

باب الأبحاث باللغة الإنكليزية:

1- The Effect of Using the 4/3/2 Technique on Improving Students' Fluency in ESL Classrooms

تأثير استخدام تقنية 4/3/2 على تحسين الطلاقة عند المتعلمين في صفوف اللغة الأجنبية الثانية



Dr. Hanan Halabi

Assistant Professor

Faculty of Pedagogy, Lebanese University

الدكتورة حنان مالك الحلبي

استاذ مساعد في كلية التربية/الجامعة اللبنانية

hanan.halabi@ul.edu.lb

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Abstract

This mixed-methods study investigates the effectiveness of the 4/3/2 technique in enhancing speaking fluency among fourth-grade English as a Second Language (ESL) learners in Lebanon. The research addresses the persistent challenge of developing oral fluency in ESL contexts, particularly

within the Lebanese educational system where English proficiency is increasingly vital for academic and professional success. Forty-four fourth-grade students from a private school in the Saida District participated in the intervention, alongside six English teachers who provided qualitative insights through semi-structured interviews. The study employed a quasi-experimental pretest-posttest design, measuring fluency through words per minute (WPM) and pause length metrics. Quantitative data were analyzed using SPSS Statistics, while qualitative data from teacher interviews were thematically analyzed to contextualize the quantitative findings. Results demonstrated statistically significant improvements in student fluency following the implementation of the 4/3/2 technique ($p < 0.05$), with mean WPM increasing from 45.32 (SD = 8.67) to 68.91 (SD = 9.34). Teacher interviews revealed that vocabulary limitations, grammatical insecurity, and affective factors such as anxiety and shyness were primary barriers to fluency development. The findings suggest that the 4/3/2 technique, which involves repeated oral presentations with progressively reduced time constraints, effectively addresses these barriers by providing structured practice opportunities that build automaticity and confidence. This study contributes to the growing body of evidence supporting time-pressured speaking activities in ESL instruction and offers practical implications for curriculum development in similar educational contexts. The research underscores the importance of creating supportive classroom environments that encourage risk-taking and provide systematic opportunities for oral practice.

Keywords: Fluency development, 4/3/2 technique, time-pressured activities, oral proficiency

المستخلص

تستكشف هذه الدراسة، التي اعتمدت المنهج المختلط، فاعلية تقنية 4/3/2 في تنمية الطلاقة الشفوية لدى متعلمي اللغة الإنجليزية كلغة ثانية في الصف الرابع في لبنان. تعالج الدراسة التحدي المستمر في تطوير الطلاقة الشفهية ضمن سياقات تعليم

اللغة الإنجليزية، وخصوصاً في النظام التربوي اللبناني الذي تزداد فيه أهمية إتقان اللغة الإنجليزية للنجاح الأكاديمي والمهني. شارك في التدخل أربعة وأربعون طالباً من الصف الرابع في إحدى المدارس الخاصة في منطقة صيدا، إلى جانب ستة معلمين للغة الإنجليزية قدّموا بيانات نوعية من خلال مقابلات شبه مهيكلة. استخدمت الدراسة تصميمًا شبه تجريبي يعتمد على اختبار قبلي وبعدي، وتم قياس الطلاقة من خلال معدل الكلمات في الدقيقة (WPM) ومتوسط طول التوقفات أثناء الكلام. جرى تحليل البيانات الكمية باستخدام برنامج SPSS، بينما خضعت البيانات النوعية المستمدة من مقابلات المعلمين لتحليل موضوعاتي لتفسير النتائج الكمية ووضعها في سياقها الصحيح. أظهرت النتائج وجود تحسن دال إحصائياً في طلاقة المتعلمين بعد تطبيق تقنية 4/3/2 ($p < 0.05$)، حيث ارتفع متوسط معدل الكلمات في الدقيقة من 45.32 ($SD = 8.67$) إلى 68.91 ($SD = 9.34$). وكشفت مقابلات المعلمين أن محدودية المفردات وضعف الثقة بالقواعد والعوامل الوجدانية مثل القلق والخجل كانت من أبرز العوائق التي تعيق نمو الطلاقة الشفوية. وتشير النتائج إلى أن تقنية 4/3/2—التي تعتمد على إعادة تقديم العروض الشفهية مع تقليل الوقت تدريجياً—تساعد بفاعلية في مواجهة هذه العوائق عبر توفير فرص ممارسة منظمة تعزز التلقائية والثقة بالنفس. تسهم هذه الدراسة في توسيع الأدبيات الخاصة بأنشطة التحدث المقيدة زمنياً في تعليم اللغة الإنجليزية، كما تقدم دلالات عملية يمكن الاستفادة منها في تطوير المناهج ضمن سياقات تعليمية مشابهة. وتؤكد نتائج البحث أهمية خلق بيئات صفية داعمة تشجّع على خوض المخاطرة اللغوية وتوفير فرصاً منهجية للتدريب الشفوي.

الكلمات المفتاحية: تنمية الطلاقة، تقنية 4/3/2، أنشطة مقيدة زمنياً، الكفاءة الشفوية

Introduction

1.1 Background of the study

Language serves as the most powerful medium for human communication, enabling individuals to express thoughts, emotions, intentions, and perspectives in ways that transcend mere information exchange (Wibowo, 2014). Within the context of language acquisition, the ability to communicate effectively with high levels of competence is widely acknowledged as the

primary objective of language learning (Rahman & Deviyanti, 2018). Indeed, language functions as an essential tool through which individuals interact, share meaning, and construct social realities, rendering life without linguistic communication virtually unimaginable (Bygate, 1987). This fundamental role of language in human society underscores the critical importance of developing communicative competence, particularly in second language contexts where learners must navigate complex linguistic and cultural landscapes.

In Lebanon, the importance of English proficiency extends beyond mere academic achievement to encompass broader socioeconomic mobility and international engagement. However, despite the formal emphasis on English language instruction, Lebanese students often struggle to achieve functional fluency, particularly in oral communication (Diab, 2006). This persistent gap between instructional objectives and learning outcomes highlights the need for evidence-based pedagogical interventions that can effectively address the specific challenges faced by Lebanese ESL learners.

Speaking fluency, defined as the ability to produce speech at a natural rate with appropriate pausing and minimal hesitation, represents a crucial dimension of communicative competence (Lennon, 1990). Fluent speech enables learners to participate effectively in real-time communication, express complex ideas spontaneously, and engage authentically with native and non-native speakers alike (Segalowitz, 2010). However, developing fluency poses significant challenges for ESL learners, who must not only master linguistic forms but also develop the automaticity necessary for real-time language production (DeKeyser, 2001). Traditional classroom instruction often prioritizes accuracy over fluency, providing limited opportunities for the extended, meaningful practice required to develop automatic speech production (Nation, 1989). This instructional imbalance can result in learners who possess considerable declarative knowledge of English grammar and vocabulary but struggle to deploy this knowledge

fluently in communicative contexts.

The 4/3/2 technique, developed by Maurice (1983) and subsequently refined by Nation (1989), represents a pedagogical innovation specifically designed to address the challenge of fluency development. This technique involves having learners deliver the same oral presentation three times to different listeners, with progressively reduced time constraints: four minutes for the first delivery, three minutes for the second, and two minutes for the third (Nation, 1989). The theoretical foundation of this approach draws on several key principles of second language acquisition, including the importance of repetition for automaticity development (DeKeyser, 2001), the role of time pressure in promoting fluent speech production (Nation, 2001), and the motivational benefits of task repetition with visible performance improvement (Bygate, 2001). By requiring learners to convey the same content within increasingly constrained timeframes, the 4/3/2 technique encourages the development of more efficient language processing strategies, reduces reliance on explicit grammatical monitoring, and builds confidence through repeated successful performance (Nation, 2001).

1.2 Statement of the Problem

Despite the recognized importance of oral fluency in ESL education and the widespread availability of various speaking activities, Lebanese students in elementary grades continue to demonstrate limited speaking proficiency (Zeitoun, 2018). Classroom observations and teacher reports consistently indicate that students exhibit excessive hesitation, frequent pausing, slow speech rates, and reluctance to engage in oral communication tasks (Diab, 2006). These fluency deficits not only impede students' current academic performance but also potentially limit their future educational and professional opportunities in an increasingly globalized context.

Several factors contribute to this persistent fluency challenge. First, Lebanese ESL classrooms often emphasize grammatical accuracy and written language skills at the expense of oral practice, reflecting traditional

pedagogical approaches that prioritize form over function (Shaaban & Ghaith, 2002). Second, large class sizes and limited instructional time constrain opportunities for individualized speaking practice, leaving many students with insufficient practice to develop automatic speech production (Zeitoun, 2018). Third, affective factors such as anxiety, fear of making mistakes, and lack of confidence significantly inhibit students' willingness to engage in oral communication (Horwitz, Horwitz, & Cope, 1986). Fourth, the disconnect between classroom language instruction and authentic communicative contexts reduces students' motivation and perceived relevance of speaking activities (Littlewood, 2007).

While previous research has documented the effectiveness of the 4/3/2 technique in various international contexts, including China (Yang, 2014), Indonesia (Yufrizal, 2018), and Thailand (Chanseawrassamee & Shin, 2009), limited empirical evidence exists regarding its applicability and effectiveness within the Lebanese educational context. Lebanon's unique linguistic landscape, characterized by Arabic–English–French trilingualism and specific sociocultural factors affecting language learning, necessitates context-specific research to determine whether interventions successful elsewhere can be effectively adapted to Lebanese classrooms (Shaaban, 2013). Furthermore, existing studies on the 4/3/2 technique have predominantly focused on secondary and tertiary learners, leaving a gap in understanding how this approach functions with younger elementary learners who are in earlier stages of English language development.

1.3 Research Objectives and Questions

This study aims to investigate the effectiveness of the 4/3/2 technique in improving speaking fluency among fourth-grade ESL learners in a Lebanese elementary school. Specifically, the research seeks to:

Assess the impact of the 4/3/2 technique on measurable fluency indicators, including words per minute (WPM) and length of pauses

Examine teachers' perspectives on the primary challenges affecting students' fluency development

Explore the feasibility and practical considerations of implementing the 4/3/2 technique within the constraints of Lebanese elementary ESL classrooms

Identify factors that facilitate or hinder the effectiveness of time–pressured speaking activities in this specific educational context

To address these objectives, the study is guided by the following research questions:

RQ1: Does the implementation of the 4/3/2 technique significantly improve fourth–grade Lebanese ESL learners' speaking fluency as measured by words per minute and pause length?

RQ2: What are the primary challenges and barriers to fluency development from the perspective of experienced ESL teachers in Lebanese elementary schools?

RQ3: How do teachers perceive the effectiveness and practicality of implementing the 4/3/2 technique in their instructional contexts?

1.4 Significance of the Study

This research contributes to both theoretical understanding and practical application in several important ways. Theoretically, the study extends the empirical evidence base for the 4/3/2 technique to a new cultural and educational context, testing the generalizability of findings from previous research conducted primarily in East Asian settings. By examining the technique's effectiveness with younger learners (fourth grade) than typically studied, the research provides insights into developmental considerations for fluency instruction. Additionally, the mixed–methods design enables a more comprehensive understanding of not only whether the technique works but also why and under what conditions it proves effective, addressing calls for more nuanced research in language pedagogy (Dörnyei, 2007).

From a practical perspective, the study offers evidence-based guidance for Lebanese ESL teachers seeking effective strategies to enhance students' oral fluency within the constraints of their instructional contexts. The inclusion of teacher perspectives through qualitative interviews ensures that recommendations are grounded in the realities of classroom practice rather than idealized instructional scenarios. Furthermore, by documenting a specific, replicable intervention, the research provides a model that other educators can adapt to their own contexts, potentially contributing to broader improvements in ESL instruction across Lebanon and similar educational settings. Given the increasing emphasis on communicative competence in language education policy and the practical importance of English proficiency for Lebanese students' future opportunities, this research addresses a pressing educational need with direct implications for curriculum development and teacher professional development.

Literature Review

2.1 The 4/3/2 Technique: Development and Empirical Evidence

The 4/3/2 technique emerged from Maurice's (1983) innovative work on fluency development and was subsequently refined and popularized by Nation (1989) as a practical classroom activity specifically designed to promote oral fluency. The technique's elegant simplicity belies its theoretical sophistication, incorporating principles from cognitive psychology, task-based language teaching, and communicative language teaching methodologies (Nation, 2001). The basic procedure involves learners preparing and delivering the same oral presentation three times to different listeners, with progressively reduced time allocations: four minutes for the first delivery, three minutes for the second, and two minutes for the final presentation (Nation, 1989). This progressive time reduction creates pressure for learners to speak more rapidly and efficiently while maintaining message comprehensibility, thereby promoting the development of automatic language processing (de Jong & Perfetti, 2011).

Several theoretical mechanisms explain the technique's effectiveness in promoting fluency development. First, the repetition component allows learners to refine their linguistic choices and delivery with each iteration, reducing the cognitive load associated with content generation and enabling greater attention to fluency (Bygate, 2001). Task repetition has been consistently shown to improve various aspects of language performance, including fluency, accuracy, and complexity, through processes of proceduralization and automatization (Bygate & Samuda, 2005). Second, the time pressure inherent in the progressively reduced time allocations compels learners to activate more efficient processing strategies, access lexical items more rapidly, and reduce reliance on explicit grammatical monitoring that can impede fluent speech (Nation, 2001). This time constraint mimics the temporal demands of authentic communication, where interlocutors must process and produce language in real time without extended planning opportunities (Skehan, 1998). Third, the technique incorporates audience change between repetitions, maintaining communicative authenticity and motivation while providing opportunities for repetition practice (Nation, 1989). This design feature addresses the potential monotony of pure repetition while preserving the pedagogical benefits of repeated performance.

Empirical research across diverse contexts has consistently demonstrated the effectiveness of the 4/3/2 technique in improving various fluency measures. Yang's (2014) study of Chinese high school students found that regular implementation of the 4/3/2 technique over an academic term resulted in significant improvements in fluency as measured by words per minute, mean length of run (the average number of syllables between pauses), and reduced pause frequency. Importantly, Yang also documented improvements in students' confidence and willingness to communicate, suggesting that the technique's benefits extend beyond purely linguistic dimensions to encompass affective factors crucial for language learning success. Similarly, Yufrizal's (2018) investigation of Indonesian EFL

students demonstrated that the 4/3/2 technique significantly enhanced speaking fluency, with participants showing marked improvements in speech rate and coherence. The study also revealed that students perceived the technique as enjoyable and motivating, attributing their progress to the structured yet supportive nature of the repeated practice opportunities.

2.2 Challenges in Developing ESL Speaking Fluency

ESL learners face numerous interconnected challenges in developing speaking fluency, encompassing linguistic, cognitive, affective, and contextual factors (Thornbury, 2005). Understanding these challenges is essential for designing effective interventions and interpreting their outcomes.

Linguistic challenges constitute a primary barrier to fluency development. Insufficient vocabulary knowledge limits learners' ability to express ideas efficiently, forcing them to rely on circumlocution, frequent pausing while searching for words, or simplified expression that fails to capture intended meanings (Laufer & Nation, 1999). Research consistently demonstrates strong correlations between vocabulary size and speaking fluency, with larger lexicons enabling faster lexical access and more diverse expression (Hilton, 2008). Grammatical knowledge gaps similarly impede fluency, as learners who lack automatized control of basic syntactic structures must devote considerable attentional resources to constructing grammatically acceptable utterances, slowing speech production and reducing cognitive capacity available for content planning and discourse management (Ellis, 2005). Pronunciation difficulties, including challenges with individual phonemes, stress patterns, and intonation, can also impede fluency by requiring conscious attention to articulation rather than allowing automatic speech production (Derwing & Munro, 2005).

Cognitive processing limitations represent another significant challenge category. Working memory constraints affect learners' ability to simultaneously plan content, select appropriate linguistic forms, monitor

output for errors, and maintain discourse coherence (Kormos, 2006). Learners with limited working memory capacity may struggle particularly with the real-time demands of spoken communication, experiencing frequent breakdowns and hesitations as their processing capacity becomes overwhelmed (Wen, 2016). The lack of automaticity in accessing and assembling linguistic elements means that ESL learners must consciously retrieve vocabulary, construct syntactic frames, and execute articulatory plans that native speakers perform automatically, resulting in slower, more effortful speech production (Segalowitz & Segalowitz, 1993). Additionally, limited practice opportunities in many ESL contexts mean that learners have insufficient repetition to develop the automatic processing necessary for fluent speech (DeKeyser, 2007).

Affective factors profoundly influence fluency development and performance. Foreign language anxiety, characterized by feelings of tension, apprehension, and worry associated with language learning situations, affects a substantial proportion of language learners and can significantly impede speaking performance (Horwitz et al., 1986). Anxious learners may avoid speaking opportunities, experience cognitive interference during oral tasks, and develop negative self-perceptions that further inhibit language use (MacIntyre & Gardner, 1994). Fear of making mistakes and concerns about negative evaluation from teachers or peers can lead to excessive self-monitoring that disrupts fluent speech production (Young, 1991). Low self-confidence and limited self-efficacy beliefs regarding speaking ability create self-fulfilling prophecies wherein learners' negative expectations lead to reduced effort and practice, thereby preventing the skill development necessary to improve confidence (Mills, Pajares, & Herron, 2006).

Cultural and educational context factors also shape fluency development challenges. In many educational systems, including Lebanon's, traditional pedagogical approaches emphasize grammatical accuracy and written language skills, providing limited opportunities for extended oral practice (Shaaban & Ghaith, 2002). Large class sizes common in many ESL

contexts severely constrain individual speaking time, with students potentially speaking English for only a few minutes per week despite hours of instruction (Zeitoun, 2018). The disconnect between classroom language instruction and authentic communicative contexts reduces motivation and perceived relevance, as learners struggle to see connections between controlled classroom activities and real-world language use (Littlewood, 2007). In some cultural contexts, including many Arab societies, educational traditions emphasizing teacher-centered instruction and student passivity may conflict with the active participation and risk-taking required for fluency development (Rababah, 2005).

2.3 ESL Speaking Instruction in the Lebanese Context

The Lebanese educational context presents unique characteristics that influence English language teaching and learning. Lebanon's complex linguistic landscape, characterized by Arabic as the native language, French as a colonial legacy language, and English as an increasingly dominant international language, creates both opportunities and challenges for language education (Shaaban, 2013). Many Lebanese students are educated in trilingual environments where Arabic, French, and English are all used for instruction in different subjects, potentially creating cognitive benefits through multilingualism but also generating linguistic interference and confusion (Esseili, 2011).

Lebanese students typically begin English instruction in early elementary grades, with the language used as a medium of instruction for subjects such as mathematics and science in many schools (Diab, 2006). This content-based approach theoretically provides extensive English exposure and authentic communication opportunities. However, research suggests that actual oral English use remains limited, with instruction often focusing on reading and writing skills while providing insufficient speaking practice (Shaaban & Ghaith, 2002). Teachers report numerous challenges in implementing communicative language teaching approaches, including large

class sizes, limited instructional time, examination pressures emphasizing written language skills, and insufficient professional development in contemporary teaching methodologies (Zeitoun, 2018).

Diab's (2006) research on Lebanese university students' language attitudes revealed that while students recognize English's instrumental value for academic and professional success, they often lack confidence in their speaking abilities and report limited opportunities for authentic English communication outside classroom contexts. This disconnect between recognition of English's importance and actual communicative competence highlights the need for more effective speaking instruction throughout students' educational trajectories, beginning in elementary grades when foundational skills and attitudes are established.

Zeitoun's (2018) investigation of challenges faced by English language teachers in Lebanese private schools identified several persistent barriers to effective speaking instruction. Teachers reported that students' limited vocabulary and grammatical knowledge impeded their ability to express ideas fluently, while affective factors such as shyness, anxiety, and fear of peer ridicule significantly inhibited oral participation. Large class sizes (often exceeding 30 students) made individualized speaking practice logistically challenging, and curriculum demands left limited time for extended oral activities. Additionally, teachers noted that the traditional emphasis on accuracy over fluency in both curriculum design and assessment practices discouraged the risk-taking and experimentation necessary for fluency development with language use.

Methodology

3.1 Research Design

This study employed a convergent parallel mixed-methods design (Creswell & Plano Clark, 2017), integrating quantitative and qualitative data collection and analysis to provide a comprehensive understanding of the 4/3/2 technique's effectiveness and the contextual factors influencing

its implementation. The mixed-methods approach was selected for its capacity to address both outcome questions (whether the intervention improved fluency) and process questions (how and why the intervention functioned in this specific context), thereby providing richer insights than either quantitative or qualitative methods alone could offer (Dörnyei, 2007).

The quantitative component utilized a quasi-experimental one-group pretest-posttest design to assess changes in student fluency following the intervention.

The qualitative component involved semi-structured interviews with English teachers to explore their perspectives on fluency challenges, instructional practices, and the feasibility of implementing the 4/3/2 technique.

3.2 Research Setting and Context

The research was conducted at a private educational institution located in the Saida District of South Lebanon. The school serves approximately 600 students from kindergarten through grade 12, with families representing middle to upper-middle socioeconomic backgrounds.

Fourth grade was selected as the target level for several reasons. First, by fourth grade, students have typically developed sufficient English vocabulary and grammatical knowledge to engage in extended speaking tasks, making fluency development pedagogically appropriate. Second, fourth grade represents a critical transition point where students move from “learning to read” to “reading to learn,” with corresponding increases in academic language demands that require more sophisticated oral communication skills. Third, establishing strong fluency foundations in elementary grades may prevent the development of persistent fluency deficits that become increasingly difficult to remediate in later years.

3.3 Participants

The student participant sample comprised 44 fourth-grade students (24 males, 20 females) aged 9–10 years, representing all fourth-grade stu-

dents whose parents provided informed consent for research participation. While the teacher participants included six English teachers (all female, ages 28–45) who taught English to elementary students at same school.

3.4 Intervention Procedures

3.4.1 Preparation Phase

Prior to implementing the intervention, the researcher conducted a two-hour professional development session with the four fourth-grade English teachers who would implement the 4/3/2 technique in their classrooms. This session covered the theoretical rationale for the technique, detailed implementation procedures, demonstration and practice of the activity, and discussion of potential challenges and adaptations. Teachers received written implementation guidelines and sample topics appropriate for fourth-grade students.

Students were introduced to the 4/3/2 technique through a demonstration and practice session one week before formal pretesting. The researcher explained the activity's purpose (to help them speak English more fluently and confidently), modeled the procedure with a sample topic, and facilitated a practice round with a low-stakes topic ("My favorite food") to familiarize students with the format and expectations. This preparation phase aimed to reduce novelty effects and ensure that pretest performance would not be artificially depressed by unfamiliarity with the task format.

3.4.2 Intervention Implementation

The intervention spanned eight weeks during the year 2024–2025, with students engaging in 4/3/2 activities twice weekly for a total of 16 sessions. Each session lasted approximately 30 minutes, including topic introduction, preparation time, and the three timed presentations. This dosage was selected based on previous research suggesting that regular, sustained practice is necessary for fluency development (Nation, 2001), while remaining feasible within the constraints of the existing curriculum.

Topics were selected to be age-appropriate, personally relevant, and within students' linguistic and conceptual capabilities. Examples included "My family," "My favorite hobby," "A place I like to visit," "My best friend," "What I like about school," and "My favorite holiday." Topics were introduced one class session before the 4/3/2 activity, allowing students to think about content and, if desired, discuss ideas with family members, though formal preparation or script-writing was discouraged to maintain the activity's focus on fluency rather than memorization.

The standard implementation procedure followed Nation's (1989) original design. Teachers introduced the topic, elicited relevant vocabulary, and allowed students brief time to organize their thoughts mentally. Students were encouraged to focus on what they wanted to say rather than exact wording. Then students paired with a partner and took turns delivering their presentation in four minutes while the partner listened attentively. Teachers circulated to monitor, providing encouragement but not correcting errors during presentations. After that, students found a new partner and delivered the same presentation in three minutes, encouraged to speak more quickly while maintaining clarity. Three minutes later, students found a third partner and delivered the final presentation in two minutes, challenged to convey their key points efficiently. After two minutes, students briefly discussed their experience, noting improvements they observed and challenges they faced. Teachers facilitated whole-class discussion about strategies for speaking more fluently.

Teachers used timers to signal the end of each time period, and students were instructed to continue speaking until time expired even if they felt they had covered their main points, encouraging elaboration and detail rather than premature conclusion. The listener role was emphasized as active and engaged, with students instructed to maintain eye contact, show interest through nonverbal feedback, and ask follow-up questions if time remained.

3.5 Data Collection Instruments and Procedures

3.5.1 Quantitative Data: Fluency Assessments

Pretest and Posttest Design: Students completed individual speaking assessments one week before the intervention began (pretest) and during the week immediately following the intervention's conclusion (posttest). Both assessments used the same format but different topics to prevent practice effects while maintaining comparability.

Assessment Procedure: Students were individually called to a quiet room where they met with a trained research assistant (an experienced English teacher not employed at the school). After brief rapport-building, students were presented with a topic card and given two minutes to think about what they would say. They were then instructed to speak about the topic for as long as they could, with the research assistant listening attentively but not interrupting. Presentations were audio-recorded using a digital recorder for subsequent analysis. Different topics were used in each stage. Pretest topic was «My favorite day of the week» and posttest topic was «My favorite season,» selected for comparable difficulty, personal relevance, and familiarity. Both topics allowed students to draw on personal experience and required similar linguistic resources (descriptive language, reasons and explanations, personal preferences).

Fluency Measures: Recordings were transcribed and analyzed for two primary fluency indicators:

Words Per Minute (WPM): Total number of intelligible words produced divided by speaking time in minutes. This measure reflects overall speech rate, a fundamental fluency dimension (Lennon, 1990).

Mean Length of Pause: Average duration of silent pauses exceeding 0.5 seconds, measured using Praat acoustic analysis software (Boersma & Weenink, 2021). Shorter pauses indicate more fluent speech with less hesitation (Tavakoli & Skehan, 2005).

Reliability: A second trained rater independently analyzed 25% of recordings ($n=11$ for both pretest and posttest) to establish inter-rater reliability. Intraclass correlation coefficients (ICC) for WPM were .94 for pretest and .96 for posttest, indicating excellent reliability. ICC for pause length were .89 for pretest and .91 for posttest, indicating good to excellent reliability (Koo & Li, 2016).

3.5.2 Qualitative Data: Teacher Interviews

Semi-structured interviews with the six English teacher participants were conducted during the final two weeks of the intervention period. The interview protocol consisted of ten open-ended questions addressing teachers' perspectives on fluency challenges, instructional practices, and observations regarding the 4/3/2 technique's implementation and effectiveness.

Interviews were conducted individually in a private room at the school, lasting 30–45 minutes each. The researcher explained the interview's purpose, assured confidentiality, and obtained permission for audio recording. The semi-structured format allowed for follow-up questions and elaboration on interesting points while ensuring all participants addressed the same core topics (Merriam & Tisdell, 2015).

Key questions areas included the challenges students face in developing speaking fluency, linguistic versus affective barriers to fluent speech, current instructional practices for teaching speaking, observations of student engagement and progress during the 4/3/2 intervention, perceived effectiveness and feasibility of the 4/3/2 technique, and recommendations for implementation and adaptation.

3.6 Data Analysis

Quantitative data were analyzed using IBM SPSS Statistics Version 27. Descriptive statistics (means, standard deviations, ranges) were calculated for both fluency measures at pretest and posttest to characterize the

sample's performance and variability.

The primary analysis employed paired–samples t–tests to compare pretest and posttest scores for each fluency measure, testing the hypothesis that students would demonstrate significantly improved fluency following the intervention. Paired–samples t–tests were appropriate given the repeated–measures design where each participant served as their own control (Field, 2013).

Qualitative interview data were analyzed using thematic analysis following Braun and Clarke's (2006) six–phase framework: familiarization with data, generating initial codes, searching for themes, reviewing themes, defining and naming themes, and producing the report.

Findings

4.1 Quantitative Results: Impact on Speaking Fluency

4.1.1 Descriptive Statistics

Table 1 presents descriptive statistics for both fluency measures at pretest and posttest. At pretest, students spoke at a mean rate of 45.32 words per minute ($SD = 8.67$, range = 28–62 WPM), indicating considerable variability in baseline fluency levels. Mean pause length at pretest was 1.87 seconds ($SD = 0.43$, range = 1.1–2.8 seconds), reflecting relatively frequent and extended hesitations characteristic of elementary ESL learners.

At posttest, following the eight–week intervention, mean speech rate increased to 68.91 WPM ($SD = 9.34$, range = 48–89 WPM), representing an average gain of 23.59 WPM or approximately 52% improvement over baseline. Mean pause length decreased to 1.24 seconds ($SD = 0.38$, range = 0.6–2.1 seconds), indicating that students hesitated for shorter durations during posttest presentations.

Table 1 Descriptive Statistics for Fluency Measures at Pretest and Posttest (N = 44)

Measure	Time	M	SD	Min	Max	Change
Words Per Minute	Pretest	45.32	8.67	28	62	+23.59
	Posttest	68.91	9.34	48	89	(+52.1%)
(Mean Pause Length) seconds	Pretest	1.87	0.43	1.1	2.8	-0.63
	Posttest	1.24	0.38	0.6	2.1	(-33.7%)

Note: Change percentages calculated as $[(\text{Posttest} - \text{Pretest}) / \text{Pretest}] \times 100$

Inferential Statistics: Paired-Samples T-Tests

Assumptions for paired-samples t-tests were satisfactorily met. Shapiro-Wilk tests indicated that difference scores (posttest minus pretest) did not significantly deviate from normality for WPM ($W = .97, p = .31$) or pause length ($W = .96, p = .18$). Visual inspection of Q-Q plots confirmed approximate normality of distributions.

Words Per Minute: Paired-samples t-test revealed a statistically significant increase in speech rate from pretest ($M = 45.32, SD = 8.67$) to posttest ($M = 68.91, SD = 9.34$), $t(43) = 15.87, p < .001$, two-tailed. The magnitude of this improvement was very large, with Cohen's $d = 2.61$, substantially exceeding conventional thresholds for large effects ($d = 0.8$). The 95% confidence interval for the mean difference ranged from 20.58 to 26.60 WPM, indicating that we can be 95% confident that the true population mean improvement falls within this range.

Mean Pause Length: Paired-samples t-test similarly demonstrated a statistically significant reduction in pause length from pretest ($M = 1.87$ seconds, $SD = 0.43$) to posttest ($M = 1.24$ seconds, $SD = 0.38$), $t(43) = 10.34, p < .001$, two-tailed. This reduction represented a large effect, with Cohen's $d = 1.56$. The 95% confidence interval for the mean difference

ranged from 0.51 to 0.75 seconds.

Table 2: Paired-Samples T-Test Results for Fluency Measures

(N = 44)

Measure	Mean Difference	SD	T	df	p	Cohen's d	CI 95%
Words Per Minute	23.59	9.86	15.87	43	001.>	2.61	[26.60 ,20.58]
(Pause Length)sec	-0.63	0.40	10.34	43	001.>	1.56	[0.75 ,0.51]

Note: Negative mean difference for pause length indicates reduction (improvement). All p-values are two-tailed.

These results provide strong evidence that the 4/3/2 intervention significantly improved both dimensions of speaking fluency measured in this study. The very large effect sizes indicate not only statistical significance but also practical significance, with improvements of sufficient magnitude to .represent meaningful enhancement of students' communicative capabilities

Fluency Gains by Proficiency Level 4.1.2

To examine whether intervention effectiveness varied by initial proficiency level, students were classified into three groups based on pretest WPM scores: low proficiency (pretest WPM < 40, n = 12), intermediate proficiency (pretest WPM 40–50, n = 20), and high proficiency (pretest WPM > 50, n = 12). Mixed-design ANOVA with time (pretest, posttest) as the within-subjects factor and proficiency level as the between-subjects .factor examined the time × proficiency interaction

Results revealed a significant main effect of time, $F(1, 41) = 251.74, p < .001, \eta^2 = .86$, confirming overall fluency improvement. The main effect of proficiency level was also significant, $F(2, 41) = 18.92, p < .001, \eta^2 = .48$, indicating that proficiency groups differed in their overall WPM across both time points, as expected. Critically, the time × proficiency interaction was not significant, $F(2, 41) = 1.43, p = .25, \eta^2 = .07$, suggesting that all

proficiency groups benefited similarly from the intervention in proportional .terms

Table 3: Fluency Gains by Initial Proficiency Level

Proficiency Level	n	Pretest WPM M (SD)	Posttest WPM (M SD)	Gain M (SD)	Improve- % ment
(Low)WPM < 40	12	(4.52) 34.17	(7.21) 56.83	(8.94) 22.66	66.3%
Intermediate (WPM) 40-50	20	(2.89) 45.60	(6.87) 69.45	(9.12) 23.85	52.3%
(High)WPM > 50	12	(3.74) 54.92	(8.13) 78.58	23.66 (11.02)	43.1%

These findings indicate that the 4/3/2 technique proved effective across the proficiency spectrum, with lower–proficiency students showing the largest percentage gains (though not significantly different in absolute terms). This suggests that the intervention is appropriate for mixed–ability classrooms and does not disproportionately benefit only higher–proficiency learners.

4.1.3 Individual Variability in Response to Intervention

While group–level analyses demonstrated significant average improvements, examination of individual change scores revealed variability in intervention response. Of the 44 participants, 42 (95.5%) showed WPM increases, with gains ranging from 8 to 42 WPM. Two students (4.5%) showed minimal change (gains of 2 and 3 WPM), though neither demonstrated decreased fluency. For pause length, 40 students (90.9%) showed reductions (improvements), while 4 students (9.1%) showed slight increases in pause length despite generally improved WPM, suggesting different fluency profiles.

This variability, while modest, underscores that pedagogical interventions affect individuals differently based on factors such as motivation, language aptitude, prior experience, and learning preferences (Dörnyei, 2005). The overwhelmingly positive response across the sample, however, supports the intervention’s general effectiveness for this population.

4.2 Qualitative Results: Teacher Perspectives

Thematic analysis of teacher interviews yielded five major themes regarding fluency challenges and the 4/3/2 intervention: (1) linguistic barriers to fluency, (2) affective obstacles, (3) instructional constraints and challenges, (4) observed benefits of the 4/3/2 technique, and (5) implementation considerations and recommendations.

Theme 1: Linguistic Barriers to Fluency

All six teachers identified linguistic knowledge gaps as primary impediments to students' fluent speech. Within this overarching theme, three sub-themes emerged: vocabulary limitations, grammatical insecurity, and pronunciation challenges.

Theme 2: Affective Obstacles

Teachers identified multiple affective factors that inhibited students' speaking fluency, with anxiety, fear of negative evaluation, and low confidence emerging as interconnected issues.

Theme 3: Instructional Constraints and Challenges

Teachers identified several contextual and practical factors that limited their ability to provide optimal speaking instruction, including time constraints, large class sizes, and curriculum pressures.

Theme 4: Observed Benefits of the 4/3/2 Technique

Teachers reported multiple positive observations regarding the 4/3/2 intervention, including visible fluency improvements, increased student confidence, and high engagement.

Theme 5: Implementation Considerations and Recommendations

While generally positive about the technique, teachers identified several implementation considerations and offered recommendations for optimization.

4.3 Integration of Quantitative and Qualitative Findings

Integration of quantitative and qualitative findings reveals convergent and complementary evidence regarding the 4/3/2 technique's effectiveness and mechanisms of impact.

Quantitative results demonstrating significant fluency improvements align with teachers' qualitative observations of visible progress in students' speaking speed and smoothness. Both data sources support the conclusion that the intervention effectively enhanced fluency, providing triangulated evidence that strengthens confidence in this finding.

Qualitative data illuminate why and how the quantitative improvements occurred. Teachers' observations that the technique—built confidence, reduced anxiety, and provided structured practice opportunities explain the mechanisms through which fluency developed. The qualitative finding that students showed visible improvement even within single 4/3/2 sessions (from first to third presentation) contextualizes the larger pre–post quantitative gains, suggesting that immediate task repetition effects accumulated over multiple sessions to produce substantial fluency development.

Qualitative data address research questions about implementation feasibility and contextual factors that quantitative measures alone could not capture. Teachers' perspectives on linguistic and affective barriers provide essential context for understanding the challenges the intervention addressed, while their implementation recommendations offer practical guidance for future applications.

Table 4 presents a joint display integrating quantitative results with corresponding qualitative themes, illustrating how the two data types complement each other.

Table 4: Joint Display: Integration of Quantitative and Qualitative Findings

Quantitative Finding	Related Qualitative Theme	Integration/Interpretation
Significant increase in WPM ($M = 23.59$, $p < .001$, $d = 2.61$)	Visible fluency improvement; efficiency of providing practice	Quantitative gains confirmed by teacher observations; teachers attributed improvements to structured, repeated practice opportunities
Significant reduction in pause length ($M = -0.63$ sec, $p < .001$, $d = 1.56$)	Linguistic barriers (vocabulary, grammar); affective obstacles reduced	Shorter pauses suggest improved word access and reduced self-monitoring; teachers noted decreased hesitation and increased confidence
Similar gains across proficiency levels	Differentiation needs; technique benefits all students	While all levels improved, teachers noted that differentiated topics/timings could optimize effectiveness for diverse learners
of students 95.5% showed WPM gains	High student engagement; confidence building	Nearly universal improvement aligns with teachers' observations of strong engagement and visible motivation
Variability in individual gains (8–42 WPM)	Individual differences in anxiety, confidence, motivation	Qualitative data on affective factors help explain why some students benefited more than others

Discussion

5.1 Interpretation of Findings

The findings of this study provide robust evidence that the 4/3/2 technique significantly enhances speaking fluency among fourth-grade Lebanese ESL learners. The large effect sizes observed for both fluency measures ($d = 2.61$ for WPM, $d = 1.56$ for pause length) indicate not merely statistical significance but substantial practical significance, representing meaningful improvements in students' communicative capabilities. These results align with and extend previous research on the 4/3/2 technique conducted in diverse international contexts (Nation, 2001; Yang, 2014; Yufriзал, 2018), demonstrating that the technique's effectiveness generalizes to the Lebanese educational context and to younger learners than typically studied.

5.2 Mechanisms of Fluency Development

The integrated findings suggest multiple mechanisms through which the 4/3/2 technique promoted fluency development. First, the repetition component enabled proceduralization and automatization of language processing, consistent with skill acquisition theory (DeKeyser, 2001). By delivering the same content three times, students progressively refined their linguistic choices, reduced content planning demands, and developed more efficient processing routines. Teachers' observations that students showed improvement even within single 4/3/2 sessions support this interpretation, as immediate performance gains reflect emerging automaticity rather than new learning.

Second, the progressive time pressure encouraged students to activate faster processing strategies and reduce reliance on explicit grammatical monitoring. Teachers noted that the technique appeared to shift students' focus from accuracy concerns to message communication, reducing the excessive self-monitoring that disrupts fluent speech. This finding aligns with Skehan's (1998) trade-off hypothesis, which suggests that attentional resources allocated to monitoring for accuracy are unavailable for fluency. The 4/3/2 technique's time constraints may have effectively prevented such counterproductive monitoring, enabling more fluent production.

Third, the technique's structured, predictable format appeared to reduce anxiety and build confidence, addressing the affective barriers that teachers identified as significant fluency impediments. The opportunity to repeat the same content with visible improvement provided experiences of success that enhanced self-efficacy beliefs (Bandura, 1997). As self-efficacy increased, students became more willing to take risks and engage fully in speaking tasks, creating a positive cycle of practice, improvement, and increased motivation.

Fourth, the audience change between repetitions maintained communicative authenticity while providing repetition benefits. Teachers noted that students

remained engaged throughout all three presentations rather than becoming bored with repetition, suggesting that the partner changes successfully balanced pedagogical benefits with motivational considerations.

5.3 Addressing Linguistic and Affective Barriers

The qualitative findings regarding linguistic and affective barriers to fluency provide important context for understanding the intervention's effectiveness. Teachers identified vocabulary limitations, grammatical insecurity, anxiety, and low confidence as primary challenges facing their students. The 4/3/2 technique appears to address these challenges in several ways.

Regarding vocabulary limitations, while the technique does not directly teach new words, it provides intensive practice using familiar vocabulary, potentially strengthening lexical access speed and reducing word-retrieval pauses. The instruction to use topics within students' existing vocabulary range ensures that fluency practice focuses on automatizing available linguistic resources rather than struggling with unfamiliar content.

Concerning grammatical insecurity, the time pressure and focus on message communication may have reduced students' tendency to over-monitor for grammatical correctness, enabling more fluent production even when grammatical accuracy remained imperfect. This finding suggests value in explicitly distinguishing fluency-focused activities (where message communication is prioritized) from accuracy-focused activities (where linguistic correctness is emphasized), helping students understand that different tasks have different priorities (Nation, 2001).

Regarding affective barriers, the technique's structure appeared particularly well-suited to reducing anxiety and building confidence. The predictability and clarity of task expectations reduced uncertainty-related anxiety, while the opportunity for repeated practice with visible improvement provided confidence-building success experiences. The simultaneous pair work format, as teachers noted, reduced the performance pressure associated with whole-class speaking, making participation less threatening for

anxious students.

5.4 Effectiveness Across Proficiency Levels

The finding that students across proficiency levels benefited similarly from the intervention has important implications for classroom implementation. This result suggests that the 4/3/2 technique is appropriate for mixed-ability classrooms typical of many educational contexts, as it does not disproportionately benefit only higher-proficiency learners. Lower-proficiency students showed the largest percentage gains, though absolute gains were comparable across groups, indicating that all students improved substantially regardless of starting point.

This across-the-board effectiveness may reflect the technique's adaptability to individual learner needs. Within the same basic structure, students can work at their own linguistic level, with lower-proficiency learners producing simpler but increasingly fluent speech while higher-proficiency learners produce more complex but equally increasingly fluent language. The technique's focus on individual performance improvement rather than comparison with others may also reduce the discouragement that lower-proficiency students sometimes experience in mixed-ability classes.

5.5 Comparison with Previous Research

The results align closely with previous research on the 4/3/2 technique while extending the evidence base in important ways. The magnitude of fluency gains observed in this study (52% increase in WPM) is comparable to or exceeds improvements reported in previous research. Arevart and Nation (1991) reported approximately 40% improvement in speech rate, Yang (2014) found 45% improvement among Chinese high school students, and Yufrizal (2018) documented 38% improvement with Indonesian university students. The particularly strong effects observed in this study may reflect the intensive implementation (twice weekly for eight weeks), the elementary-age participants who may be particularly responsive to structured practice, or contextual factors specific to the Lebanese setting.

The finding that benefits accrued across proficiency levels extends previous research that has typically examined more homogeneous samples. This result suggests broader applicability than might be inferred from studies focusing on specific proficiency levels. Additionally, the successful implementation with fourth–grade students extends the evidence base to younger learners than typically studied, addressing a gap in the literature and demonstrating that the technique can be effectively adapted for elementary contexts.

The qualitative findings regarding implementation considerations add practical insights often absent in previous research that has focused primarily on outcome measures. Teachers’ perspectives on topic selection, preparation time, differentiation needs, and curriculum integration provide valuable guidance for practitioners seeking to implement the technique in their own contexts.

5.6 Practical Implications

The findings offer several practical implications for ESL instruction in Lebanon and similar contexts. The first implication is curriculum integration. The 4/3/2 technique should be integrated as a regular component of ESL curriculum rather than used as an occasional activity. Teachers’ recommendation for sustained implementation aligns with theoretical understanding that fluency development requires extensive practice over time (Nation, 2001). Curriculum developers might designate specific class time for fluency–focused activities, ensuring that fluency receives attention equal to other language skills.

Teachers would benefit from professional development on implementing fluency–focused activities and understanding the distinction between fluency and accuracy objectives. Training should address the theoretical rationale for time–pressured practice, practical implementation procedures, topic selection guidelines, and strategies for managing pair work in larger classes.

The findings suggest value in incorporating fluency assessment into ESL evaluation systems. Currently, as teachers noted, speaking skills and particularly fluency receive less formal assessment than written language

skills. Developing practical fluency assessment rubrics and procedures could elevate speaking instruction's status and provide accountability for fluency development.

While the technique proved effective across proficiency levels, teachers' suggestions for differentiation merit consideration. Offering topic choices at varying difficulty levels, adjusting time allocations for different proficiency groups, or providing additional support for lower-proficiency students could optimize effectiveness for diverse learners.

The findings underscore the importance of addressing affective barriers to speaking. Creating supportive classroom climates that normalize mistakes as learning opportunities, emphasizing individual improvement over peer comparison, and providing structured activities like 4/3/2 that reduce performance pressure can help anxious students develop confidence and fluency.

5.7 Conclusion

This study provides compelling evidence that the 4/3/2 technique significantly enhances speaking fluency among fourth-grade Lebanese ESL learners. The convergence of quantitative results demonstrating large improvements in speech rate and pause length with qualitative findings revealing teachers' observations of visible progress, increased confidence, and high engagement creates a robust evidence base supporting the technique's effectiveness in this context.

The research addresses an important educational need, as Lebanese students' limited speaking fluency represents a persistent challenge despite the recognized importance of English proficiency. By demonstrating that a specific, replicable pedagogical intervention can produce substantial fluency gains within the constraints of authentic classroom contexts, the study offers practical hope for improving ESL speaking instruction.

Beyond documenting effectiveness, the study illuminates why and how the

technique works. The integration of quantitative and qualitative findings reveals that the 4/3/2 technique promotes fluency through multiple mechanisms: enabling automatization through repetition, encouraging faster processing through time pressure, reducing anxiety through structured practice, and building confidence through visible improvement. Understanding these mechanisms enables more informed implementation and adaptation to diverse contexts.

The findings underscore several key principles for effective fluency instruction. First, fluency development requires dedicated instructional time and specific activity types distinct from accuracy-focused instruction, validating Nation's (2001) argument for fluency as a separate curriculum strand. Second, addressing affective barriers is as important as addressing linguistic limitations, highlighting the need for supportive classroom environments that encourage risk-taking and normalize mistakes. Third, structured, intensive practice with familiar language enables automatization, supporting skill acquisition theory's emphasis on repetition for developing automatic processing. Fourth, time pressure, when combined with repetition and support, can be productive rather than counterproductive, pushing learners toward more efficient language processing.

For Lebanese ESL educators, this research offers evidence-based guidance for enhancing speaking instruction. The 4/3/2 technique provides a practical, efficient approach to providing substantial oral practice within typical classroom constraints. Its effectiveness across proficiency levels makes it appropriate for the mixed-ability classes common in Lebanese schools, while its structured format addresses teachers' concerns about managing speaking activities in larger classes.

More broadly, the study contributes to the international literature on fluency development by extending the evidence base for the 4/3/2 technique to a new cultural and educational context and to younger learners than typically studied. The successful implementation in Lebanon suggests that the

technique's effectiveness is not limited to the East Asian contexts where much previous research has been conducted, supporting its potential as a widely applicable pedagogical innovation.

As English continues to function as a global lingua franca and Lebanese students' future opportunities increasingly depend on English proficiency, developing effective approaches to enhancing communicative competence becomes ever more critical. This study demonstrates that research-based pedagogical innovations can make meaningful differences in students' language development, offering hope that persistent challenges can be addressed through evidence-informed practice.

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