact of educational leadership practiced by principals of public schools in Oman on teachers' professional learning and their *developmental agency*. The study further aimed to identify which of the four dimensions of educational leadership—*building a vision for learning, supporting learning, managing the learning program, and modeling*—were most influential in shaping teachers' professional learning, with developmental agency serving as a mediating factor.

To achieve its objectives, the study employed a quantitative research design and developed a hypothetical structural model based on educational theories and previous studies. This model illustrated the causal relationships between the key variables: educational leadership, teachers' developmental agency, and professional learning. The model was tested using *Structural Equation Modeling (SEM)*. Data were collected from a sample of 574 teachers, using three validated and culturally adapted scales to ensure the accuracy and reliability of findings.

The results indicated a significant positive impact of principals' educational leadership on both teachers' developmental agency and their professional learning. Importantly, the study revealed that teachers' developmental agency played a full mediating role in the relationship between principals' leadership and teachers' professional learning. In other words, the influence of principals on teacher learning was not direct but operated through strengthening teachers' capacity for professional growth. Furthermore, the study showed that the indirect effect of leadership was mainly driven by two dimensions, *managing the learning program* and *building a vision for learning*. No statistically significant differences were found in the model structure based on the gender of school principals.

Drawing on these findings, the study proposed a *developmental model* to enhance the role of educational leadership in promoting teacher professional development. It suggested several practical measures for principals and professional development officers at the Ministry of Education, including supporting principals in understanding the objectives of educational reform in Oman, enabling them to adopt more effective leadership practices that influence teachers' developmental agency, clarifying the specific roles of educational leaders, and providing practical guidelines on how to maximize their impact on teachers' informal professional learning. Such steps would contribute to improving classroom practices and sustaining high-quality teaching and learning outcomes.

A related study by Al-Duraieya (2023) examined the extent to which principals of basic education schools in Al-Dakhiliyah Governorate, Oman, practiced the dimensions of *authentic leadership* and the relationship of these practices to teachers' *organizational commitment*. The study adopted a descriptive-correlational design and employed a survey administered to a random sample of 286 teachers.

The findings revealed that principals' practice of authentic leadership dimensions was rated at a high level. The results also indicated statistically significant differences favoring teachers who held a master's degree or higher. In addition, teachers in these schools demonstrated a high level of organizational commitment overall. However, no statistically significant differences were found in organizational commitment related to teachers' academic qualifications. The study further revealed a positive and statistically significant correlation between all dimensions of principals' authentic leadership and teachers' organizational commitment.

Based on these results, the researcher recommended that senior education authorities responsible for professional training and development should give greater attention to the role of educational

leadership in enhancing teacher professional development. The study emphasized the importance of incorporating authentic leadership practices of principals, as well as teachers' organizational commitment, into the core themes of professional development programs. This would reinforce authentic leadership among principals and contribute to raising teachers' organizational loyalty, thereby improving their professional practices and supporting sustainable school improvement.

In Kuwait, Alazmi and Hammad (2023) investigated the impact of *learning-centered leadership* on teacher professional development in public schools. The study sought to understand how school principals' leadership affects teachers' professional learning through two mediating variables: *teacher trust* and *teacher efficacy*.

The researchers adopted a non-experimental predictive survey design and applied *Structural Equation Modeling (SEM)* to analyze the relationships among the variables. Data were collected between May and September 2020 from a stratified random sample of 1,060 male and female teachers working in 64 public schools across six educational districts. An electronic questionnaire was used as the primary data collection tool.

The results validated the proposed model, showing that learning-centered leadership exerted direct and indirect effects on teachers' professional development. The indirect effect was mediated by teacher trust and teacher efficacy, meaning that principals' leadership styles influenced the degree of trust and efficacy among teachers, which in turn enhanced their engagement in professional learning. These findings underscore the importance of principals' leadership in fostering teacher growth and development.

Based on the findings, the study put forward several recommendations for policymakers, school leaders, and leadership training institutions. Chief among them was the need for educational

leadership in Kuwait to shift away from traditional styles toward more collaborative approaches that promote *professional learning communities* and grant greater autonomy to schools. This would enable teachers to actively participate in decisions related to professional development and school improvement. The study also recommended empowering principals to adopt leadership styles that encourage reflective thinking, knowledge sharing, and participation in collaborative development activities. In addition, it called for reforming school infrastructure and policies to support sustainable change. Finally, the study emphasized the importance of leadership preparation programs that equip principals with the knowledge and skills necessary for learning-centered and transformational leadership, thereby strengthening their roles as educational leaders and agents of change within Kuwait's broader educational reform context (Alazmi & Hammad, 2023, pp. 1153–1154).

In Kuwait, Alsaleh (2022) sought to examine the impact of department heads' *instructional leadership*, *teacher collaboration, and administrative support* on *school-based professional learning*. The study adopted a quantitative descriptive approach and utilized a questionnaire as its main tool for data collection.

A cluster sampling method was used to select 24 public schools (two boys' schools and two girls' schools) randomly from each of Kuwait's six educational districts. A total of 876 questionnaires were distributed to teachers, of which 649 were valid for analysis.

The results showed that teachers reported a high level of positive perception of school-based professional learning. Multiple regression analysis revealed that teacher collaboration was the strongest predictor of professional learning, followed by the instructional leadership of department heads, and then school administrative support. Collectively, these three factors explained about 49.8% of the variance in teachers' engagement in school-

based professional learning. The study also found strong correlations between administrative support, instructional leadership of department heads, and collaboration among teachers.

The findings highlighted the effectiveness of weekly departmental meetings mandated by Kuwait's Ministry of Education in enhancing teachers' professional learning and improving their subject-related skills and knowledge. The study underscored that effective professional learning is an interactive process shaped by organizational factors.

Based on these results, the study concluded that encouraging collaboration among teachers, strengthening department heads' instructional leadership, and ensuring adequate administrative support are essential for building successful educational environments where teachers can grow and develop professionally. The study further recommended promoting informal teacher learning within schools, such as peer coaching, informal collaboration, reciprocal classroom observations, and self-directed independent learning. It also called for rethinking the traditional supervisory role of department heads and redesigning it to better serve as facilitators of teacher learning and professional capacity-building (Alsaleh, 2022, p. 845).

A study by Bin-Hady et al. (2024) investigated the role of *Professional Learning Communities (PLCs)* in supporting the continuous professional development (CPD) of English as a Foreign Language (EFL) teachers in Yemen. The study also aimed to measure teachers' perceptions of the extent to which these communities empowered them professionally and to identify which components of CPD—*foundation, participation, integration, and specialization*—were most influential.

The research adopted a quantitative design and utilized a closed-ended questionnaire specifically developed to capture teachers'

perceptions. The sample consisted of 54 EFL teachers in Yemen who were members of a PLC established and supported by the British Council from late 2022 to early 2023. The questionnaire addressed the four CPD components, and the data were analyzed statistically using SPSS.

Findings indicated that teachers' participation in PLCs had a clear and positive impact on their professional development, with an overall mean score of 3.90 out of 5.00, reflecting a high level of influence. Among the four CPD components, *participation* scored the highest (mean = 4.04), underscoring the importance of interaction and collaboration among teachers. The study also revealed no statistically significant differences in teachers' perceptions of CPD based on gender or years of teaching experience.

Based on these findings, the study recommended strengthening and expanding PLCs to include more EFL teachers in Yemen. It argued that PLCs provide valuable platforms for teachers to exchange ideas and experiences, thereby enhancing their professional performance. The study also noted that these results could be especially relevant for international organizations working in crisis-affected countries, where training opportunities are often scarce. It suggested training a cohort of teachers to serve as PLC leaders, who could then mentor and train others across the country. PLCs were presented as a practical solution to compensate for the shortage of formal workshops and training programs.

The study further advised teacher education faculty to promote the culture of professional learning communities among their students in colleges of education, so that new teachers can embrace the concept early on and later benefit from its professional advantages throughout their careers.

The reviewed studies underscore the complex and multifaceted nature of the factors shaping teacher professional development

in the Gulf States. *Educational leadership,* whether exercised by principals, department heads, or supervisors, emerges as a central driver of professional learning and their organizational commitment thus strongly influencing teachers' engagement. Leadership that is participatory, authentic, and learning-centered provides the structural and cultural foundation necessary for effective professional   development.

At the same time, *teacher agency and motivation* play a decisive role. Teachers' willingness to reflect, collaborate, and pursue self-directed learning significantly enhances the outcomes of professional development. Digital and technological opportunities, such as voluntary online learning and the integration of artificial intelligence, represent promising avenues for innovation, but require institutional support, clear regulations, and awareness-building to ensure their effectiveness and sustainability.

The evidence also highlights the value of *collaborative professional cultures*. Professional Learning Communities (PLCs), informal peer learning, and collegial networks have proven particularly effective in contexts where formal training may be limited, offering flexible, low-cost, and highly impactful alternatives to traditional top-down programs.

Overall, the findings point to the need for a *holistic approach* to teacher professional development in the Gulf region—one that integrates supportive leadership practices, empowers teachers as active agents of their own learning, leverages technological opportunities, and fosters collaborative networks. Such an approach would ensure sustainable professional growth, improve classroom practices, and ultimately enhance the quality of education across the region.

The Impact of Professional Development Programs on Teacher Performance: Field Experiences

Measuring the impact of professional development programs on teachers' performance is one of the key benchmarks that determine the relevance and true effectiveness of such programs in advancing education reform. While initiatives multiply and training frameworks vary, field results remain the most credible indicator for judging the success of these efforts in bringing about tangible change in classroom practices, enhancing teachers' pedagogical skills, and improving students' achievement. In this context, numerous studies in the Gulf have focused on evaluating specific training programs, relying on experimental and quasi-experimental designs and precise tools to measure educational performance before and after training. This section highlights selected field experiences from various Gulf countries, aiming to shed light on the nature of training interventions, the approaches to their design and implementation, and their impact on teachers' performance, thereby providing practical evidence for decision-makers and practitioners on the elements of success in effective professional development programs.

One of the most notable studies (Al-Shahrani, 2022), examined the impact of a proposed training program on improving the teaching performance of female science teachers in Saudi middle schools and was grounded in teachers' professional standards. The significance of this study lies in its alignment with current aspirations for educational development in Saudi Arabia and its response to educators' recommendations to provide targeted training programs for science teachers to enhance their instructional performance. The study also sought to assess the level of science teachers' performance in light of professional standards and develop a training program that could be utilized with in-service professional

development courses. The research adopted a quasi-experimental design.

The study sample consisted of 22 female science teachers from intermediate schools in Abha City, who were purposively selected based on their willingness to participate in the training program. A performance measurement tool was developed and applied before and after the implementation of the program. This instrument comprised 50 items distributed across the core teaching skills: planning, implementation, and assessment.

The results revealed statistically significant differences at the 0.05 level between the mean scores of the teachers in the pre-test and post-test performance measures, in favor of the post-test. This indicates that the proposed training program had a positive and effective impact on enhancing the teaching performance of science teachers at the intermediate stage. These findings demonstrate that continuous teacher training programs, based on professional standards, represent an effective means for developing instructional performance. The results confirmed that the proposed training program had a substantial positive effect on teachers' performance, underscoring the importance and effectiveness of such programs in improving teachers' competencies and, consequently, the quality of education.

In Saudi Arabia as well, the study conducted by Al-Shalhoub et al. (2025) aimed to propose a training program based on the Kemp Model, with the objective of improving mathematics teachers' instructional practices in line with professional standards and career pathways. The theoretical significance of this research lies in its alignment with the requirements of Saudi Vision 2030 and the Human Capability Development Program, which emphasize enhancing teachers' professional performance to meet modern educational developments. Practically, the study provides a knowledge base for educational supervisors and training centers to

design and adapt their training programs in accordance with the new professional standards.

To achieve its objectives, the researchers employed the descriptive documentary method, defined as the systematic collection and analysis of documents related to the research problem. The study was limited to the general educational standards outlined in the document of professional standards and career pathways issued by the Education and Training Evaluation Commission in Saudi Arabia. The research instrument consisted of a checklist of instructional practice indicators. Rather than selecting a teacher sample, the study relied on reviewing literature and prior research, then developing a proposed framework, which was validated through review by six experts in the field of mathematics teaching and learning.

The findings indicated deficiencies in mathematics teachers' performance and emphasized that the need for training in lesson implementation and student assessment ranged from high to very high. The study resulted in a proposed training program framework designed to enhance instructional practices, making use of the Kemp Model, which is characterized by flexibility and a comprehensive perspective on planning and evaluation.

The study recommended implementing the proposed training program for mathematics teachers to improve their instructional practices in line with general educational standards and career pathways, integrating the program into the training plans of educational training departments, developing an evaluation card for teachers' practices based on the program, and conducting further research to investigate the actual instructional practices of secondary-level mathematics teachers in light of professional standards and pathways in Saudi Arabia (Al-Shalhoub et al., 2025, pp. 16–17).

Similarly, the study by Ahmad (2023) sought to explore the extent to which the Cambridge English Teacher (CET) professional

development program influenced the classroom practices of English as a Foreign Language (EFL) teachers in the Arabian Gulf, specifically in Saudi Arabia. It also aimed to examine how the program supported teachers in adapting their teaching methods to align with Saudi cultural norms and institutional policies. The significance of this research lies in contextualizing English language teaching practices in the region that often adopt a uniform approach that overlooks the unique socio-cultural challenges and traditional educational norms in Saudi Arabia.

The mixed methods study adopted a convergent parallel mixed-methods design, combining a questionnaire and semi-structured interviews to collect and analyze quantitative and qualitative data simultaneously. The participants were 120 male Saudi EFL university teachers. In the quantitative section, a retrospective pre-test/post-test questionnaire was administered, while in the qualitative section, five teachers participated in semi-structured interviews.

The results showed that the CET program significantly improved the classroom practices of EFL teachers. Specifically, participants perceived their learning experience through four main dimensions: adapting teaching methods, localizing the principles of Communicative Language Teaching (CLT), diversifying teaching strategies and materials (differentiated instruction), and understanding classroom management strategies tailored to the local context. The qualitative interviews reinforced these findings, with participants reporting that they were now better able to adapt their teaching to cultural norms and local religious values, such as using local examples instead of inappropriate Western ones. The study also revealed that the program effectively bridged the gap between theory and practice, enabling teachers to understand the theoretical underpinnings of their classroom practices and vice versa.

The study concluded that the Cambridge English Teacher program was an effective and well-tailored professional development

initiative that enabled teachers to align their practices with the local context. It further highlighted the significant role of context-specific in-service professional development programs in the process of "glocalizing" teaching methods. The study recommended that continuous learning initiatives for teachers should be designed with careful consideration of the unique socio-cultural context of EFL teaching, ensuring that local factors are fully integrated.

In the Kingdom of Bahrain, Al-Hamdan and Al-Jassem (2020) conducted a study to investigate the impact of an in-service training program on the development of higher-order thinking skills (analysis, synthesis, and evaluation) among female primary school teachers. The importance of this study lies in its focus on a practical problem faced by a public school, with the aim of offering a practical solution aligned with educational goals and quality requirements.

The study adopted a quasi-experimental design and involved a sample of 35 female teachers from Al-Mustaqbal Primary School for Girls in the Central Governorate of Bahrain. Conducted over six months, the program combined theoretical and practical training on integrating higher-order thinking skills into the school curriculum. A measurement tool was used to assess teachers' higher-order thinking skills after the training program was implemented.

The findings revealed a statistically significant positive impact of the training program on the development of higher-order thinking skills among the participating teachers. The results also confirmed that training teachers in thinking skills enhances students' academic achievement. These outcomes align with previous studies highlighting that in-service teacher training improves classroom performance. Based on the findings, the study recommended developing a comprehensive plan to embed higher-order thinking skills into the curriculum, as well as conducting future research on the impact of teaching these skills within the curriculum on students' performance. The study emphasized that continuous teacher training is a key factor in achieving educational quality.

In the United Arab Emirates, Prasanna and Mohammed (2023) conducted a study aimed at identifying the most effective continuous professional development (CPD) programs for teachers in private schools in Abu Dhabi. The significance of this study lies in its potential to assist school leaders and senior leadership teams in designing effective CPD programs for teachers, as well as supporting policymakers in planning a structured evaluation framework for such programs. The study defines CPD as educational activities in which professionals engage to enhance and improve their capabilities. It also emphasizes that CPD strengthens teaching, learning, and leadership standards and quality, while boosting teachers' motivation, confidence, and commitment to teaching.

The study employed a descriptive (survey) method and used a random sample of 153 teachers from private schools in Abu Dhabi. To collect data, the researchers used a CPD effectiveness scale along with a personal data form. The tool's validity was confirmed by experts in education, while its reliability was tested using Cronbach's alpha, which yielded a high value of 0.926, indicating strong internal consistency of the scale items. Data were analyzed using inferential statistical techniques, including mean, standard deviation, and percentage analysis.

The results revealed that in-service training sessions (INSET Sessions) were the most effective CPD programs for teachers in Abu Dhabi's private schools, with the strongest positive impact on improving teaching methods. Most teachers expressed agreement or strong agreement regarding their effectiveness compared to other CPD activities. Conversely, departmental meetings were considered the least effective, while lesson observations conducted by department heads ranked as moderately effective, though many teachers acknowledged their clear contribution to improving teaching practices. Overall, the findings indicated that teachers preferred hands-on practical training programs over other forms of

CPD, underscoring the need to prioritize this type of training as a main option for enhancing teaching performance.

Based on these results, the study recommended that in-service training sessions be held regularly in schools, with a structured evaluation framework to measure the impact of CPD programs on teaching improvement. It also stressed the importance of selecting competent trainers who believe in students' abilities, and of enhancing the integration of different forms of CPD, training, lesson observation, and departmental meeting, to support the efforts of educational institutions and policymakers in raising academic performance levels and reducing low student achievement (Prasanna & Mohammed, 2023, p. 51).

In the United Arab Emirates, a study conducted by Ewen et al. (2023) sought to evaluate an innovative professional development model for teachers in the field of inclusive education. The model was grounded in a conceptual framework that integrated the principles of content focus, active learning, and training duration, with the aim of enhancing teachers' capacity to meet the needs of all students in their regular classrooms, including *students of determination* (students with special educational needs). The impact of this evidence-based initiative was assessed using a convergent parallel mixed-methods design. The analysis indicated that the model fulfilled the standards upon which it was built and proved effective in bringing about real and positive change in teachers' learning while promoting inclusive teaching practices. This highlights its value as a replicable model for teacher professional development in the UAE. The study also discussed the key contributors to the model's effectiveness, along with its potential to foster sustainable change and its broader educational implications and applications (Ewen et al., 2023).

Considering the above, field studies addressing the impact of professional development programs on teachers' performance in Gulf countries reveal promising results, affirming the effectiveness

of such programs in improving instructional practices, particularly when they are built on clear methodological foundations and grounded in defined professional standards. Several experimental studies demonstrated statistically significant differences in teachers' performance before and after participation in training programs, reflecting the direct impact of professional interventions on the development of planning, implementation, and assessment skills in the classroom. The findings also indicated that programs with a focus on specific subject areas and reliance on modern pedagogical approaches are more likely to bring about tangible improvements in teachers' professional performance. Moreover, some studies revealed that training effectiveness is closely tied to the quality of content, the competence of trainers, the diversity of professional learning approaches, and sensitivity to the school and cultural contexts of participants.

Conversely, the literature highlighted the need to move beyond the traditional model of training that relies primarily on theoretical lectures, toward more interactive and practice-oriented models that include hands-on applications, constructive feedback, and real classroom activities. Some field experiences confirmed that engaging teachers in the design and development of training programs, while also providing opportunities for self-reflection and formative evaluation, contributes to enhancing professional motivation and sustaining learning. Equally important is linking professional development programs to school improvement efforts and leveraging their outcomes to raise educational quality and achieve the desired pedagogical transformation. From this perspective, a review of Gulf field experiences shows that successful professional development programs adopt a holistic vision integrating teachers' actual needs, best pedagogical practices, and the local context, thus ensuring a lasting impact on the educational field.

Developing Teachers' Professional Development Practices and Programs: Recommendations for Teachers and Policymakers

Advancing the practices and programs of teacher professional development constitutes a pivotal step in ensuring the quality of education and sustaining improvement within the educational systems of the Gulf states. The comprehensive review of studies presented in this report revealed strengths and weaknesses in current programs, underscoring the need to move beyond fragmented initiatives toward integrated strategies grounded in scientific evidence and responsive to the actual needs of the educational field.

From this perspective, this section presents a set of recommendations directed to teachers, the primary actors in the teaching and learning process, and to policymakers who hold the responsibility of shaping policies and providing supportive institutional environments. Together, these recommendations aim to foster a more effective and inclusive professional development system that elevates the status of teachers and positively impacts teaching performance and student learning outcomes.

First: Recommendations for Teachers

1. **Active Engagement in Professional Development Opportunities**

    Educational literature emphasizes that an effective teacher is one who adopts a positive attitude toward continuous professional growth, recognizing it as a fundamental condition for enhancing performance and ensuring quality learning. Teachers, therefore, should not limit themselves to mandated training programs provided by official bodies; rather, they are encouraged to actively seek diverse learning opportunities that address their personal and profession-

al needs. These may include specialized courses, hands-on workshops, educational conferences, and online professional communities. Such active engagement reflects teachers' awareness of the importance of lifelong learning, their capacity to stay abreast of pedagogical innovations, and their ability to refine their practices in line with 21st-century educational requirements.

2. Strengthening Self-Reflection and Reflective Practice

Self-reflection is one of the most powerful tools available to teachers for their professional development. It allows them to identify strengths and weaknesses in their classroom performance, to understand the root causes of challenges they encounter, and to explore possible alternatives for improvement. Reflective practice stems from teachers' internal conviction in their capacity for self-improvement and can be carried out in various ways, such as keeping daily journals, analyzing recorded lessons, or engaging in discussions with colleagues. Research indicates that teachers who regularly engage in such practices are more inclined toward innovation, the adoption of flexible teaching strategies, and the making of better-informed pedagogical decisions. In this sense, reflection is not an intellectual luxury but rather a core professional practice essential to teachers' career-long professional growth.

3. Leveraging Digital Platforms

With the accelerating digital transformation in educational systems, online platforms have become one of the most prominent sources of professional learning for teachers. These platforms provide diverse training content, flexibility of time and place, and opportunities to engage with educational communities worldwide. They include Massive

Open Online Courses (MOOCs), digital training packages, recorded lectures, and professional networks on social media. Evidence shows that teachers who regularly utilize these platforms develop a deeper understanding of modern instructional practices and acquire new skills in active learning, alternative assessment, and blended learning. It is therefore essential for teachers to use these resources wisely and critically, aligning them with their classroom contexts and investing in them to improve school performance.

4.   Participating in the Design of Training Programs

Educational research highlights that the effectiveness of training programs increases significantly when teachers are active partners in their design, rather than passive recipients of content. Teachers best understand their professional needs and are most capable of diagnosing the classroom challenges they face. Involving them in the early planning stages of training, such as defining objectives, selecting content, and choosing implementation methods, ensures greater alignment with the realities of the educational field and enhances the likelihood of meaningful outcomes. Such participation also strengthens teachers' sense of ownership and accountability, while fostering a school culture that supports collective professional learning. For this reason, feedback mechanisms and collaborative partnerships between teachers and training providers should be activated to guarantee quality and responsiveness to actual needs.

5.   Building Collaborative Professional Learning Communities

Professional Learning Communities (PLCs) represent one of the most effective strategies for promoting sustainable professional development within schools. They provide teachers with opportunities for regular collaboration, experience

sharing, and collective problem-solving in the classroom. This model encourages educators to engage in in-depth professional dialogue, analyze student learning data, plan joint lessons, and conduct peer observations, thereby fostering an institutional culture of learning built on trust and mutual support. Evidence from Gulf schools indicates that those adopting this model witness improvements in teacher performance and stronger cohesion in collective educational work. Therefore, establishing sustainable professional learning communities, within and beyond schools, and supported by participatory educational leadership and adequate professional resources, is strongly recommended.

Second: Recommendations for Policymakers

1. **Establish Unified National Frameworks for Professional Development**
Most Gulf and international studies emphasize that the absence of a comprehensive national framework for teacher professional development leads to fragmented and inconsistent initiatives, which reduce training effectiveness and hinder sustainability. Therefore, developing clear national reference frameworks and standards is a key entry point to ensure equity and quality in professional development opportunities for teachers. Such a framework should outline progressive professional levels that define teacher competencies from foundational stages to educational leadership roles along with multiple developmental pathways tailored to different specialties and age groups. It should also incorporate mechanisms for continuous evaluation and phased follow-up to measure the impact of training programs on teacher performance and the quality of education. This approach represents a strategic step toward transforming professional development from temporary initiatives into a holistic and sustainable system.

2.   **Align Professional Development Programs with School and Educational Performance**

For professional development programs to generate tangible results, they must be grounded in the actual needs of schools and their improvement plans, rather than existing as broad initiatives disconnected from the school context. Linking training to school performance improvement enhances its effectiveness by making professional development a tool to support the school's vision and mission. Embedding follow-up plans and formative evaluation ensures that what teachers acquire in training is translated into concrete classroom practices, which in turn improve student achievement and learning outcomes. This alignment strengthens accountability and establishes professional development as an integral part of the broader quality improvement system in education.

3.   **Design Specialized and Practice-Oriented Training Programs**

Findings from numerous studies show that general programs with limited theoretical content often fail to bring about meaningful change in teachers' performance. By contrast, programs focusing on specialized topics, such as inclusive education, digital education, higher-order thinking strategies, or subject-specific pedagogy, achieve more tangible results, especially when they include practical applications that simulate real classroom situations. Accordingly, program design should consider the specificity of each discipline and teaching field and be based on a thorough analysis of teachers' needs. These programs are best structured around a "learning-by-doing" approach through applied workshops, classroom visits, or practical teaching experiments, ensuring that teachers engage as active participants rather than passive recipients of information.

4. **Empower School Leadership to Support Professional Development**

The literature highlights school leadership as a cornerstone in activating teacher professional development. A principal with a clear educational vision and strong belief in continuous professional growth positively influences the culture of the entire school. Therefore, preparing school leaders to be genuine supporters of professional development should be a top priority. This can be achieved by equipping them with leadership preparation programs that focus on building a motivating school culture, providing a safe environment that encourages experimentation, and fostering a mindset of learning from mistakes. School leaders should also be empowered with practical tools for planning professional development, monitoring its outcomes, and motivating teachers to participate actively.

5. **Invest in Innovative Training Tools and Methods**

Amid rapid digital transformations, relying solely on traditional training methods is no longer sufficient. Substantial investment is required in modern tools and techniques such as blended learning, AI-powered training, classroom simulation, and other interactive approaches. These tools not only make training more engaging for teachers but also provide a rich environment of diverse experiences that enhance the understanding and practical application of new concepts. Furthermore, such methods enable immediate assessment of training impact and give teachers flexible learning opportunities at any time and place, thereby strengthening the sustainability of professional development programs.

6.   Promote Action Research Linked to Professional Development

Recent studies emphasize the importance of action research as a practical tool for teachers to diagnose classroom challenges and generate innovative solutions. Encouraging teachers to engage in this type of research, and providing them with institutional support, enhances their ownership of the professional development process and positions them as active partners in improving educational quality. This can be achieved by integrating action research into professional development programs, offering incentives for teachers who conduct impactful studies, and disseminating these practices through professional platforms to facilitate knowledge and experience sharing. In this way, action research becomes embedded as a school culture that supports sustainable professional learning.

Proposed Directions for Future Research

A review of Gulf literature and studies on teacher professional development highlights the urgent need to expand both qualitative and quantitative research that can bridge existing knowledge gaps and support policymakers in designing more effective policies. The most prominent proposed directions for future research include:

1. **Developing National Frameworks for Professional Development**

   There is a pressing need for evaluative and comparative studies that examine how national frameworks for teacher professional development are designed in Gulf contexts, the extent to which they align with international standards, and their impact on improving educational quality.

2. **Measuring the Impact of Teacher Professional Development on Learning Outcomes**

   Despite the variety of training programs, studies that directly link teacher professional development with student achievement remain limited. Thus, experimental and quasi-experimental research is required to systematically assess this impact.

3. **Professional Development in the Age of Digital Transformation**

   The current stage necessitates in-depth studies on the effectiveness of digital platforms, e-learning programs, and the use of artificial intelligence and classroom simulation technologies in teacher training, alongside an analysis of institutional and cultural barriers associated with their implementation.

4. **Educational Leadership and Teacher Professional Development**

   While studies have demonstrated the role of school leadership in fostering teacher professional learning, there is still a

need for research exploring the most influential leadership styles in Gulf contexts and the mechanisms through which leaders can be empowered to support professional learning communities.

5. **Research on New and Expatriate Teachers' Professional Development**

    New and expatriate teachers represent a significant segment of Gulf education systems. Investigating their experiences, specific needs, and the challenges they face in professional development programs constitutes a promising area of research.

6. **Action Research and Professional Communities**

    There is a need to encourage field studies that adopt action research and reflective practice, as these approaches contribute to building sustainable professional learning communities within schools and strengthen teachers' ownership of development processes.

7. **Financing and Sustaining Professional Development**

    Analytical studies are required on the financing policies for professional development programs in the Gulf, focusing on how to ensure their sustainability and integration into national education plans.

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