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THE DEGREE TO WHICH MATHEMATICS AND ARABIC TEACHERS IN AL-KHARJ GOVERNORATE POSSESS PROFESSIONAL TEACHING SKILLS IN LIGHT OF SUSTAINABLE DEVELOPMENT 2030

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ABSTRACT

The present study examines the degree to which Mathematics and Arabic teachers in Al-Kharj Governorate possess professional teaching skills in light of Sustainable Development 2030, as outlined by Al-Kharj Education Administration for the first semester of the year 2026 AD. The study used the Professional Teaching Skills Scale (Prepared by the Researchers) to collect the data. The study employs the descriptive survey method. The method of internal stability (Cronbach's Alpha) was applied to estimate stability, and the terminal comparison method was used to verify the validity. The research sample consists of (98 teachers)- Mathematics (48) with (49%) and Arabic Language (50) with (51%) in Al-Kharj for the first semester of 2026 AD. The results can also be explained by the fact that there is a high degree to which teachers in Al-Kharj Governorate possess professional teaching skills in light of Sustainable Development 2030, and there are statistically significant differences at the level of significance (a= 0.05) in professional teaching skills level of Al-Kharj Governorate teachers due to the specialization variable (mathematics - Arabic language). These findings highlight professional teaching skills as an important competence for Mathematics and Arabic Language teachers alike. Based on these Results, the paper highlights the necessity of supplemental Mathematics and Arabic Language teachers' training before and during service to develop their Professional Teaching skills, and highlights the variables and factors that affect Professional Teaching skills positively or negatively, and how to deal with them by educational institutions.

KEYWORDS: Professional Teaching Skills, Mathematics Teachers, Arabic Teachers, Sustainable Development 2030.

1. INTRODUCTION AND RESEARCH PROBLEM

The twenty-first century is witnessing modern trends in education and learning, intensive attention to human beings, development, and investing all their intellectual abilities as the basis for progress and development, in which the role of a professional teacher is shown as the basis for a successful educational process that meets the requirements of the knowledge economy, and the graduation of a distinguished generation creative in keeping with the aspirations of the labor market with its productive minds.

Professional Teaching Skills Achieving the 2030 Sustainable Development Fourth Goal: ensuring equitable and comprehensive education for all, and promoting lifelong learning opportunities for all members of society (Education - United Nations Sustainable Development, 2023).

Therefore, the twenty-first century is known as the future of the knowledge economy due to its tangible industrial developments and progress, with the need to prepare distinguished cadres in all fields to meet the requirements of the labor market, and through these highlights the importance of integrating and embedding new skills in Professional Teaching in Mathematics and Arabic language, as extremely common areas (Alqahtani&, Elsayed, 2023).

Also, Al-Nafisa and Al-Nazeer (2018) identified four main patterns from which (16) strategies for effective professional teaching skills, in light of twenty-first-century skills, effective teaching practices, and modern trends and theories in teaching and learning. These strategies are represented in the following patterns:

1. Mastery: This emphasizes developing the student's memory, storing information, and recalling it soundly and effectively. Strategies include:

1.1 Interactive lecture.
1.2 Gradual difficulty.
1.3 Direct instruction.
1.4 Teams, games, and competitions.

2. Comprehension: This seeks to develop the student's ability to simulate and interpret mentally. Strategies include:

2.1 Inductive learning.
2.2 Mind's eye.
2.3 Metaphorical expression.
2.4 Pattern maker.

3. Creativity: This stimulates and activates the student's imagination and creativity unconventionally. Strategies include:

3.1 Complex puzzle.
3.2 Group circle.
3.3 Decision making.
3.4 Reciprocal learning.

4. Participation: Helps students discover meaning through the relationships students form as partners and team members. Strategies include:

4.1 Concept formation.
4.2 Puzzles.
4.3 Reading for meaning.
4.4 Comparing and contrasting.

The current research problem is the scarcity of studies on Professional Mathematics and Arabic teaching skills at this stage (TIMSS, 2023; UNESCO, 2019). Therefore, the researcher wants to study the degree to which teachers in Al-Kharj Governorate possess professional teaching skills in light of Sustainable Development 2030 for the first semester of the year 2026 AD.

By answering the main question:

What is the degree to which Mathematics and Arabic teachers in Al-Kharj Governorate possess professional teaching skills in light of Sustainable Development 2030 for the first semester of the year 2026 AD?

Which is divided into the following questions:

1. What is the level of professional teaching skills among Mathematics teachers in Al-Kharj Governorate in light of Sustainable Development 2030 for the first semester of 2026 AD?
2. What is the level of professional teaching skills among Arabic language teachers in Al-Kharj Governorate in light of Sustainable Development 2030 for the first semester of 2026 AD?
3. Are there statistically significant differences at the level of significance ($\alpha = 0.05$) in the professional teaching skills of teachers in Al-Kharj Governorate due to the variable of specialization (Mathematics- Arabic language)?

Based on the above, the researchers' motivation to conduct the present research increased because there is no study in this field according to the researchers' knowledge.

The twenty-first century is witnessing modern trends in education and learning, intensive attention to human beings, development, and investing all their intellectual abilities as the basis for progress and development, in which the role of a professional teacher is shown as the basis for a successful educational process that meets the requirements of the knowledge economy, and the graduation of a distinguished generation creative in keeping with the

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What is the level of professional teaching skills among Arabic language teachers in Al-Kharj Governorate in light of Sustainable Development 2030 for the first semester of 2026 AD?

Are there statistically significant differences at the level of significance (α= 0.05) in the professional teaching skills of teachers in Al-Kharj Governorate due to the variable of specialization (Mathematics-Arabic language)?

Based on the above, the researchers' motivation to conduct the present research increased because there is no study in this field according to the researchers' knowledge.

2. RESEARCH OBJECTIVES

The current research aims to determine:

1. The level of professional teaching skills among Mathematics teachers in Al-Kharj Governorate in light of Sustainable Development 2030 for the first semester of 2026 AD.
2. The level of professional teaching skills among Arabic language teachers in Al-Kharj Governorate in light of Sustainable Development 2030 for the first semester of 2026 AD.
3. The statistically significant differences at the level of significance (α= 0.05) in the professional teaching skills of teachers in Al-Kharj Governorate due to the variable of specialization (Mathematics- Arabic language).

3. RESEARCH IMPORTANCE

The Current research is interested in:

1. Providing an attractive learning environment, working to increase positive Mathematics and

Arabic Teachers and their participation in the educational position, and in the development of Professional Mathematics and Arabic language teaching skills.
2. Generate a culture of interactive Mathematics related to the Arabic language and linked to life applications.
3. Rehabilitation of national cadres with knowledge, experience, and efficiency to contribute to national programs and development plans.
4. Making recommendations and proposals for new research and studies associated with the subject of research.

4. LITERATURE REVIEW

4.1. Research Concepts

4.1.1. Professional Teaching Skills

Professional Teaching Skills is a process of acquiring practical competencies, developing a teacher's, instructor's, or trainer's ability to educate, encompassing pedagogical knowledge effectively, classroom management, Lesson plan, and student assessment (Ulferts, 2021).

Professional Teaching Skills is operationally defined in the current study as effective Mathematics and Arabic teaching practices, trends, and modern theories in teaching and learning as a way students learn and teachers teach, and it is measured by the Professional Teaching Skills scale prepared for this purpose.

4.2. Theoretical Framework and Previous Studies:

Professional Teaching Skills is a major for the development of the educational process, and recent trends in Mathematics and Arabic teaching have led to the development of higher levels of student teaching skills.

The student is the cornerstone of the interest of many educational systems in the development of skills and refinement of personality, and increases the Professional teaching skills that he can benefit from the skills that he learned, acquired, and employed in the service of his requirements as an individual (Canuto et al., 2024).

4.3. Standards For Staff Development

The standards for Teachers were developed by NSDC (National Staff Development Council, 2001) in conjunction with 17 professional associations to synthesize the research on effective professional development that results in changes for teachers and students. The standards point to specific practices and stances that those organizing and providing professional development can implement to produce stronger learning. Organized into context, process, and content standards, NSDC standards reflect components of professional development that can be used to guide schools and school systems in the design and support of meaningful learning opportunities for educators. The standards have been adopted, adapted, or endorsed by 40 states, most recently Kansas and Oregon. NSDC developed resources and an assessment to assist schools, school districts, and states in implementing standards consistently so that professional development impacts teaching and student learning.

1. Context Standards

Staff development that improves the learning of all students:

1.1 Organizes adults into learning communities whose goals are aligned with those of the school and district. (Learning Communities)
1.2 Requires skillful school and district leaders who guide continuous instructional improvement. (Leadership)
1.3 Requires resources to support adult learning and collaboration. (Resources)

2. Process Standards

Staff development that improves the learning of all students:

2.1 Uses disaggregated student data to determine adult learning priorities, monitor progress, and help sustain continuous improvement. (Data-Driven)
2.2 Uses multiple sources of information to guide improvement and demonstrate its impact. (Evaluation)
2.3 Prepares educators to apply research to decision-making. (Research-Based)
2.4 Uses learning strategies appropriate to the intended goal. (Design)
2.5 Applies knowledge about human learning and change. (Learning)
2.6 Provides educators with knowledge and skills to collaborate. (Collaboration)

3. Content Standards

Staff development that improves the learning of all students:

3.1 Prepares educators to understand and appreciate all students, create safe, orderly, and supportive learning environments, and hold high expectations for their academic

achievement. (Equity)

3.2 Deepens educators' content knowledge, provides them with research-based instructional strategies to assist students in meeting rigorous academic standards, and prepares them to use various types of classroom assessments appropriately. (Quality Teaching)

3.3 Provides educators with knowledge and skills to involve families and other stakeholders appropriately. (Family Involvement)

4.4. The Classification of Professional Teaching Skills:

The Professional Development Skills are identified for Modern Teachers (Janelle Cox, 2019):

1. Adaptability

In this modern, digital age, teachers need to be flexible and able to adapt to whatever is thrown their way. Similarly, administrators are changing and updating expectations and learning standards. Whether it's the way students learn, the behaviour their classroom exhibits, or their lesson plans, being able to adapt is a skill that every modern teacher must have.

2. Confidence

Every teacher needs to have confidence, not only in themselves but in their students and their colleagues as well. A confident person inspires others to be confident, and a teacher's confidence can help influence others to be better people.

3. Communication

Being able to communicate with not only your students but also with parents and staff is an essential skill. Think about it: almost all of a teacher's day is spent communicating with students and colleagues, so it is crucial to be able to talk clearly and concisely to get your point across.

4. Team Player

Part of being a teacher is being able to work together as part of a team or a group. When working together as a team, it provides students with a better chance to learn and have fun. Networking with other teachers (even virtually) and solving problems together will only lead to success. Doing so fosters a sense of community, not only in their classroom but school-wide as well.

5. Continuous Learner

Teaching is a lifelong learning process. The world is always changing, along with the curriculum and educational technology, so it's up to him, the teacher, to keep up with it. A teacher who is always willing to go that extra mile to learn will always be an effective, successful teacher.

6. Imaginative

The most effective tool teachers can use is their imagination. Teachers need to be creative and think of unique ways to keep their students engaged in learning, especially now that many states have implemented the Common Core Learning Standards into their curricula. Many teachers believe that these standards are taking all of the creativity and fun out of learning, so teachers are finding imaginative ways to make learning fun again.

7. Leadership

An effective teacher is a mentor and knows how to guide students in the right direction. They lead by example and are a good role model. They encourage students and lead them to a place of success.

8. Organization

Modern teachers can organize and prepare for the unknown. They are always ready for anything that is thrown their way. Need to go home sick? No problem, they have a substitute folder all ready to go. Studies show that organized teachers foster more effective learning environments. So, it is even more imperative to be organized if you want higher-achieving students.

9. Innovative

A modern teacher is willing to try new things, from new educational apps to teaching skills and electronic devices. Being innovative means not only trying new things but also questioning the students, making real-world connections, and cultivating a creative mindset. It's getting the students to take risks and learn to collaborate with others.

10. Commitment

While being committed to the job is a traditional teaching skill, it is also a modern one. A modern teacher needs to always be engaged in their profession. The students need to see that their teacher is present and dedicated to being there for them.

11. Ability To Manage Online Reputation

This 21st -century, modern teaching skill is a new one. In this digital age, most, if not all, teachers are online, which means they have an "online reputation". Modern teachers need to know how to

manage their online reputation and which social networks are okay for them to use. LinkedIn is a professional social network to connect with colleagues, but other social networking sites' profiles, such as Instagram or Facebook, should remain private and separate from students.

12. Ability To Engage

Modern teachers know how to find engaging resources. Nowadays, it is essential to find materials and resources for students that will keep them interested. This means keeping up-to-date on new learning technologies, apps, browsing the web, and connecting to fellow teachers. Anyway, that can engage students and keep things interesting is a must.

13. Understanding Of Technology

Technology is growing at a rapid pace. In the past five years alone, we have seen huge advancements, and we will continue to see them grow. While these developments may be hard to keep up with, it is something that all modern teachers need to do. Not only do you need to understand the latest in technology, but you must also know which digital tools are right for your students. It's a process that may take time, but will be greatly influential in the success of the students.

14. Know When To Unplug

Modern teachers know when it's time to unplug from social media and just relax. They also understand that the teacher burnout rate is high, so it's even more critical for them to take the time to slow down and care for themselves. They also know when it's time to tell their students to unplug and slow down. They give their students time each day for a brain break and let them unwind.

15. Ability To Empower

Teachers inspire; that's just one of the qualities that come along with the title. Modern educators can empower students to be critical thinkers, innovative, creative, adaptable, passionate, and flexible. They empower them to solve problems, self-direct, self-reflect, and lead. They give them the tools to succeed, not only in school but in life.

4.5. Developing The Professional Teaching Skills

Firstly, the Integrated Mathematics Assessment (IMA) approach directly engaged teachers in learning mathematics in the new curriculum, as well as facilitating discussion around pedagogical content knowledge necessary to teach the units. Their researchers found that students whose teachers had participated in the Integrated Mathematics Assessment (IMA) program showed the greatest gains in conceptual understanding. The study's findings underscore the need for learning opportunities that focus on specific content knowledge and content pedagogy and "point to the problems with reform curriculum when such curriculum is not accompanied by focused supports for teachers' subject matter knowledge, knowledge of children's mathematics and implementation of reform-oriented pedagogical practices" (Saxe et al., 2001, p. 70).

Secondly, professional development that is sustained and intense has a greater chance of transforming teaching practices and student learning (Elsayed& Alqahtani, 2025; Weiss & Pasley, 2006; Desimone et al., 2002; Cohen & Hill, 2001; Garet et al., 2001; Supovitz et al., 2000; McGill-Franzen et al., 1999). The traditional episodic and fragmented approach of traditional professional development does not afford the time necessary for learning that is "rigorous" and "cumulative" (Knapp, 2003).

Given the multiple benefits of professional teaching skills, many previous studies in mathematics education have been interested in using a training model for pre-service and in-service training of Mathematics and Arabic teachers in developing teaching practices and Quality of Mathematics and Arabic learning outcomes (Isoda, 2011; Ilieva, 2011; Nauerth, 2015; Eurydice& Darra, 2018; Nakamura, 2019).

From the previous summary of these studies' results, it has been found that:

The current study agreed on the goal of developing Professional Mathematics and Arabic teaching skills.

They are different in that the current study is:

1. Using The Professional Teaching Skills Scale (Prepared by the Researchers).
2. dealing with some research variables and approaches, and presentation mechanisms not addressed in any of the previous studies.
3. Differ from the previous studies addressed in the current study objectives, particularly what's associated with professional Mathematics and Arabic language teaching skills methodology, which serves as the basis for the current study.

5. METHODOLOGY

The research used the descriptive survey and analytical method, for their suitability with the

research topic and in achieving its objectives.

Research Determinants:

1. Spatial Determinants:

1.1. Community: All secondary grade mathematics teachers (120) with (42%), and Arabic language teachers (170) with (58%), for the year 2025 AD, Al-Kharj Education Department - Riyadh.

1.2. A sample of secondary grade teachers from Al-Kharj Education Department in—Riyadh was distributed according to the specialization variable, Mathematics (48) with (49%) and Arabic Language (50) with (51%). The moderate distribution of the study variables will be verified by calculating the torsion factor.

2. Objective Determinants: in some concepts of Mathematics and Arabic language for the secondary grade, the first semester of the year 2026 AD, for its relevance with Professional teaching skills.

3. Time Determinants: the first semester of the year 2026 AD.

Research Tools:

Professional Teaching Skills Scale (Prepared by the Researchers):

As a main tool for collecting information and data. It was designed, and all data were collected in accordance with the study's variables. It included four domains in light of Sustainable Development 2030 Fourth Goal: ensuring equitable and comprehensive education for all (Professional knowledge in the field of specialization- Working to acquire skills and competencies- Effective communication and respect for other cultures- Teaching students to be better developed personalities). consisting of (5) dimensions of Professional teaching skills, including (20) items in light of Sustainable Development 2030 for the first semester of the year 2026 AD in Mathematics and Arabic Language, and the wording of the scale's items was based on a five-point Likert scale for correction, giving each item one score out of its five grades (strongly agree, agree, neutral, disagree, strongly disagree), which is represented numerically (5, 4, 3, 2, 1) in order.

Reliability And Validity of the Scale

1. Reliability Of the Scale

To adjust the scale, its validity and reliability were confirmed by applying it to a sample of (30) teachers outside the research sample within the study population, and using the internal consistency method (Cronbach's alpha) to estimate the reliability.

Table 1: Alpha Cronbach for the Professional Teaching Skills Scale.

Professional Teaching Skills Scale	Alpha Cronbach
	0.91

It is clear from Table (1) that the reliability coefficient is (0.91), which is an acceptable value that indicates that the scale has a high degree of reliability and can be used in research.

2. Validity Of the Scale

As for the validity, the peripheral comparison method was used in addition to the honesty of the specialized arbitrators to ensure the validity of the scale.

Table (2): The Validity Assessment of the Professional Teaching Skills Scale.

Sets	Sample Volume	Mean	Freedom Degree	t- value	Significance level
Upper set	11	2.64	20	9.53	Significance at α= 0.05
Lower set	11	0.55			

It is clear from Table (2) that the "T" value was statistically significant at the significance level (**α=**0.05) between the upper and the lower group in their scores on the scale, meaning that it has an acceptable degree of validity and can be used in research.

The total time for the scale was also calculated by calculating the average time by sequentially recording the answer time of each student, which is (25) minutes. The final score of the scale was (100) degrees, with (20) degrees (points) for each of the four domains.

6. FINDINGS AND DISCUSSION

To address the research questions, Arithmetic averages, standard deviations, Rank, verbal estimation, T-test, and statistical significance of professional teaching skills as a whole, and its sub-skills were extracted and calculated by using SPSS 29.

Table (3): The Level of Professional Teaching Skills of Mathematics, And Arabic Language Teachers in Al-

Kharj Governorate in Light of Sustainable Development 2030, and Significant Differences Due To Specialization (Mathematics- Arabic Language) at α=0.05.

Professional Teaching Skills Scale Domains	Average			SD			Rank	Verbal estimation	T-value	Significance α=0.05
	Math	Arabic	Total	Math	Arabic	Total				
Professional knowledge in the field of specialization	4.44	4.51	4.48	0.08	0.17	0.07	5	Very large	117.61	sig
Working to acquire skills and competencies	4.41	4.51	4.46	0.07	0.23	0.07	5	Very large	97.82	sig
Effective communication and respect for other cultures	4.50	4.57	4.54	0.13	0.19	0.07	5	Very large	147.61	sig
Teaching students to be better developed personalities	4.44	4.54	4.50	0.05	0.23	0.07	5	Very large	123.24	sig
Total of Professional Teaching Skills	**4.45**	**4.53**	**4.50**	**0.08**	**0.20**	**0.07**	**5**	**Very large**	**266.50**	**sig**

To answer the first research question: **What is the level of professional teaching skills among Mathematics teachers in Al-Kharj Governorate in light of Sustainable Development 2030 for the first semester of 2026 AD?**

It is clear from Table (3) that: the Arithmetic average ranged from 4.41 to 4.50 and ranked very high, the standard deviation ranged from 0.05 to 0.13. These findings align with prior research by Elsayed& Alqahtani (2025), TIMMS (2023), Education - United Nations Sustainable Development (2023), UNESCO (2019), Nakamura (2019), Eurydice& Darra (2018), Al-Nafisa and Al-Nazeer (2018), Isoda (2011), Ilieva (2011), Saxe et al. (2001), which also emphasized the importance of a diverse range of tools aimed at enhancing the professional teaching skills of Mathematics teachers in Al-Kharj Governorate in light of Sustainable Development 2030.

To answer the second research question: **What is the level of professional teaching skills among Arabic language teachers in Al-Kharj Governorate in light of Sustainable Development 2030 for the first semester of 2026 AD?**

It is clear from Table (3) that: the Arithmetic average ranged from 4.51 to 4.57 and ranked very high, the standard deviation ranged from 0.17 to 0.23. These findings align with prior research Elsayed& Alqahtani (2025), Canuto et al (2024), Education - United Nations Sustainable Development (2023), UNESCO (2019), Nauerth (2015), Weiss & Pasley (2006), Desimone et al (2002), all of which underscored the importance of a diverse array of tools aimed at enhancing the professional teaching skills of Arabic language teachers in Al-Kharj Governorate in light of Sustainable Development 2030.

To answer the third research question: **Are there statistically significant differences at the level of significance (α= 0.05) in the professional teaching skills of teachers in Al-Kharj Governorate due to the variable of specialization (Mathematics- Arabic language)?**

Table (3) reveals statistically significant differences in **the professional teaching skills of teachers in Al-Kharj Governorate due to the variable of specialization (Mathematics- Arabic language)**, with respective T-values of 97.82, 117.61, 123.24, 147.61, and 266.50 as a whole. all exceeding the critical value at α=0.05. These findings align with previous studies Elsayed& Alqahtani (2025), TIMMS (2023), Education - United Nations Sustainable Development (2023), UNESCO (2019), Nakamura (2019), Eurydice& Darra (2018), Al-Nafisa and Al-Nazeer (2018), Nauerth (2015), Isoda (2011), Ilieva (2011), Weiss & Pasley (2006), Desimone et al (2002) Saxe et al. (2001), indicating that professional teaching skills of Mathematics and Arabic language teachers advanced educational outcomes and societal progress according to Professional knowledge in the field of specialization, Working to acquire skills and competencies, Effective communication and respect for other cultures, and Teaching students to be better developed personalities.

7. CONCLUSION

Through the results, based on global experiences and previous studies, the importance of professional teaching skills and their close connection to achieving Sustainable Development 2030 Fourth Goal: ensuring equitable and comprehensive education for

all, and qualifying Mathematics and Arabic language teachers for the future, becomes clear. As well as through presenting and interpreting the research results, as well as their agreement with the results of previous studies, the research questions and main Question have been answered.

8. STUDY RECOMMENDATIONS

Ultimately, the success of interventions underscores the potential for professional teaching skills development and well-designed initiatives tailored to local contexts. Equipping Mathematics and Arabic Language teachers with adaptable higher-order abilities likely requires coordinated endeavors unifying policy, research, and practice across courses and activity settings before and during service to develop their Professional Teaching skills, and highlighting the variables and factors that affect Professional Teaching skills positively or negatively, and dealing with them by educational institutions.

Conflicts of Interest: The authors declare no conflicts of interest.

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