

# Teacher Training and Professional Development in Reading Instruction: A Comparative Study of GCC Countries

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## Abstract

This study examined the perceptions of reading teachers in the Gulf Cooperation Council (GCC) countries regarding the extent to which formal education and training addressed key areas of reading instruction, alongside their current professional development needs. Drawing on PIRLS teacher questionnaire data from Bahrain, Oman, Qatar, Saudi Arabia, and the UAE, descriptive and nonparametric analyses were conducted to answer the study's questions. Results demonstrated that while pedagogy and assessment were generally well covered in teacher preparation programs, learning support, special education, and digital literacies were perceived as underemphasized. Across the region, most teachers reported moderate to high needs for professional development in areas such as comprehension strategies, language-related challenges, differentiation, integration of digital literacies, and assessment. Differences in perceived needs emerged across countries; however, teaching experience and prior training had negligible effect sizes on these needs. The findings highlight the importance of designing pre-service and in-service programs that are responsive to context-specific student needs and classroom realities, with sustained, targeted support throughout teachers' careers to enhance literacy instruction outcomes. These implications hold strong potential to improve instructional effectiveness and advance student literacy outcomes.

## Keywords:

Reading Instruction, Teacher Professional Development, Gulf Cooperation Council (GCC) Countries

## Introduction

Cultivating individuals who are proficient readers lies at the heart of every educational journey. Reading is not an isolated discipline but a foundational skill that is necessary for success in all areas of learning. It enables students to access knowledge, think critically, and participate meaningfully in academic and civil life. When students struggle to read effectively, their capacity to learn in other subjects and to engage fully in society becomes constrained. Developing such proficiency requires teachers who are well prepared to deliver high-quality reading instruction, grounded in sound pedagogical understanding and responsive to learners' diverse needs. The central



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place of reading instruction affirms how profoundly teachers influence students' literacy development and, by extension, the broader quality of education. It is through their guidance that reading becomes not just a skill, but a foundation for lifelong learning.

Research consistently shows that insufficient reading achievement can have far-reaching consequences, highlighting the essential role of teachers in reducing these disparities. Low reading proficiency has been linked to behavioral challenges at school (Pickren et al., 2024), lower academic attainment in higher education (Talwar et al., 2022), underemployment (de Baldini Rocha & Ponczek, 2011), and even an increased likelihood of involvement in crime (National Center for Education Statistics, 2025). Beyond these individual outcomes, research also points to broader social and economic costs when large numbers of learners fail to attain literacy proficiency. Reading, as Shanahan and Shanahan (2008) explain, is a cross-disciplinary skill that supports learning and intellectual growth across all subject areas. Achieving proficiency therefore depends on teachers who possess a strong understanding of evidence-based literacy practices and who can apply this knowledge effectively in diverse classroom contexts (Didion et al., 2020; Rice et al., 2024). Taken together, these findings show that teacher expertise remains the foundation of effective reading instruction and lasting student success.

Recognizing the essential role of reading in academic success, Gulf Cooperation Council (GCC) countries have incorporated literacy development as a key pillar of their national education reform strategies. This is evident in the education reform strategies embedded within national visions such as Bahrain Economic Vision 2030 (Government of Bahrain, 2025), Kuwait Vision 2035 (Ministry of Foreign Affairs, 2025), Oman Vision 2040 (Oman Vision 2040 Implementation Follow-Up Unit, 2023), Qatar National Vision 2030 (Government Communications Office, 2024), Saudi Vision 2030 (Kingdom of Saudi Arabia, 2025), and We the UAE 2031 (United Arab Emirates, 2025). These long-term agendas reflect a shared, future-oriented commitment to transforming education systems in the Gulf region in response to rapidly evolving economic and social demands. Together, these visions demonstrate strategic foresight in prioritizing educational quality, strengthening teacher preparation, aligning curricula with 21st-century competencies, and integrating digital technologies across learning environments. Of particular note is the sustained focus on foundational literacy, early childhood education, and critical thinking, signaling a regional movement toward cognitively rich, student-centered approaches to reading instruction. This regional dedication to continuous improvement reflects the GCC's strong commitment to cultivating lifelong learners and globally competitive education

systems. However, while these reforms demonstrate significant ambition and scope, national reading achievement scores across GCC countries have not yet reached international benchmarks (Mullis et al., 2023).

This study therefore seeks to contribute to this evolving conversation by providing regionally grounded insights into teacher preparation and professional development in reading instruction across the GCC. In alignment with the region's ambitious national visions and strategic education agendas, it seeks to contribute detailed, context-sensitive insights into how reading teachers are supported in their instructional roles. Specifically, the study examines the nature and extent of formal training received by reading teachers, their current areas of professional learning interests, and how these vary across national contexts, levels of teaching experience, and prior pedagogical preparation. By centering teachers' perspectives, the study offers empirical evidence to inform ongoing efforts toward educational excellence and the continued enhancement of literacy teaching and learning across the GCC region.

### *Reading Teachers' Professional Learning Needs*

The National Reading Panel (2000) report remains a key reference point in conversations about effective reading instruction. The panel provided research-based evidence outlining five essential components of reading instruction: phonemic awareness, phonics, fluency, vocabulary, and comprehension. Phonemic awareness, phonics, and fluency are categorized as code-focused skills, while vocabulary and comprehension are identified as meaning-focused skills (Didion et al., 2020; Rice et al., 2024). Teachers need a clear understanding of how students develop across each of these components to tailor their instruction effectively (Didion et al., 2020). Effective reading instruction requires thoughtful integration of both code-focused and meaning-focused components, enabling students to develop accurate decoding skills alongside deep comprehension abilities (Gersten et al., 2001; Rice et al., 2024).

Several meta-analyses have demonstrated the important role of professional development in improving students' reading skills, drawing on a growing body of rigorously selected studies. Basma and Savage (2018), in a review of 17 studies, reported a statistically significant but small to moderate effect size (Hedge's  $g = 0.23$ ) of professional development on student reading outcomes. Similarly, Didion et al. (2020) analyzed 20 studies and found an overall effect size of Hedge's  $g = 0.18$ . Like Basma and Savage, this study included professional development that addressed both code-focused and meaning-focused reading components. Didion et al. found that interventions targeting code-focused instruction showed a slightly

higher effect ( $g = 0.22$ ) compared to those focused on meaning-focused skills ( $g = 0.17$ ). Rice et al. (2024), in a more recent review of 29 studies, focused exclusively on reading comprehension. While their findings showed that professional development had a large effect on teacher knowledge and instructional practice ( $g = 0.95$ ), the effect on students' reading comprehension remained small ( $g = 0.19$ ). Taken together, these findings indicate that while professional development strengthens instructional practice and builds teacher capacity, translating those improvements into measurable gains in student outcomes, particularly comprehension, remains an ongoing challenge.

This complexity draws attention to the quality, design, and theoretical grounding of professional development itself. Rooted in a foundational theoretical framework by Desimone (2009) and models by Wayne et al. (2008), Rice et al. (2024) proposed a framework outlining how professional development influences both teacher and student outcomes. The model presents a sequential process beginning with professional development activities designed to enhance teacher knowledge and instructional practices. These teacher-led changes are posited to lead to improved student reading outcomes. Desimone's framework identifies five core features of effective professional development: content focus, active learning, coherence, duration, and collective participation. Complementing this, Wayne et al. emphasize that teacher-led learning must be grounded in both strong theoretical foundations and evidence-based instructional practices. Together, these models illustrate how high-quality professional development can empower teachers to translate theory into effective classroom practice, ultimately leading to deeper and more lasting improvements in student learning.

Connecting this to teacher knowledge more broadly, Shulman's (1986, 1987) concept of Pedagogical Content Knowledge (PCK) remains foundational for understanding what effective teaching entails. The PCK framework integrates multiple domains: content knowledge, which refers to deep understanding of subject matter; pedagogical knowledge, which includes general instructional strategies and learning theories; curricular knowledge, which involves awareness of the structure, materials, and sequencing of content; and the intersection of content and pedagogy, which focuses on how to teach specific subject matter in ways that are accessible and developmentally appropriate for learners. In the context of reading instruction, this means that teachers must have strong knowledge of the structure and function of the language they are teaching, including phonological, morphological, and syntactic components. They also need specific pedagogical strategies and approaches for teaching

language aligned with the components identified by the National Reading Panel (2000). Recent extensions of the PCK framework have introduced two additional dimensions to include assessment knowledge and technological integration. Ball et al. (2008) and Gess-Newsome (2015) emphasized the importance of teachers' ability to design, interpret, and use assessment data to inform instruction, positioning assessment as a central component of teacher knowledge. In the context of reading instruction, this entails having a clear understanding of how to assess each of the essential components of reading, such as phonemic awareness, phonics, fluency, vocabulary, and comprehension, as well as the ability to interpret student performance in these areas. Skilled teachers can identify areas of difficulty and translate assessment findings into targeted instructional strategies that promote student progress.

In addition, the Technological Pedagogical Content Knowledge (TPACK) framework developed by Mishra and Koehler (2006) introduced technological knowledge as a necessary dimension, highlighting how effective teaching increasingly requires the thoughtful integration of digital tools into subject-specific instruction. Applied to reading instruction, TPACK involves selecting and integrating digital tools that support the development of foundational and meaning-based reading skills. For instance, teachers might use speech recognition software to support phonemic awareness, interactive e-books to model fluent reading, or data analytics platforms to monitor comprehension and vocabulary growth. Importantly, reading teachers also need to support students in developing digital literacies, which involve navigating, evaluating, and creating meaning from digital texts across multiple modes. This requires pedagogical approaches that go beyond print-based reading and involve multimodal contemporary literacy practices (Leu et al., 2015). The expanded views of teacher knowledge reinforce that effective instruction, particularly in reading, relies on the integration of content, pedagogy, assessment, and technology.

### ***GCC Studies on Professional Development***

Professional development initiatives across the GCC have addressed both reading instruction and broader instructional competencies. A growing body of research highlights the positive effects of evidence-based professional learning when programs are thoughtfully adapted to local contexts.

In Bahrain, Al-Wadi (2023) conducted a mixed-methods study involving EFL and ESL teachers through a design-based research program aimed at enhancing literacy instruction. The results indicated that the program encouraged teachers to move beyond textbook-dependent approaches and adopt more dynamic, student-responsive practices. It also fostered a

collaborative professional development culture where teachers felt empowered, confident, and capable of innovating within curricular requirements.

In a related study, Reynolds et al. (2016) implemented a cyclical model of professional learning in Qatar through a pilot program that integrated reading instruction into middle school science and English lessons across 12 schools. Participant teachers explored strategies for fostering reading motivation, understanding cognitive processes involved in reading, and designing lessons that incorporate multiple elements of reading instruction. They also engaged in collaborative professional learning, including studying target topics, lesson planning, classroom observations, and reflective discussions. As a result of the intervention, teachers reported a deeper understanding of cognitive processes involved in teaching reading and acquired improved strategies for promoting reading development and enhancing student engagement. They developed a stronger appreciation for professional growth and reflective teaching practices. Like Al-Wadi's (2023) work, this study highlighted the value of sustained, context-responsive professional learning that builds teacher confidence and fosters innovation.

A similar focus on evidence-based literacy development was seen in the UAE, where Thomure et al. (2023) focused on Arabic teachers rather than English teachers. They implemented a 12-week professional development program aimed at improving early literacy instruction among Grades 1–3 teachers, using evidence-based practices. The program covered areas such as read-aloud techniques, shared reading, phonics instruction, questioning strategies, comprehension skills, and monitoring student progress. The findings revealed significant improvements in all instructional areas except phonological awareness. The authors attributed this gap to the fact that phonological awareness was not explicitly emphasized in the curriculum, suggesting that sustained attention to this component is needed to ensure comprehensive teacher development.

In Saudi Arabia, Al Ghamdi (2015) examined the professional development needs of Arabic language teachers through a phased study beginning with a needs analysis and followed by a targeted program. The intervention focused on general pedagogical competencies such as lesson planning, instructional delivery, and learner assessment. Although not specific to reading instruction, the program enhanced teachers' overall instructional skills and reinforced the value of aligning professional development with identified needs.

Expanding this focus to special education, Alzahrani (2019) investigated the professional development of teachers working with students with learning

disabilities in Saudi Arabia. The study examined the relationship between reading-focused training and the application of evidence-based reading practices. Results revealed a strong positive association between teacher training and instructional competence in areas such as phonemic awareness, decoding, fluency, vocabulary, and comprehension. The study concluded that both pre-service and in-service training are essential for improving teacher performance and student outcomes.

Collectively, these studies demonstrate a growing regional recognition of the importance of sustained, context-specific professional development in literacy instruction. They show that when professional learning is collaborative, reflective, and rooted in teachers' real classroom experiences, it leads to tangible gains in instructional quality and professional confidence.

### *Gaps and Needs in Professional Development*

Findings from across the GCC highlight distinct professional development needs among both English and Arabic language teachers. English teachers, as reported by Al Asmari (2016), valued learner-centered, experiential professional development opportunities that update and expand their pedagogical skills. They emphasized the importance of contextual relevance, noting that some professional development programs could be more closely aligned with their specific teaching environments. Similarly, Al-Wadi (2023) found that EFL teachers in Bahrain called for professional development that empowers them to act as decision-makers in shaping their professional growth, develop contextually relevant instructional strategies, and integrate technology into lesson design. These teachers particularly stressed the need to move beyond traditional methods to create their own innovative materials suited to the needs of their learners. In Qatar, Reynolds et al. (2016) also emphasized the importance of sustained, locally relevant professional development aligned with student needs and curriculum demands.

On the other hand, Arabic language teachers, especially those working with students with learning disabilities, face additional challenges. Alzahrani (2019) reported that while professional development and formal training positively influenced practice, there were major gaps in areas such as assessment literacy, application of research-based reading strategies, and differentiated instruction. Many Arabic literacy teachers reported limited opportunities to apply theoretical knowledge in practice, particularly when supporting diverse learners. These findings suggest that professional learning for Arabic teachers remains too general and insufficiently specialized to address the complex demands of reading instruction.

At a broader level, Hojeij et al. (2024) and Alharthi (2024) identified systemic professional development

challenges that extend across subject areas and national contexts. Teachers across the GCC consistently expressed the need for professional development that is relevant, practical, and aligned with both classroom realities and educational reform agendas. Hojeij et al. noted that while professional development has led to improvements in confidence, pedagogy, and leadership, especially in inclusive education, many teachers still resist top-down initiatives and experience tension between policy directives and everyday school realities. Nonetheless, these developments reflect the GCC's continuous efforts to refine educational reforms and align them more closely with teachers' lived experiences, signaling a responsive and evolving approach to teacher development. Recent studies also highlight a growing call for professional development that supports the integration of technology in teaching. In a regional review, Alharthi (2024), who examined novice teachers across Oman, Qatar, and the UAE, further emphasized that teacher education programs sometimes face challenges in bridging theory and practice and in consistently integrating local cultural values. Ongoing challenges in classroom management and assessment training indicate that some new teachers may require further support in meeting the practical demands of teaching.

Overall, the reviewed studies reveal a growing regional commitment to strengthening teacher professional learning, alongside persistent areas that warrant deeper exploration. While the GCC countries have demonstrated a clear commitment to enhancing educational quality, existing research reveals variability in how professional development programs address the full spectrum of reading instruction needs. In particular, questions remain about how effectively these programs integrate assessment literacy, differentiated instruction, and evidence-based approaches across Arabic and English contexts. Despite valuable country-specific contributions, there is still limited comparative evidence across the GCC on how teachers' formal preparation aligns with their current professional development needs in reading instruction. Most studies to date have examined isolated initiatives rather than region-wide trends, leaving an important gap in understanding the broader patterns shaping teacher development across the GCC. These gaps highlight the importance of continued empirical investigation into the nature and scope of teachers' professional learning experiences in reading instruction and form the basis for this study.

### **The Present Study**

Building on the reviewed literature and regional context, this study addresses the need for a clearer understanding of how reading teachers in the GCC are

professionally supported, particularly in ways aligned with evidence-based professional development frameworks. It is grounded in the relevance dimension of Desimone's (2009) framework and the theories of Shulman (1986, 1987) and their subsequent scholarly expansions on professional development needs. While prior studies highlight gaps in pedagogical relevance, cultural responsiveness, differentiated instruction, assessment, and practical application, there is no systematic regional analysis of the formal training teachers have received or the specific needs they identify. Given the complexity of reading instruction and the diverse student populations in the GCC, this study sought to investigate the formal training experiences and perceived needs of reading teachers across the GCC countries. It was specifically guided by the following questions: (1) To what extent have reading teachers in the GCC received formal training in key areas of reading instruction? (2) What are teachers' current professional development needs in reading instruction? (3) Do professional development needs differ significantly across the GCC countries? (4) Is there a relationship between teachers' prior training in pedagogy, assessment, and digital literacies and their current professional development needs? (5) How do reading teachers' perceived professional development needs vary depending on their years of teaching experience?

### **Methodology**

This study utilized data from the Progress in International Reading Literacy Study (PIRLS). PIRLS is a large-scale international assessment that evaluates the reading comprehension skills of fourth-grade students across the world. The assessments are conducted by the International Association for the Evaluation of Educational Achievement (IEA, 2021), and they take place once every five years. As part of the PIRLS assessment, IEA collects background information using various questionnaires administered to students, their parents, their teachers, and school principals. The present study utilized selected items from the Teacher Questionnaire, in alignment with the research questions. The data used were from the 2021 cohort, which is the most recent available data.

### **Participants**

The study utilized all available data from teachers who completed the Teacher Questionnaire in the GCC countries. These include  $N = 5,208$  in Bahrain;  $N = 5,321$  in Oman;  $N = 5,258$  in Qatar;  $N = 4,778$  in Saudi Arabia; and  $N = 27,545$  in the UAE. No data were available for Kuwait, as it did not participate in the PIRLS 2021 assessment. The participants were primary school teachers who taught Grade 4 reading. These teachers consisted of nationally representative random samples. They were selected using rigorous sampling adjudication, following strict sampling standards (for

more details about the sampling process for PIRLS, see Almaskut et al., 2023). Given that both Arabic and English are official languages in the GCC, schools in the GCC use both languages in instruction. Public schools primarily deliver instruction in Arabic, whereas many private and international schools use English as the main medium of instruction. As a result, some teachers taught reading in Arabic, while others taught in English, depending on the dominant language of their school.

### **Materials**

Teachers' formal education and training background were measured using specific items from the PIRLS 2021 Teacher Questionnaire (IEA, 2023). Participants were asked, "As part of your formal education and/or training, to what extent did you study the following areas?" The areas included (1) pedagogy/teaching reading (ATBG05BC), (2) learning support (ATBG05BE), (3) special education (ATBG05BG), (4) digital literacies (ATBG05BK), and (5) assessment methods in reading (ATBG05BI). Respondents answered on a Likert scale with three options: "Not at all," "Overview or introduction to topic," and "It was an area of emphasis," which were coded consecutively as 1, 2, and 3 in the PIRLS data inventory.

Items from the same questionnaire were used to measure participant teachers' professional development needs. Participants were asked, "How would you prioritize your need for future professional development?" The focus points included (1) teaching reading comprehension skills or strategies (ATBG07BA), (2) addressing students' language needs in teaching reading (ATBG07BC), (3) addressing differentiation of instruction for students' needs and interests (ATBG07BF), (4) instruction related to digital literacies (ATBG07BE), and (5) assessing students' reading (ATBG07BG). Respondents answered on a Likert scale with three options: "High," "Medium," or "Low," which were coded consecutively as 1, 2, and 3 in the PIRLS data inventory.

Finally, years of experience were measured using the item ATBG01, which came from the same questionnaire. Participants were asked, "By the end of the school year, how many years will you have been teaching altogether?" This was an open-ended question, and answers were rounded to the nearest whole number.

### **Data Source and Analyses**

Data were obtained from the official IEA (2021) database. The IEA IDB Analyzer 5.0 software was used to extract and prepare data for the analyses in SPSS format. Descriptive statistics were used to analyze

data for Research Questions 1 and 2. For Research Questions 3 to 5, nonparametric inferential tests were employed due to the ordinal nature of the data and violations of normality assumptions. Specifically, Spearman's rank-order correlation was used to examine associations between variables, and the Kruskal-Wallis H test was used to compare differences across the GCC countries. To account for the complex sampling design of the PIRLS study, teacher-level sampling weights obtained from the PIRLS dataset were applied using the weighting function in SPSS. This procedure adjusted for unequal probabilities of selection and nonresponse, ensuring that analyses reflected nationally representative estimates of Grade 4 reading teachers in each participating country. Pairwise deletion was applied to handle missing data, allowing for the inclusion of all available data for each analysis. While this approach preserves sample size, it may introduce minor bias if data are not missing completely at random, which is acknowledged as a limitation of the data analyses.

## **Results**

### **Research Question 1**

Table 1 presents the average percentage distribution of the areas in which reading teachers in the GCC reported having received formal education and training. Training in pedagogy received the strongest emphasis in formal education across all GCC countries, with an overall 67.4% of teachers reporting it as an area of emphasis in their formal training. Oman (80.8%) and the UAE (78.0%) had the highest proportions, while Saudi Arabia (61.4%) had the lowest. Most teachers in every country received some training in this area.

The results, on the other hand, varied widely for learning support. In Bahrain (53.1%) and the UAE (44.1%), teachers reported it as an area of emphasis. However, 42.4% of teachers in Saudi Arabia indicated that they had received no training at all, and the overall results indicated that only 25.3% of teachers in the GCC had received in-depth training in learning support.

Special education showed the lowest overall emphasis, with only 8.8% of teachers across the GCC countries indicating it was an area of focus in their training. More than 60% of teachers in Saudi Arabia and Oman said they had never had any training in special education. The UAE had a relatively higher emphasis on special education training, with 22.4% of teachers indicating such training compared to the other GCC countries, but this percentage is still considered low overall.

Digital literacy training was moderately represented across the five countries. While Bahrain, Qatar, and

the UAE had higher proportions of teachers reporting in-depth training, Saudi Arabia and Oman were lower. Overall, 44.3% of teachers reported receiving no formal training in digital literacies, highlighting a potential gap in teacher preparation in this area.

Training in assessment methods showed moderate to strong emphasis, with 46.2% of teachers reporting it as an area of emphasis and 15.5% reporting receiving no training at all in assessment. Bahrain had the highest percentage of teachers with strong reported training (69.1%), while Saudi Arabia reported the lowest (39.6%).

These patterns suggest variation that may reflect differences in national teacher education frameworks and in the degree to which teacher preparation programs emphasize inclusive and technology-integrated instruction.

**Research Question 2**

Table 2 shows the distribution of the average percentages of professional development needs among reading teachers in the GCC. Teachers across the GCC countries reported substantial needs for professional development across all investigated areas of reading instruction (42.4%–46.9%). Teachers from Bahrain and the UAE consistently reported the highest percentages of respondents indicating a high need across most domains. While Saudi Arabia showed slightly lower high-need responses, it consistently had high medium-need percentages, suggesting broad but less urgent demands. Digital literacies had the highest medium-need rating overall (48.9%), indicating a strong area for potential investment, even if the perceived urgency is lower compared to other instructional areas. These findings may reflect differences in the pace of curriculum reforms, access to digital tools, and national priorities related to reading instruction across the GCC countries.

**Table 1**  
*Average Percentages of Formal Education and Training Reported by GCC Reading Teachers*

Areas of Formal Education & Training	Country	Not at All	Overview or Introduction	Area of Emphasis
Pedagogy/teaching reading	Bahrain	3.9	22.8	73.2
	Oman	3.0	16.2	80.8
	Qatar	4.8	23.0	72.1
	Saudi Arabia	3.8	34.8	61.4
	UAE	1.9	20.1	78.0
	Overall	3.5	29.1	67.4
Learning support	Bahrain	11.2	35.7	53.1
	Oman	33.2	39.9	26.9
	Qatar	14.0	46.0	39.9
	Saudi Arabia	42.4	39.2	18.5
	UAE	6.8	49.1	44.1
	Overall	34.2	40.5	25.3
Special education	Bahrain	27.9	55.9	16.2
	Oman	63.7	26.9	9.4
	Qatar	29.3	52.1	18.6
	Saudi Arabia	68.9	26.2	5.0
	UAE	19.0	58.6	22.4
	Overall	58.8	32.4	8.8
Digital literacies	Bahrain	15.2	49.7	35.1
	Oman	45.4	40.6	13.9
	Qatar	30.1	43.8	26.1
	Saudi Arabia	51.7	27.8	20.5
	UAE	15.8	57.0	27.2
	Overall	44.3	34.8	21.0
Assessment in methos of reading	Bahrain	6.5	24.4	69.1
	Oman	7.9	37.4	54.7
	Qatar	9.0	34.0	57.0
	Saudi Arabia	20.1	40.3	39.6
	UAE	7.5	35.5	56.9
	Overall	15.5	38.3	46.2

**Table 2**
*Perceived Professional Development Needs of GCC Reading Teachers*

Professional Development Needs	Country	High	Medium	Low
Teaching reading comprehension skills or strategies	Bahrain	51.2	37.6	11.2
	Oman	40.1	42.2	17.7
	Qatar	44.1	34.9	21.0
	Saudi Arabia	41.5	49.5	9.0
	UAE	49.1	39.0	12.0
	Overall	42.5	46.1	11.5
Addressing students' language needs in teaching reading	Bahrain	56.2	35.6	8.2
	Oman	49.4	31.2	19.4
	Qatar	48.4	36.5	15.1
	Saudi Arabia	44.0	47.7	8.2
	UAE	49.8	43.2	7.1
	Overall	46.2	43.5	10.3
Addressing differentiation of instruction for students' needs and interests	Bahrain	54.8	32.1	13.1
	Oman	42.6	38.1	19.3
	Qatar	50.7	33.8	15.5
	Saudi Arabia	46.2	46.0	7.7
	UAE	49.6	39.8	10.6
	Overall	46.6	42.9	10.5
Instruction related to digital literacies	Bahrain	46.2	39.7	14.2
	Oman	43.6	41.3	15.1
	Qatar	48.8	41.8	9.4
	Saudi Arabia	40.5	53.0	6.5
	UAE	47.7	42.0	10.3
	Overall	42.4	48.9	8.7
Assessing students' reading	Bahrain	50.2	38.6	11.2
	Oman	41.6	33.2	25.2
	Qatar	47.5	32.0	20.5
	Saudi Arabia	47.7	45.2	7.0
	UAE	47.8	41.1	11.1
	Overall	46.9	42.0	11.1

### Research Question 3

Kruskal-Wallis H tests revealed statistically significant differences in teachers' professional development needs across the five GCC countries in all areas examined. For teaching reading comprehension skills or strategies,  $\chi^2(4) = 1501.65, p < 0.001$ ; post hoc comparisons indicated that all country pairs differed significantly from each other ( $p < 0.001$ ). A similar pattern was observed for addressing students' language needs in teaching reading,  $\chi^2(4) = 916.10, p < 0.001$ , although no significant difference was found between Qatar and Saudi Arabia. When addressing the differentiation of instruction for students' needs and interests,  $\chi^2(4) = 1769.40, p < 0.001$ , all pairs showed statistically significant differences except for Qatar and Saudi Arabia. For instruction related to digital literacies,  $\chi^2(4) = 584.21, p < 0.001$ , all country pairs differed significantly except Bahrain and Saudi Arabia. Lastly, for assessing students' reading,  $\chi^2(4) = 3953.91, p < 0.001$ , all country pairs differed significantly except Bahrain and Saudi Arabia. These findings suggest that, overall, regional variations in professional development needs are evident. Such variations may relate to contextual factors, including curriculum

frameworks, national investments in teacher training, and the degree of alignment between policy priorities and classroom realities.

### Research Question 4

Spearman's correlation analyses were conducted to examine the relationship between teachers' prior formal training and their current professional development needs in key areas of reading instruction. The variables were coded such that higher values for formal training indicated greater emphasis in training, and higher values for professional development needs indicated lower levels of needs. Because of this coding scheme, negative Spearman's rho values indicate an inverse relationship between formal training and professional development needs. The correlations between formal training and professional development needs were as follows: pedagogy/teaching reading and teaching reading comprehension skills or strategies ( $\rho = -0.015$ ), learning support and addressing students' language needs in reading instruction ( $\rho = -0.119$ ), special education and differentiation of instruction for students' needs and interests ( $\rho = -0.061$ ), digital literacy and instruction in

digital literacies ( $\rho = -0.147$ ), and assessment methods in reading and assessing students' reading ( $\rho = -.009$ ), and all were statistically significant at  $p < 0.001$ . Given the large sample size, even negligible associations can yield statistically significant results (Rutkowski & Svetina, 2014). Therefore, emphasis was placed on the magnitude of the correlations (Spearman's rho), a more meaningful indicator of the relationship between variables. Overall, these findings suggest that greater formal training in specific areas is only modestly to negligibly associated with reduced professional development needs in those areas.

### Research Question 5

Spearman's rank-order correlations were conducted to explore the relationship between years of teaching experience and teachers' perceived professional development needs in five key areas of reading instruction. Professional development needs were coded such that higher values reflected lower levels of perceived needs. The results revealed weak but statistically significant positive correlations across all areas, indicating that as years of experience increased, reported professional development needs slightly decreased. Specifically, the correlations between years of experience and professional development needs were as follows: teaching reading skills or strategies ( $\rho = 0.070$ ), addressing students' language needs in reading instruction ( $\rho = 0.109$ ), differentiation of instruction for students' needs and interests ( $\rho = 0.023$ ), assessing students' reading ( $\rho = 0.061$ ), and instruction related to digital literacies ( $\rho = 0.004$ ), all statistically significant at  $p < 0.001$ . Although statistically significant, the effect sizes were very small, suggesting that years of experience have only a modest to negligible relationship with professional development needs.

Taken together, these results indicate that while training and experience show statistically significant relationships with teachers' professional development needs, other contextual and institutional variables likely play a stronger role.

## Discussion

### Summary of Findings

Teachers across the GCC reported receiving comprehensive formal training in pedagogy and assessment related to teaching reading. However, these results indicate that digital literacies, learning support, and especially special education are less extensively emphasized in teacher preparation programs. These patterns, drawn directly from the PIRLS teacher questionnaire data, highlight both the strengths of pedagogical preparation and the areas where further development is needed. While statistically significant variations exist among GCC

countries, the overall patterns show that teachers consistently reported moderate to high needs for professional development in key instructional areas. The results suggest that, despite existing training, teachers continue to seek growth in teaching comprehension strategies, addressing language-related challenges, differentiating instruction, integrating digital literacies, and assessing students' reading. The weak relationships between formal training and experience and professional development needs imply that these factors alone do not sufficiently shape teachers' self-perceived competencies. Collectively, these results offer one of the first large-scale, comparative portraits of GCC reading teachers' preparation and professional development priorities, providing region-specific insights into where teacher education systems are succeeding and where strategic reinforcement is most needed.

### Formal Training in Reading Instruction

The findings confirm that pedagogy remains a central emphasis in teacher preparation programs across the GCC. This focus mirrors global patterns observed in teacher education research (e.g., Fernandes et al., 2023). However, as in other international contexts, teachers continue to report limited preparation for addressing the needs of struggling readers and students with disabilities (e.g., Jakobson et al., 2022; Karlberg & Bezzina, 2020; Meeks et al., 2016). This imbalance between general pedagogical theory and specialized training suggests that teacher education programs may still privilege broad instructional principles over practical competencies for meeting diverse learner needs.

One explanation for this pattern lies in the strong influence of theoretical models such as cognitive constructivism (Piaget, 1973) and the zone of proximal development (Vygotsky, 1978), which have traditionally shaped curricula globally. While these theories provide an essential foundation for understanding how students learn, their dominance may have unintentionally narrowed teacher preparation to focus on "typical" developmental trajectories rather than the full spectrum of learner diversity. This orientation may also account for the relatively weak attention given to special education within pre-service programs. Such an emphasis reflects the lasting influence of developmental frameworks that prioritize sequential cognitive growth over inclusive or differentiated learning approaches.

To strengthen teacher readiness, teacher education programs should expand beyond these traditional frameworks and adopt approaches that assume learner diversity from the outset. Models such as inclusive pedagogy (Florian & Black-Hawkins, 2011) and Universal Design for Learning (CAST, 2024) offer practical pathways for designing instruction that is

equitable, flexible, and responsive to variation among learners. Integrating these perspectives would bring teacher education into closer alignment with the realities of contemporary classrooms and ensure that theoretical foundations translate into inclusive practices.

Furthermore, the relatively strong emphasis on assessment training observed across the GCC may reflect the growing influence of accountability measures and standardized assessment reforms introduced in recent years. This trend aligns with international movements that promote data-driven instruction, suggesting that GCC teacher education systems are actively responding to global expectations for quality and comparability while still developing greater depth in inclusive and differentiated instruction.

In addition to theoretical reform, closer integration between coursework and field-based experience is critical. Embedding inclusive and literacy-focused pedagogies within authentic teaching contexts can help bridge the persistent gap between academic knowledge and classroom practice. This approach aligns with international research showing that experiential learning, mentoring, and structured reflection enhance teachers' ability to meet diverse student needs and address reading difficulties effectively (Darling-Hammond et al., 2017; Reynolds et al., 2016).

Ultimately, current national reforms emphasizing inclusion, digital transformation, and evidence-based practice provide a solid foundation for GCC teacher education systems to build upon. With sustained investment and innovation, the region will lead globally in developing teacher preparation models that equip educators for the complex, diverse, and digitally connected classrooms of the twenty-first century.

### ***Country Variations in Professional Development Needs***

The analyses revealed clear yet modest cross-country variations in teachers' perceived professional development needs across the GCC, suggesting shared regional priorities rather than substantial disparities. Despite identifying statistical differences, the pattern across Bahrain, Qatar, Oman, Saudi Arabia, and the UAE reflects a broadly shared set of instructional priorities. These results suggest that teachers across the region recognize similar challenges, particularly in addressing students' language needs, differentiating instruction, integrating digital literacies, assessing reading, and enhancing comprehension instruction.

Rather than a shortcoming, this pattern reflects progress within the GCC countries' education systems. The high demand for professional development in these

areas likely reflects the success of regional initiatives in promoting inclusive education, digital transformation, and strengthened literacy outcomes. Teachers' awareness of these priorities indicates that regional reforms have successfully raised responsiveness to the evolving demands of twenty-first century classrooms. For example, the predominance of medium rather than high perceived needs in digital literacies suggests growing teacher familiarity with technology integration, though not yet accompanied by the confidence required for full instructional application. This pattern signals a transitional phase in the GCC's digital transformation, where teachers increasingly value digital skills and seek structured opportunities to translate this awareness into pedagogical practice.

The differences among countries likely reflect contextual factors such as policy focus, curriculum design, and resource allocation rather than fundamentally distinct pedagogical needs. This aligns with Desimone's (2009) argument that professional development is most effective when directly linked to teachers' instructional content and classroom realities, and with Darling-Hammond et al. (2017), who emphasized the importance of sustained, contextually grounded professional learning that builds teacher capacity over time. Similarly, the prominence of inclusive education and digital transformation initiatives in the GCC provides a backdrop for understanding why these areas appear as recurrent priorities. Overall, these findings emphasize the need for coordinated regional strategies that balance country-specific contexts with shared literacy goals, while continuing to build on the region's demonstrated progress in fostering teacher awareness and responsiveness.

### ***Formal Training, Experience, and Professional Development Needs***

The results indicating minimal effect sizes in the relationship between perceived professional development needs and both prior formal training and years of teaching experience highlight that the observed associations, though statistically significant, were of limited practical importance. In other words, neither prior training nor accumulated experience appears to meaningfully shape how teachers evaluate their ongoing learning needs. The small magnitude of these effects suggests that other contextual or institutional factors may exert a stronger influence. Acknowledging the limited practical significance also guards against overinterpreting correlations that may be inflated by the large sample size.

These results are consistent with previous research showing minimal differentiation in professional growth needs across experience levels (Gore et al., 2024; Karlberg & Bezzina, 2020). Together, they reinforce the idea that professional learning is a continuous and

adaptive process rather than one that diminishes in relevance as teachers gain experience.

Two explanations identified by Gore et al. (2024) help contextualize this trend. First, newer cohorts may begin their careers with stronger initial preparation, reducing the traditional gap between novice and experienced teachers. Second, existing professional development structures may not consistently provide depth or progression, limiting teachers' opportunities to refine expertise over time. In addition, as Darling-Hammond et al. (2017) argue, professional learning must be embedded in local educational contexts to respond to evolving challenges such as digital integration, linguistic diversity, and curriculum innovation.

Another plausible explanation lies in the nature of formal education programs, which often emphasize foundational knowledge such as general pedagogy or assessment types while offering limited engagement with advanced instructional practice. Without opportunities for guided application and sustained mentorship, teachers may struggle to transfer theoretical understanding into classroom competence. These findings therefore demonstrate the need for structured, ongoing professional support that bridges the gap between pre-service preparation and real-world practice (Al-Wadi, 2023; Reynolds et al., 2016).

Notably, the relatively stronger, although still modest, relationship between digital literacy training and reduced professional development needs suggests that even limited formal exposure can enhance teacher confidence. This finding emphasizes the value of expanding digital literacy preparation within teacher education curricula across the GCC. Overall, the evidence indicates that contextually grounded, sustained, and practice-oriented professional development is essential to complement initial teacher training and foster long-term professional growth.

### Limitations

This study offers important insights into the perceived formal education and professional development needs of reading teachers in the GCC. However, several limitations should be acknowledged. First, the data depended on self-reported measures, which could have been influenced by memory bias, socially desirable responding, or misinterpretation of questionnaire items. Second, the cross-sectional design captured responses at a single point in time, limiting the ability to determine how formal training and professional development interact or evolve over longer periods of time.

In addition, the survey items may not have fully captured the complexity of teachers' experiences or the depth of specific training areas. For example, in the

domain of assessment, it is unclear whether teachers referred to test construction, interpretation of student data, or broader evaluative practices. This ambiguity limits the interpretability of inferences about teachers' preparation and professional needs.

Another limitation involves the absence of information on curriculum autonomy and instructional flexibility. Teachers' reported need for greater support in digital literacies, for instance, may reflect not only limited pedagogical knowledge but also restrictions stemming from curricular or institutional frameworks. This distinction cannot be disentangled using the current dataset.

Finally, while the study identifies broad patterns of professional development needs, the quantitative design offers limited insight into the specific types of support teachers perceive as most beneficial. Future research employing qualitative approaches such as interviews or classroom observations could provide more profound understanding of how teachers conceptualize their training experiences and needs within their national contexts.

### Conclusions and Future Directions

Despite its limitations, the study offers valuable insights for strengthening teacher preparation and ongoing professional development across the GCC. Collectively, these findings represent an important contribution to regional and international research on teacher education. Unlike previous single-country or qualitative investigations, this study provides comparative, data-driven evidence on reading teachers' preparation and professional development needs, revealing shared regional priorities alongside contextual differences. These insights help fill an important empirical gap and establish a foundation for evidence-informed policy and program design tailored to GCC contexts.

Teacher preparation should continue to emphasize learning support strategies, including differentiation and individualized instruction, to meet diverse student needs. A focus on special education restricted to specialized programs is no longer adequate for the realities of today's inclusive classrooms (Byrd & Alexander, 2020; Folia & Malisiova, 2025). Inclusive practices within general education settings are essential to ensure equitable learning outcomes for all students. Digital literacies also remain a critical competency for reading teachers in the GCC and should be embedded throughout teacher training and professional development programs. The minimal influence of formal education, training, and years of experience on teachers' perceived professional development needs illustrates the value of continuous, targeted professional learning throughout their careers.

Furthermore, teachers cannot close professional development gaps independently. Structural factors such as workload, access to resources, and institutional support must be addressed to create conditions that enable meaningful engagement with ongoing learning. Therefore, policies that allocate time for collaboration, research engagement, and evidence-based reflection should support professional growth.

The GCC's continued investment in literacy instruction and teacher development through national initiatives reflects significant progress. Ongoing support for pre-service and in-service training will further strengthen teacher expertise in comprehension instruction, differentiated pedagogy, digital literacies, and reading assessment. Collaborative regional efforts can promote knowledge exchange, consistency in instructional standards, and shared professional expertise to sustain literacy improvement across the region.

Future research should build on these findings through longitudinal and mixed-methods approaches that examine how teacher preparation aligns with evolving classroom demands and student outcomes. Qualitative studies exploring teachers' lived experiences could yield more profound insights into how contextual and institutional factors influence professional growth. Additionally, examining the role of education policy in shaping professional development priorities may clarify how systemic conditions enable or constrain teacher learning.

Ultimately, teacher education and professional development programs should remain responsive to teachers' lived experiences and the specific literacy needs of their students. By designing programs that connect theoretical understanding with practical application, education systems in the GCC can sustain teacher growth, enhance instructional effectiveness, and improve literacy outcomes across the region.

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#### Ethics Statement:

This study used anonymized, publicly available PIRLS data; ethical approval was not required.

#### Informed Consent:

Informed consent was obtained by the original data collectors (IEA). This study involved only secondary analyses of anonymized, publicly available data and did not require additional consent.

#### Conflict of Interest:

The author declares no competing interests.

#### Data Availability:

The data for this study are publicly available from IEA at <https://www.iea.nl/data-tools/repository/pirls>

#### AI Assistance:

Scopus AI, QuillBot, and ChatGPT were used to support background research and language refinement. The content reflects the author's own analyses and interpretations of the data and relevant scholarly work.

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