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# Enhancing Arabic literacy through data-driven assessment: The impact of running records on reading evaluation and instruction

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## Abstract

Reading is a multifaceted cognitive process involving fluency, comprehension, and higher-order thinking. Traditional Arabic literacy assessments often focus on rote memorization and pronunciation accuracy, neglecting deeper cognitive and metacognitive reading processes. This study investigates the impact of running records, a formative assessment tool that captures real-time reading behaviors, on Arabic literacy instruction. Conducted in 17 public schools in Abu Dhabi, the mixed-methods study involved 120 students in Grades 2 to 5 and 20 Arabic language teachers trained in running record implementation. Quantitative data included measures of reading fluency, decoding accuracy, and comprehension. Qualitative data were collected through teacher interviews and classroom observations. Descriptive and inferential statistics assessed student progress, while thematic analysis captured teacher perspectives. Students assessed using running records showed a 23% reduction in reading hesitations, a 15% improvement in decoding accuracy, and a 31% gain in comprehension. Teachers reported that running records enhanced their ability to diagnose reading difficulties and tailor instruction. However, challenges such as time constraints and limited training affected implementation. The findings suggest that running records provide a more dynamic and insightful alternative to traditional Arabic literacy assessments. With targeted training and policy support, they can significantly improve literacy outcomes in Arabic-speaking classrooms.

**Keywords:** Arabic literacy, Education policy, Formative evaluation, Literacy intervention, Reading assessment, Running records, Teacher development.

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## 1. Introduction

The educational landscape in Arabic-speaking regions presents unique challenges that impact literacy instruction and assessment. The complexity of Arabic orthography and diglossia adds layers of difficulty for early readers [1, 2]. Differences in phonemic structures and orthographic transparency may cause students who receive early exposure to both Arabic and English literacy to experience decoding difficulties [3, 4]. In addition to these linguistic challenges, traditional literacy assessment methods in many Arabic-speaking classrooms often emphasize rote memorization, oral recitation accuracy, and mechanical decoding skills over more meaningful, comprehensive measures of reading proficiency [5], leaving teachers with limited insight into students' reading capabilities. These limitations have contributed to stagnant literacy progress in Arabic-speaking students, as evidenced by their consistently low performance in international assessments such as the Progress in International Reading Literacy Study (PIRLS) [6].

Reading is a complex cognitive and linguistic process that involves constructing meaning rather than merely recognizing words in isolation [7, 8]. Effective literacy instruction requires assessment methods that capture how students read, rather than just measuring what they read. Unlike traditional assessment methods that focus on static measures such as pronunciation accuracy and reading speed, running records serve as a real-time diagnostic tool, allowing educators to analyze reading fluency, decoding accuracy, self-correction patterns, and comprehension strategies [8, 9]. Despite their well-documented efficacy in English literacy instruction, running records remain underutilized and understudied in Arabic-speaking classrooms. Nevertheless, existing research underscores that assessment practices in Arab countries have failed to adapt to more interactive and diagnostic methods and that there is a pressing need for a transition to more diverse, student-centered reading instruction in Arabic classrooms [6, 10-12].

Grounded in socio-psycholinguistic theories of reading [7, 13] and formative assessment frameworks, this research argues that running records can serve as a transformative tool to improve Arabic literacy education, aligning assessment with the cognitive and metacognitive skills necessary for true literacy development. Furthermore, embedding running records into Arabic literacy instruction could bridge the assessment gaps by providing real-time insights into reading fluency, decoding strategies, and comprehension patterns. Using data from a reading intervention program implemented in Abu Dhabi schools, this research aims to assess the effectiveness of running records in diagnosing reading difficulties in Arabic-speaking students and compare running records with traditional Arabic reading assessments to highlight differences in diagnostic capability and instructional impact.

This study fills a critical gap in Arabic literacy research by introducing running records as a formative, process-oriented assessment tool that moves beyond traditional evaluation methods. Aligning with international best practices while addressing the unique linguistic and pedagogical challenges of Arabic reading instruction and highlighting the limitations of traditional Arabic reading assessments, this research supports policymakers, curriculum designers, and teacher training institutions in developing more effective reading instruction models for Arabic-speaking students.

## 2. Literature Review

### *2.1. Conceptualizing Running Records as a Formative Assessment Tool*

Goodman [14] emphasizes the importance of cognitive processing strategies in reading, where readers rely on three key cueing systems: graphophonic (letter-sound relationships), semantic (meaning from context), and syntactic (grammatical structures). Drawing from Goodman [14] miscue analysis, scholars argue that reading errors are not random but indicative of strategic thinking [15, 16]. This challenges the deficit model, which frames reading struggles as failures rather than opportunities for instructional intervention [17, 18]. Similarly, Black and Wiliam [19] assessment framework highlights that effective formative assessment must measure skills, track progress, identify gaps, and guide instruction.

As a well-established formative assessment tool, running records provide a structured approach to capturing reading behaviors in real-time, making them a powerful tool for assessment and instruction [20]. Developed by Clay [21] and Clay [8] as part of the Reading Recovery framework, running records serve as a diagnostic and instructional tool for assessing oral reading fluency, decoding accuracy, self-correction behaviors, and comprehension strategies. Unlike summative reading assessments, which measure phonemic awareness and word recognition at a fixed point in time, running records offer a dynamic and process-oriented approach Harmey and Kabuto [22]. McKenna and Picard [23] stress that running records are embedded within the constructivist approach to reading, where students actively construct meaning rather than passively absorb text. Dorn and Jones [24] reinforce this perspective, suggesting that teachers who conduct frequent running records gain deeper insights into student strengths and weaknesses, allowing for immediate instructional adjustments. Running records also enhance student self-regulation, helping students become more adept at monitoring their reading, self-correcting errors, and employing metacognitive strategies [9]. However, given that comprehension involves complex skills beyond word recognition [25], critics question the comprehensiveness of running records as a standalone assessment tool [26, 27].

Running records are widely implemented in North America, Australia, New Zealand, and the UK, where they play an integral role in literacy instruction and assessment [28]. In the United States, they are a core component of guided reading programs and Response to Intervention (RTI) models. In Australia and New Zealand, they are integrated into national literacy curricula to assess foundational reading skills. Empirical research consistently demonstrates their effectiveness in fostering reading development Johnston [29]. Ross [30] conducted a controlled experimental study across multiple schools, showing that students assessed using running records outperformed those evaluated through traditional testing methods. Ludlow et al. [31] found that running records provide consistent results across different contexts when standardized, reinforcing their reliability as a diagnostic tool. Fried [32] illustrated that running records provide immediate insights into student difficulties, allowing teachers to make data-driven decisions that foster literacy growth. Sukarwati et al. [33] demonstrated that students

receiving reading instruction based on running records exhibited a 45% improvement in identifying main ideas and a 44% increase in recognizing supporting details, further validating their effectiveness in promoting reading fluency and comprehension.

### *2.2. Challenges in Arabic Literacy Instruction and Assessment*

Literacy assessment in the Arab world remains an area of concern, with international reports indicating persistent gaps in reading proficiency. The OECD [34] *Programme for International Student Assessment (PISA)* shows low literacy performance in several Arab states, with only 37% of students in Saudi Arabia achieving Level 2 or higher, compared to the OECD average of 74%, and just 5% of UAE students scoring at Level 5 or higher. The World Bank [35] *Early Grade Reading Assessment (EGRA)* in Iraq found that a significant percentage of second and third-grade students struggled with foundational literacy skills. *PIRLS 2021* reported that Arab countries, including the UAE, Qatar, and Egypt, made notable improvements in reading performance [6]. However, overall literacy scores remain below global averages, highlighting systemic challenges in Arabic reading instruction and assessment.

Reading assessments in Arabic-speaking contexts present unique linguistic and pedagogical challenges. Arabic diglossia, where spoken dialects differ from Modern Standard Arabic (MSA), complicates literacy development by increasing cognitive load in decoding and comprehension [4, 36, 37]. Arabic orthography, with its morphological complexity and diacritical variations, poses additional difficulties for young readers, particularly in distinguishing phonemes and processing word structures Abu-Rabia [38], Taha [39] and Taha and Saiegh-Haddad [2]. Hassanein et al. [40] found that phonological, morphological, and orthographic processing are crucial for reading fluency, but the importance of these predictors varies by grade. Their findings suggest that orthographic processing plays a greater role in early literacy, while morphological awareness becomes more critical in later grades. Additionally, low-performing readers often experience decreased reading motivation and self-esteem [41-43]. Thus, Arabic literacy education should integrate school-based and home literacy promotion strategies [43].

Various efforts have been made to improve reading achievement in Arabic-speaking countries, including the development of standardized assessments [44]. However, many Arab schools continue to rely on rote memorization and mechanical decoding, neglecting meaning-making and comprehension strategies [35, 45]. These conventional methods are easy to administer in standardized settings but lack diagnostic value, as they fail to capture fluency breakdowns and cognitive processes. Elbeheri and Everatt [5] argue that this reliance on rote learning hinders literacy progress, as students do not develop inferential thinking or critical reading skills.

Findings from UNESCO [45], the OECD [34] and the World Bank [35] emphasize the urgent need for literacy assessment reform in Arabic-speaking countries. While international assessments like *PIRLS* and *PISA* provide valuable benchmarking data, classroom-based formative assessments remain limited. Addressing this gap is critical to transforming Arabic literacy education and ensuring students receive data-driven, personalized reading support for long-term academic success.

### *2.3. The Role of Running Records in Arabic Literacy Education*

Given the limitations of traditional Arabic reading evaluation methods, running records offer a viable alternative, providing immediate insights into students' reading behaviors, fluency, and comprehension strategies. Moreover, diglossia and orthographic complexity in Arabic literacy education can be effectively addressed through running records. For instance, a student reading "ذهب" (*dhahaba*, "he went") may misread it as "راح" (*raḥ*, "he went") due to dialectal influence. Running records capture such substitutions, helping educators identify cases where students rely on spoken dialects instead of MSA vocabulary. Additionally, Arabic's orthographic depth, where diacritics (short vowels) are often omitted, creates decoding difficulties. Students frequently misread words like "كتب" (*kataba*, "he wrote") as "كتاب" (*kitāb*, "book"), altering meaning entirely. Running records help track miscue patterns, allowing educators to provide targeted phonological instruction.

A few emerging studies suggest that integrating running records into Arabic reading curricula leads to significant literacy improvements. Ahmed and Abou Zeid [46] studied Egyptian schools, demonstrating substantial gains in fluency and comprehension among students whose instruction was informed by running record assessments. However, barriers such as insufficient teacher training and inconsistent assessment frameworks were identified. Similarly, Khalifa and Al-Mansoori [47] found that while UAE teachers acknowledged the benefits of running records, they struggled to categorize reading errors effectively due to a lack of structured training in assessment analysis. These findings highlight running records as a promising alternative to traditional Arabic reading assessments.

## 3. Methodology

### *3.1. Research Design*

This study was conducted as part of the Abu Dhabi Education Council's reading intervention program, which introduced running records to Arabic language teaching and assessment in the early grades in 17 public schools across the Emirate of Abu Dhabi. To ensure the effective and consistent implementation of running records, Arabic language teachers in participating schools underwent a comprehensive training program designed and facilitated by the researcher.

This study adopted a mixed-methods research design, integrating quantitative and qualitative approaches to examine the role of running records in diagnosing reading difficulties and informing instructional strategies in Arabic literacy education. The quantitative component focused on measuring reading fluency, accuracy, self-correction rates, and comprehension performance through standardized running records assessments and reading comprehension tests. The qualitative aspect

explored student feedback, teacher perceptions, and instructional experiences via semi-structured interviews, reflective journals, and survey responses. The combination of quantitative and qualitative methods provided a comprehensive and contextually grounded analysis of how running records function as a diagnostic tool in Arabic-speaking classrooms. As such, this methodological approach is consistent with international literacy research standards, as outlined in UNESCO [48] and OECD's PISA, both of which advocate for integrating quantitative performance metrics with qualitative insights into teaching practices and student engagement.

### *3.2. Participants and Sampling*

The study sample of students and teachers was selected based on their participation in the reading intervention program and professional training in literacy instruction. A purposeful sampling approach was employed to represent diverse proficiency levels in Arabic literacy and resulted in a sample of 120 students from grades 2 to 5. This diverse sample ensured a comprehensive range of reading abilities, capturing both struggling and proficient readers and reflecting the real classroom diversity typical of the region's educational system. The inclusion of multiple grade levels also allowed for a comparison of developmental reading trajectories and provided insights into the progression of fluency, accuracy, and comprehension across different age groups.

Twenty Arabic language teachers were selected based on their active involvement in literacy instruction, willingness to integrate formative assessment tools, and their participation in the professional development workshop on running records. All of them underwent specialized training in running records assessment and implementation.

Ethical approval was obtained from the participating schools. Key ethical measures included informed consent from all participants, including parental/school consent for student involvement; anonymity and confidentiality measures, using coded identifiers instead of names; and transparency in research objectives and data usage, ensuring that participants understood the study's goals and impact.

### *3.3. Data Collection*

The data collection methods used in this study employed a triangulated approach, combining quantitative and qualitative techniques to provide a comprehensive analysis of the impact of running records on Arabic literacy instruction.

1) Running records administration: Each student underwent two running records assessments, spaced one month apart, to measure progress in key areas such as reading fluency, decoding, and comprehension. Teachers recorded miscues, fluency disruptions, self-corrections, and comprehension breakdowns following standardized running record procedures. Errors were categorized using visual (V), meaning (M), and syntactic (S) cueing systems to provide detailed insights into students' reading behaviors and problem-solving approaches.
2) Teacher reflections and evaluations: After training in running records, Arabic language teachers reflected on their experiences and evaluated the effectiveness of this tool in diagnosing reading difficulties. Semi-structured interviews and informal discussions were conducted to explore how teachers adapted their instructional practices based on running records data. A survey with Likert-scale items was used to gather quantitative data on teachers' confidence in using running records, as well as their perceived challenges and instructional applications.
3) Student reading comprehension tests: To validate the findings from running records, students completed a standardized reading comprehension test both before and after the intervention period. These tests were statistically analyzed to examine whether improvements in fluency and decoding accuracy were correlated with enhanced comprehension skills, providing further evidence of the effectiveness of running records as a diagnostic tool.
4) Pre- and post-intervention student surveys were administered.

### *3.4. Data Analysis*

A multi-level data analysis approach was employed to interpret the findings, combining quantitative and qualitative analysis techniques. This allowed for a nuanced understanding of the data and ensured that the results provided a holistic view of the impact of running records on reading proficiency.

The running records data were subjected to descriptive and inferential statistical analysis, measuring reading fluency rates, error frequencies, and the types of errors made by students. The error types were categorized according to the graphophonic, semantic, and syntactic miscue analysis frameworks. Self-correction ratios were also calculated as indicators of metacognitive reading strategies, which are essential for reading comprehension. Additionally, reading comprehension scores were compared before and after the intervention to assess whether improvements in fluency and decoding accuracy were linked to enhanced comprehension.

Teacher interviews were transcribed and analyzed thematically, with a particular focus on identifying the key challenges and instructional benefits of using running records in the classroom. Open-ended survey responses were coded to extract teachers' insights on their experiences with running records and the perceived impact on student learning.

### *3.5. Ethical Statement*

Ethical approval for this study was granted by the relevant educational authority and a university research ethics committee. All participants remained anonymous, and only non-identifiable data were collected and analyzed.

## 4. Results and Discussion

*4.1. Running Records Assessment*

The results from the running records assessment provided a comprehensive understanding of the reading difficulties faced by Arabic-speaking students across different grade levels, indicating measurable trends in fluency, decoding accuracy, self-correction rates, and comprehension development.

Fluency was measured through running records by tracking reading rate, phrasing, and pausing patterns. As shown in Table 1, fluency deficits were most pronounced in lower grades. In Grade 2, 23% of students exhibited significant fluency challenges, marked by hesitations, excessive pausing, and incorrect phrasing. This percentage declined to 14% in Grade 3, 10% in Grade 4, and 8% in Grade 5, indicating a gradual improvement over time. The decline in fluency issues suggests that as students gain more exposure to reading, their ability to recognize words automatically improves.

**Table 1.**
Percentage of Students with Fluency Challenges Across Grade Levels.

| Grade Level | Students with Fluency Challenges (%) |
|---|---|
| Grade 2 | 23% |
| Grade 3 | 14% |
| Grade 4 | 10% |
| Grade 5 | 8% |

However, qualitative observations from teachers indicate that many students still struggle with phrasing and prosody, often reading word by word rather than grouping words into meaningful phrases. Some students who appeared fluent were actually just good at pronouncing words without understanding. A Grade 5 teacher recalled.

> *"I had a student who read perfectly, fast, clear, no mistakes. I assumed he was one of my strongest readers. But when I asked him a simple question about what he just read, he had no idea. That's when I realized: I had been assessing reading all wrong."*

Decoding errors followed a similar trajectory, with higher rates of letter-sound correspondence difficulties in the lower grades. In Grade 2, 24% of students exhibited significant decoding errors. By Grade 3, this percentage declined to 16%, followed by 12% in Grade 4 and 9% in Grade 5 (Table 2). Common decoding errors included misreading diacritics, struggling with root-based morphological structures, substitutions, and difficulty distinguishing between letters with similar visual forms. These results align with previous research highlighting the complexity of Arabic orthography as a major factor in early literacy acquisition [2, 39]. Compared to fluency improvements, decoding challenges persisted in a notable minority of students, particularly among those who had not received structured phonemic awareness instruction.

**Table 2.**
Percentage of Students with Decoding Difficulties Across Grade Levels.

| Grade Level | Students with Decoding Difficulties (%) |
|---|---|
| Grade 2 | 24% |
| Grade 3 | 16% |
| Grade 4 | 12% |
| Grade 5 | 9% |

The ability to self-correct while reading is a significant indicator of reading proficiency. In Grade 2, only 10% of students demonstrated consistent self-correction behaviors, while this percentage declined to 8% in Grade 3, 5% in Grade 4, and 3% in Grade 5 (Table 3). The decline could be attributed to the fact that students are not being explicitly taught metacognitive reading strategies that encourage self-monitoring and self-correction. Unlike English-language instruction, where self-correction is embedded in meaning-making strategies, Arabic reading pedagogy tends to prioritize accuracy over self-monitoring, potentially discouraging students from actively engaging in error detection and revision. Therefore, future interventions should emphasize the role of self-monitoring strategies in promoting independent reading development.

**Table 3.**
Percentage of Students Demonstrating Self-Correction Across Grade Levels.

| Grade Level | Students Demonstrating Self-Correction (%) |
|---|---|
| Grade 2 | 10% |
| Grade 3 | 8% |
| Grade 4 | 5% |
| Grade 5 | 3% |

Among all assessed skills, comprehension difficulties remained the most persistent challenge across all grade levels. In Grade 2, 22% of students struggled with text comprehension, a figure that declined only slightly to 17% in Grade 3, 15% in Grade 4, and 13% in Grade 5 (Table 4). Even among older students, comprehension difficulties remained a pressing concern. While students showed gradual improvements in other reading skills as they progressed through grade levels, comprehension remains a persistent challenge, suggesting that improvements in fluency and decoding do not necessarily translate into stronger comprehension skills.

**Table 4.**
Percentage of Students with Comprehension Challenges Across Grade Levels.

| Grade Level | Students with Comprehension Challenges (%) |
|---|---|
| Grade 2 | 22% |
| Grade 3 | 17% |
| Grade 4 | 15% |
| Grade 5 | 13% |

Teacher reflections highlighted three primary barriers to comprehension development: over-reliance on decoding rather than meaning-making – many students focused heavily on correct pronunciation without integrating contextual understanding; limited exposure to engaging texts – teachers reported that students lacked enthusiasm for reading due to uninspiring curricular materials and a lack of structured reading time; and weak inference-making skills – many students struggled to answer inferential questions, indicating a gap in higher-order thinking skills. These identified barriers underscore the importance of instructional approaches that integrate explicit comprehension strategies alongside fluency-building exercises, the development of attractive reading materials, and student reading motivation.

Taken together, the results suggest a stark contrast between running records and traditional Arabic reading assessments. Conventional Arabic literacy assessments primarily focus on oral reading accuracy and memorization-based comprehension checks. However, the running records approach revealed that many students could pronounce words correctly while failing to understand their meaning. This distinction is critical, as it exposes a gap in existing assessment methods that overlook deeper comprehension and cognitive processing skills. Thus, the results emphasize the necessity of shifting towards process-oriented evaluations that measure not just pronunciation accuracy but also student engagement, meaning-making, and higher-order thinking skills.

*4.2. Student Voices: What Running Records Changed for Them*

One of the key aspects of this research was to understand how running records impacted students' reading abilities beyond just measuring scores. The results of the pre- and post-intervention student surveys illustrated that students gained confidence, developed self-monitoring skills, and began to engage with texts in a deeper way.

Before the intervention, many students lacked confidence in reading aloud, struggled with self-correction, and focused more on getting through the text rather than understanding it. After using running records as a regular part of their reading practice, their attitudes and skills improved significantly. As shown in Table 5, significant improvement is seen not just in technical reading skills, but also in students' relationships with reading itself. The self-correction rate increased by 37%, showing that students became more aware of their own reading patterns. By using running records, students were able to pinpoint these weaknesses and take corrective actions on their own, a key indicator of metacognitive development in Arabic literacy [2, 38, 49]. Their confidence in reading aloud grew by 36%, which is especially important in Arabic classrooms, where oral fluency is often emphasized over comprehension.

**Table 5.**
Pre- and Post-intervention Student Survey Results.

| Survey Item | Pre-Intervention (%) | Post-Intervention (%) | Change (%) |
|---|---|---|---|
| Confident in reading aloud | 42% | 78% | +36% |
| Able to self-correct while reading | 35% | 72% | +37% |
| Enjoys independent reading | 48% | 82% | +34% |
| Understands the meaning of what they read | 39% | 70% | +31% |

Beyond numbers, the real impact of running records was evident in how students talked about reading after the intervention. I sat with groups of students from different grades to listen to their experiences. Their words painted a powerful picture of how running records shifted their approach to reading. One Grade 5 student described how his perspective changed:

> *"Before, I just wanted to finish reading quickly so the teacher wouldn't stop me. Now, I actually think about what the words mean."*

This was a common theme among students who had previously viewed reading as a task to complete rather than a process of understanding.

Teachers also noticed a change in how students approached reading. Before running records, many students would race through a passage just to finish. *"They didn't care about meaning. They just wanted to get to the last word and be done," a Grade 4 teacher said.* Another teacher described a small but powerful change: *"I noticed one of my students go back and reread a sentence on his own without me prompting him. That never used to happen."*

Similarly, a Grade 4 student spoke about how running records helped her overcome fear:

> *"When I read aloud in class, I used to feel nervous and tried to be perfect. Now, I don't worry if I mess up because I know I can fix my mistakes."*

For struggling students, the impact was even more eye-opening. One teacher, who worked with a particularly anxious reader, shared:

> *"She would freeze every time I asked her to read aloud. But once we started using running records, she told me, 'Teacher, I can fix my mistakes myself!' That was a huge shift from fear to confidence."*

For younger students, the process of self-correction became a discovery tool. A Grade 3 student explained:

*"Before, I thought reading was just saying the words. But now, I know that I have to make sure the sentence makes sense too!"*

*4.3. Teacher Reflections on the Use of Running Records*

Teacher feedback on the implementation of running records was overwhelmingly positive. Educators expressed that running records provided them with insights that traditional assessments failed to capture. One teacher commented: *"For the first time, I could see exactly where my students were struggling - not just that they were struggling."* This was echoed by another teacher: *"The running records helped me understand that some students were fluent readers but had no comprehension. Our traditional assessments never captured this."* A grade 5 teacher similarly expressed, *"I realized I was focusing too much on pronunciation accuracy and not enough on meaning-making."*

Nevertheless, teachers reported initial challenges when they implemented running records in the classroom. In our conversations, I noticed a pattern of resistance at first, particularly among educators who had relied on decoding-based assessments for years. One teacher, a veteran Arabic instructor with over 15 years of experience, shared:

*"I have been grading reading assignments the same way for years - if the student pronounces the words correctly, they pass. Running records forced me to rethink everything. At first, I didn't even know what to write down when a student hesitated or self-corrected."*

There are various sources of difficulties in administering running records (Rodgers et al., 2023). Around 40% of teachers indicated that categorizing errors was difficult. *"Running records helped me understand the specific areas where my students were struggling, but I still need more guidance on how to categorize the errors properly."* Other teachers echoed similar sentiments about the complexity of error analysis:

*"Before, we only focused on right or wrong answers. Now, I have to consider why a student made an error. Was it a decoding mistake? A fluency issue? A comprehension gap? This was completely new to me."* - A Grade 3 teacher

35% of teachers noted that time constraints in their curriculum made it challenging to fully integrate running records assessments. For many teachers, introducing running records for the first time was overwhelming. They were already stretched thin with packed lesson plans, assessments, and daily classroom demands. Now, they had to listen carefully to each student read, take detailed notes, analyze patterns, and adjust instruction accordingly, all while managing a full class. *"Time is a big issue; I feel that I could do more with running records if I had more time during class."* A teacher from one of the participating schools noted:

*"We are already rushed to complete the curriculum, and now I have to set aside time for running records. I had to find creative ways to fit them into my lessons, such as doing them during small-group reading time."*

One teacher admitted:

*"I honestly didn't have time for this at first. I would squeeze in a running record when I could, but then I had no time to actually go back and analyze it. It just felt like another thing on my to-do list."*

Another teacher shared how the sheer volume of student errors felt unmanageable.

*"When I started, I wrote down everything: every mistake, every pause, every miscue. Then I looked at my notes and thought, 'What am I supposed to do with all this information?'"*

It is worth mentioning that students also needed time to adjust. One teacher observed that some students initially felt self-conscious about their mistakes being recorded:

*"The first few times, students would freeze when I took notes during their reading. They thought I was writing down their failures. I had to explain that their mistakes weren't bad; they were just a part of learning."* – A Grade 4 teacher

In addition, 20% of teachers mentioned feeling confident with the tool but required further practice to interpret running records data more effectively.

*4.4. The Effect on Teachers' Literacy Instructional Practices*

The complexity of scoring running records has implications for teacher training before they administer running records [50]. The effect of the professional development workshop on running records was clear, as teachers' confidence in using running records for diagnosing reading difficulties showed a significant improvement after the training. Pre-training responses indicated an average confidence score of 3.2 (SD = 0.9) on a 5-point Likert scale, with 60% of teachers rating their confidence between 2 and 3, indicating moderate confidence. However, post-training responses revealed an average score of 4.6 (SD = 0.8), with 75% of teachers rating their confidence as 4 or higher. Educators who participated in training workshops and used the provided instructional handbook reported greater confidence and accuracy in administering running records over time.

While running records were time-consuming at first, teachers agreed that the insights they gained about their students were unlike anything they had seen before. The process was not easy, but it changed the way they viewed reading and teaching forever. Teachers reported evident changes in several aspects of their instructional strategies and practices (Table 6).

**Table 6.**
Pre- and Post-intervention Instructional Changes of Teachers.

| Instructional Change | Before Running Records | After Running Records |
|---|---|---|
| Focus of assessment | Pronunciation accuracy | Comprehension, fluency, self-correction |
| Intervention strategies | One-size-fits-all worksheets | Targeted support based on student reading errors |
| Teacher feedback style | Immediate corrections | Encouraging students to self-monitor and self-correct |

One of the most profound outcomes of using running records was how it changed the way teachers approached literacy instruction. Before implementing running records, most teachers followed a standardized approach to reading instruction. Afterward, they began tailoring their support based on individual student needs. A Grade 2 teacher described this shift:

*"Before, if a student misread a word, I would correct them immediately. Now, I give them a chance to figure it out on their own. It's amazing how often they actually do!"*

Another educator highlighted the difference in lesson planning:

*"I used to teach reading the same way for all students. But now, I group students based on their reading patterns; some need fluency work, while others need help with comprehension. It has changed everything."*

Many of them admitted that running records didn't just change their students, but it changed them as educators. One teacher summed it up beautifully: *"I used to think assessment was just about grading students. Now, I see it as a way to understand them."*

These reflections provide strong qualitative evidence that running records transformed not only how teachers assess reading but also how they teach it. The transition was challenging, but ultimately, it empowered both students and educators to engage with literacy in a more meaningful and personalized way.

## 5. Implications for Arabic Literacy Instruction

Findings from this study align with international research on the efficacy of running records in early literacy instruction [8, 9] supporting the need to institutionalize running records as part of literacy intervention frameworks in Arabic-speaking contexts. As demonstrated by this study, running records provide a more dynamic, formative, and comprehensive approach to assessing reading fluency, decoding, and comprehension. The integration of running records into Arabic literacy curricula, teacher training programs, and national education reforms has the potential to transform literacy instruction and address persistent challenges in Arabic-speaking countries. By aligning reading instruction with evidence-based formative assessment tools, Arabic literacy education can benefit from structured, ongoing reading assessments that track student progress, diagnose reading difficulties, and guide targeted interventions.

Specifically, the findings of this study carry significant implications for Arabic literacy instruction, particularly in the areas of fluency development, decoding strategies, metacognitive reading skills, comprehension instruction, and teacher training. Firstly, fluency training must begin at an early stage, emphasizing not only speed and accuracy but also rhythm, phrasing, and expressive reading. Arabic reading instruction often prioritizes precise articulation of diacritical marks, sometimes at the expense of natural fluency. Encouraging prosodic reading can help young readers develop smoother oral reading patterns, reducing hesitation and excessive pausing. The study's fluency data supports this, showing that early interventions in rhythm and phrasing are essential to long-term fluency gains.

Secondly, explicit decoding strategies should be reinforced in lower grades, with a particular focus on morphological awareness to help students navigate Arabic's complex word structures. Arabic's root-based morphology presents unique decoding challenges, particularly for young readers encountering unfamiliar words. Findings from this study align with international research that underscores the effectiveness of structured decoding instruction in enhancing word recognition skills. Studies on Arabic orthographic complexity [49, 51] support the need for targeted decoding instruction to strengthen early literacy foundations.

Thirdly, self-correction should be actively encouraged as a metacognitive reading strategy, moving away from punitive correction methods that discourage students from monitoring their own reading. The data indicate that self-correction rates decline in higher grades, suggesting a lack of training in self-monitoring skills. Encouraging students to reflect on meaning-making rather than just accuracy may help improve comprehension outcomes.

Fourthly, comprehension instruction should extend beyond literal understanding to incorporate inference-making, critical thinking, and deeper engagement with texts. A significant percentage of students in this study struggled with inferential questions, aligning with international findings that emphasize the role of higher-order thinking skills in reading comprehension development [34]. Instructional practices should include explicit comprehension strategies, such as predicting, questioning, summarizing, and synthesizing, to foster deeper textual engagement.

It should be noted that while running records offer significant benefits, implementation challenges remain. Many Arabic literacy teachers lack formal training in formative assessment and are accustomed to oral recitation-based evaluations. Therefore, there may be resistance from teachers [3]. Schools may lack structured reading materials aligned with running records, making assessment difficult. To scale running records nationally, governments must invest in digital tools and reading booklets with standardized running record templates. In addition, barriers to curriculum integration exist, as Arabic literacy curricula prioritize summative assessments over formative tools.

Therefore, the importance of sustained professional development, structured support systems, and curriculum flexibility should be emphasized to ensure the successful implementation of running records. While teacher confidence increased significantly after training, the persistence of challenges such as error categorization and time constraints suggests the need

for further institutional backing. Schools should explore strategies such as integrating running records into routine classroom assessments, providing ongoing mentorship, and leveraging digital assessment tools to ease the process for educators. Teacher training initiatives should be expanded to ensure that all literacy instructors receive systematic training in the administration, interpretation, and instructional application of running records. The study suggests that designating structured time for reading assessment and intervention can significantly improve literacy outcomes, particularly for students struggling with fluency and comprehension.

Moreover, policymakers must recognize that formative assessment tools like running records are not just instructional strategies but essential components of a data-driven literacy framework. Policymakers should support the development of curriculum frameworks that embed formative assessments, such as running records, alongside traditional summative assessments. Successful case studies, such as the Abu Dhabi Education Council's "Abu Dhabi Reads" initiative (2012-2013), demonstrate the positive impact of integrating such formative assessment tools in Arabic primary schools, showing the potential for scaling similar strategies nationwide.

By embedding running records into national literacy policies, educational systems can bridge the gap between assessment and instruction, ultimately fostering more effective, targeted literacy interventions in Arabic-speaking classrooms. To this end, a phased and flexible implementation approach is recommended (Table 7).

**Table 7.**
Proposed Policy Implementation Framework for Running Records in Arabic Literacy.

| Step | Policy Action | Example from Global Literacy Models |
|---|---|---|
| 1. Develop National Training Programs | Provide structured professional development for teachers in running records administration and analysis. | Finland's National Literacy Strategy |
| 2. Incorporate Running Records into Curriculum Standards | Make running records a mandatory formative assessment tool in Arabic literacy instruction. | Australia's Reading Recovery Initiative |
| 3. Allocate Funding for Literacy Toolkits | Governments must provide schools with standardized reading materials that align with running record methodologies. | Canada's Early Literacy Framework |
| 4. Establish Research Partnerships | Universities should collaborate with schools to measure the long-term impact of running records on Arabic literacy outcomes. | OECD and UNESCO literacy benchmarking |

## 6. Conclusions

This research bridges a critical gap in Arabic literacy education by advocating for a paradigm shift in reading assessment. Consistent with global literacy research, it confirms that meaning-based, formative assessments are more effective in fostering deep comprehension skills and long-term literacy success. The study's findings reinforce the importance of integrating running records as a process-oriented assessment method into Arabic literacy instruction to capture the full scope of reading development, which current evaluation practices in many Arab schools fail to achieve. By systematically diagnosing reading difficulties, running records enable targeted interventions that address students' individual needs, moving beyond traditional assessment models that prioritize accuracy over comprehension. Teacher reflections further validate the effectiveness of running records in diagnosing reading challenges beyond mere pronunciation accuracy and in engaging with diverse, meaningful texts to ensure holistic literacy development in Arabic-speaking students.

The positive impact of structured teacher training - as demonstrated in the Abu Dhabi Education Council's professional development initiatives - further affirms that educator preparedness is a critical determinant in the successful application of running records. Schools that incorporate this assessment method into their literacy programs have demonstrated notable improvements in fluency, accuracy, and comprehension, reinforcing the need for wider adoption across Arabic-speaking educational contexts. By integrating these insights into national literacy policies, Arabic-speaking countries can move toward more comprehensive, data-driven reading instruction models, ultimately fostering higher literacy achievement across educational settings. The study highlights two fundamental priorities for literacy assessment and intervention in Arabic education to move forward: institutionalizing running records as a core component of Arabic literacy instruction and redefining the role of reading evaluation in shaping literacy policy, shifting from traditional oral accuracy-based assessments to a balanced, diagnostic framework that captures fluency, decoding, self-correction, and comprehension holistically.

While this present study reviews the benefits of running records and highlights their potential for improving Arabic literacy education, it is important to acknowledge the constraints of prior studies and their applicability to the unique challenges in Arabic-speaking contexts. A more explicit connection between the findings of this study and future research directions would significantly enhance the article's impact. It is suggested that future research should explore the applicability of running records across different educational systems within the Arab world. While this study is based in Abu Dhabi, other regions may face different challenges, such as variations in teacher training, resources, and curriculum, which could affect the implementation and effectiveness of running records. It is beneficial to understand how running records can be integrated with other assessment methods to create a comprehensive literacy evaluation framework, particularly in regions with diverse educational settings. In addition, examining the long-term effects of running records on Arabic literacy development should

be a focus of future research. This could involve studying how students' reading skills evolve over multiple years of using running records as a diagnostic tool, and how these effects compare to those observed with traditional assessment methods.

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