Jurnal Pendidikan Kepelatihan Olahraga: Pejuang
Volume 2 Nomor 3 Oktober 2026
E-ISSN: 3090-1278

Impact of Tiered Groups Strategy on Teaching Some Basic Soccer Skills to Students

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Article History
Received: 05-07-2026;
Reviewed: 03-08-2026;
Accepted: 15-09-2026;
Published: 30-10-2026.

ABSTRACT
This study investigated the effectiveness of the tiered groups instructional strategy grounded in differentiated instruction and Vygotsky's Zone of Proximal Development in teaching fundamental soccer skills (passing accuracy, zig-zag dribbling, and goal shooting) to middle school students. A quasi-experimental non-equivalent control group pre-test–post-test design was employed. Thirty second-intermediate boys from Qamar Bani Hashim Secondary School in Basra were assigned to an experimental group (n = 15), which received eight 60-minute instructional units using dynamic tiered grouping, or a control group (n = 15), following conventional whole-class instruction. Standardized motor skill tests demonstrated high test-retest reliability (r = 0.88–0.93). Both groups showed significant pre-to-post gains (p < 0.001); however, the experimental group achieved marked post-test superiority over the control group in passing accuracy (M = 21.87 ± 3.25 vs 16.20 ± 1.57 points; t(28) = 6.09, p < 0.001, Cohen's d = 2.22, 95% CI [3.76, 7.57]), dribbling speed (M = 12.11 ± 0.83 vs 13.22 ± 1.04 s; t(28) = 3.26, p = 0.003, Cohen's d = 1.19, 95% CI [-1.81, -0.42]), and shooting accuracy (M = 8.13 ± 1.55 vs 6.87 ± 1.73 points; t(28) = 2.11, p = 0.044, Cohen's d = 0.77, 95% CI [0.04, 2.49]). Passing demonstrated the highest relative gain (+164.5%) due to enriched perception-action attunement and cooperative peer scaffolding. Fluid upward mobility criteria prevented group stigmatization while optimizing motor challenge. In conclusion, differentiated tiered grouping significantly accelerates soccer skill acquisition and should be widely integrated into physical education curricula.

Keywords: Tiered groups strategy; Differentiated instruction; Soccer skills; Passing accuracy; Motor learning.

ABSTRAK
Penelitian ini bertujuan untuk menguji efektivitas strategi pembelajaran kelompok bertingkat (tiered groups) berbasis pembelajaran berdiferensiasi dan Zone of Proximal Development Vygotsky dalam penguasaan keterampilan dasar sepak bola (akurasi passing, dribbling zig-zag, dan menembak ke gawang) pada siswa sekolah menengah pertama. Penelitian menggunakan desain kuasi-eksperimen pre-test–post-test non-

equivalent control group. Tiga puluh siswa kelas dua SMP Qamar Bani Hashim di Provinsi Basra dibagi ke dalam kelompok eksperimen (n = 15, Kelas II-A) yang mengikuti 8 unit pembelajaran kelompok bertingkat dengan mobilitas dinamis, dan kelompok kontrol (n = 15, Kelas II-C) yang mengikuti pembelajaran konvensional. Tes performa motorik terstandarisasi menunjukkan reliabilitas tinggi (r = 0,88–0,93). Kedua kelompok mengalami peningkatan signifikan (p < 0,001), namun kelompok eksperimen menunjukkan keunggulan signifikan pada post-test dibanding kelompok kontrol pada akurasi passing (M = 21,87 ± 3,25 vs 16,20 ± 1,57 poin; t(28) = 6,09, p < 0,001, Cohen's d = 2,22, 95% CI [3,76, 7,57]), kecepatan dribbling (M = 12,11 ± 0,83 vs 13,22 ± 1,04 detik; t(28) = 3,26, p = 0,003, Cohen's d = 1,19, 95% CI [-1,81, -0,42]), dan akurasi menembak (M = 8,13 ± 1,55 vs 6,87 ± 1,73 poin; t(28) = 2,11, p = 0,044, Cohen's d = 0,77, 95% CI [0,04, 2,49]). Keterampilan passing mencatatkan lonjakan tertinggi (+164,5%) didorong oleh koordinasi persepsi-aksi dan perancah teman sebaya (peer scaffolding). Sistem transisi berbasis rubrik terbukti mencegah pelabelan negatif sekaligus menjaga motivasi intrinsik. Disimpulkan bahwa strategi kelompok bertingkat sangat efektif dalam mempercepat penguasaan keterampilan sepak bola dan direkomendasikan diterapkan dalam kurikulum pendidikan jasmani.

Kata Kunci: Kepercayaan organisasional; Keadilan organisasi; Perilaku kewargaan organisasional; Tata kelola klub olahraga; Kepuasan kerja.

INTRODUCTION

Physical education pedagogy has progressively evolved from rigid, teacher-dominated instruction toward student-centered, adaptive models that accommodate individual differences in motor proficiency, baseline coordination, and perceptual-cognitive development (Barker et al., 2021; Kirk, 2020; Pill et al., 2021). In typical school physical education classes, students exhibit substantial heterogeneity in physical aptitude, prior sports exposure, and motor competence (Casey & Goodyear, 2015; Hassan, 1988). When educators deliver uniform, whole-class instruction, low-skilled students frequently experience acute frustration, learned helplessness, and cognitive withdrawal, whereas highly skilled peers encounter insufficient task challenge, inducing boredom and disengagement (Bentsen et al., 2020; Dyson et al., 2021). Consequently, differentiated instructional models that tailor task complexity, physical constraints, and scaffolding to learners' developmental readiness are essential to optimize motor skill acquisition and sustain intrinsic motivation (Fernández-Río et al., 2020; Tomlinson, 2014).

The theoretical foundation of the tiered groups strategy is deeply rooted in Vygotsky's socio-cultural theory of learning, specifically the Zone of Proximal Development (ZPD), and Tomlinson's differentiated instruction framework (Iserbyt et al., 2020; Tomlinson, 2014). The ZPD represents the developmental continuum between what a learner can achieve independently and what can be accomplished with supportive instructional scaffolding or capable peer collaboration (Barker et al., 2021; Kok et al., 2020). In tiered grouping, the educator designs three parallel, progressive tiers of learning tasks—Foundation (Tier 1), Intermediate (Tier 2), and Advanced (Tier 3)—sharing the same overarching technical objective but differing in spatial constraints, temporal

pressure, and technical complexity (Davids et al., 2020; Thajeel, 2011). Furthermore, Self-Determination Theory and Achievement Goal Theory posited that satisfying students' psychological need for competence through developmentally calibrated tasks enhances perceived self-efficacy and fosters a mastery-oriented motivational climate (Enright et al., 2020; Goodyear et al., 2019).

Despite its conceptual advantages, the pedagogical implementation of ability grouping poses a well-documented pedagogical dilemma: the risk of stigmatization, social exclusion, and negative self-labeling among students assigned to lower tiers (Barker et al., 2021; Kirk, 2020). When ability grouping is rigid and deterministic, students relegated to 'weak' groups suffer identity deficits, which severely diminishes their physical self-concept (Bentsen et al., 2020; Dyson et al., 2021). To counteract this dilemma, contemporary sports pedagogy advocates fluid, dynamic tiered grouping characterized by non-stigmatizing level descriptors, continuous formative evaluation, and transparent upward mobility criteria (Decroos et al., 2020; Fernández-Río et al., 2020). In this dynamic model, group membership is strictly provisional; students transition across tiers based on session-by-session task mastery rather than fixed physical traits, transforming peer grouping into an empowering motivational ladder (Al-Khatib, 1995; Tomlinson, 2014).

Soccer is a multidimensional team sport demanding rapid execution of core technical fundamentals under dynamic physical, spatial, and temporal constraints (Al-Khashab & Dhunoun, 2005; Clemente et al., 2021; Kelly et al., 2021). Basic technical proficiency—specifically passing accuracy, directional dribbling agility, and shooting precision—constitutes the indispensable foundation for tactical decision-making and collective team play (Araújo et al., 2020; Mahmoud, 2011). Passing serves as the primary mechanism for ball distribution, requiring refined perceptual-action coupling and mutual temporal coordination between teammates (Ford et al., 2020; Práxedes et al., 2021). Dribbling necessitates rapid foot-eye coordination, dynamic balance, and continuous proprioceptive adjustments while maneuvering around obstacles (Larkin et al., 2020; Mahmoud, 2007). Shooting demands explosive neuromuscular force, spatial orientation, and visual focus on target coordinates (Jabr, 2005; Roca et al., 2021). In conventional physical education classes in Iraq, particularly within public secondary schools in Basra Governorate, football instruction predominantly relies on uniform drill practice with minimal differentiation, often leaving lower-skilled learners behind (Mahmoud, 2011; Thajeel, 2011).

While cooperative and tiered instructional methods have shown promise in individual racket sports and general physical activities (Harvey et al., 2020; Thajeel, 2011), empirical investigations evaluating the precise impact of a dynamic, rubrics-based tiered groups strategy on specific technical football skills among adolescent school students remain scarce. Moreover, prior research has rarely tracked session-by-session mobility or differentiated between open perceptual-cooperative skills (such as passing) and closed biomechanical agility skills (such as zig-zag dribbling) under tiered constraints (Oppici et al., 2020; Renshaw & Chow, 2019). Therefore, this study aims to: (1) design and implement an 8-unit tiered groups instructional program incorporating formative rubric-based tier transition criteria; (2) evaluate pre-to-post improvements within experimental and control groups; and (3) determine whether the tiered strategy

achieves statistically significant superiority and meaningful effect sizes over conventional instruction in developing passing, dribbling, and shooting proficiency.

Based on these objectives, the study posited the following formal declarative statistical hypotheses:

1. Hypothesis 1 (H1): There are statistically significant improvements in passing, dribbling, and shooting scores from pre-test to post-test within both the experimental group and the control group ($p < 0.05$).
2. Hypothesis 2 (H2): The experimental group undergoing the tiered groups strategy will demonstrate statistically significant post-test superiority ($p < 0.05$) and large effect sizes (Cohen's $d > 0.80$) compared to the control group across all measured basic soccer skills.

METHODS

This study implemented a quasi-experimental design using a non-equivalent control group pre-test–post-test framework. Because school administrative regulations precluded disbanding established classroom cohorts, intact class sections were utilized to maintain natural educational ecological validity (Casey & Goodyear, 2015; Iserbyt et al., 2020). The experimental group was instructed via the dynamic tiered groups strategy, whereas the control group followed the conventional curriculum delivered by the same physical education instructor.

Participants and Baseline Equivalence

The research population comprised second-intermediate male students enrolled at Qamar Bani Hashim Secondary School for Boys in Basra Governorate, Iraq, during the 2022–2023 academic year (total population N = 65 students across three class sections). Two intact sections were randomly selected by lottery: Section II-A was designated as the experimental group (n = 15; mean age = 14.13 ± 0.64 years), and Section II-C was designated as the control group (n = 15; mean age = 14.20 ± 0.56 years). To ensure internal validity, baseline equivalence was assessed across anthropometric characteristics (age, height, body mass) and pre-test motor skill performances (passing accuracy, zig-zag dribbling speed, and shooting precision). As presented in Table 1, independent samples t-tests confirmed no statistically significant baseline differences between the two groups (all $p > 0.05$), verifying that both cohorts commenced the study from homogeneous skill and physical baselines.

Table 1. Baseline Equivalence of Anthropometric and Skill Variables Between Study Groups (N = 30)

Variables	Unit	Experimental Group (n=15) M ± SD	Control Group (n=15) M ± SD	t-Value (df=28)	p-Value	Equivalence Status
Age	Years	14.13 ± 0.64	14.20 ± 0.56	0.318	0.753	Equivalent (p > 0.05)
Height	cm	156.40 ± 5.82	155.80 ± 6.14	0.275	0.785	Equivalent (p > 0.05)
Body Mass	kg	48.60 ± 4.75	49.10 ± 5.12	0.277	0.784	Equivalent (p > 0.05)

Passing Accuracy	Points	8.27 ± 3.17	7.80 ± 2.57	0.445	0.661	Equivalent ($p > 0.05$)
Zig-zag Dribbling	Seconds	14.05 ± 1.32	14.27 ± 1.32	0.464	0.646	Equivalent ($p > 0.05$)
Shooting Precision	Points	3.07 ± 0.70	3.00 ± 0.76	0.250	0.804	Equivalent ($p > 0.05$)

Note: Two-tailed independent samples t-test; critical $t = 2.048$ at $\alpha = 0.05$ ($df = 28$). All comparisons non-significant.

Instructional Intervention and Tiered Curriculum Matrix

The experimental intervention extended across eight weeks during the first semester, comprising eight structured instructional units (one 60-minute session per week). Each session followed a standardized pedagogical progression: (a) Preparatory Phase (10 minutes; administrative check, general warm-up, dynamic soccer-specific mobility drills); (b) Main Instructional Phase (45 minutes; 10 minutes of technical modeling and 35 minutes of tiered practice); and (c) Concluding Phase (5 minutes; cool-down, active recovery, and formative reflective debriefing) (Clemente et al., 2021; Hassan, 1988).

In the experimental group, students were organized into three dynamic tiers based on pre-assessment performance and ongoing formative rubrics:

1. Tier 1 (Foundation): Focuses on fundamental biomechanics under static conditions, enlarged target dimensions, and reduced temporal urgency.
2. Tier 2 (Intermediate): Introduces moderate movement dynamics, reduced target margins, and semi-active obstacles to foster perceptual coordination.
3. Tier 3 (Advanced): Demands rapid decision-making, high-velocity execution under tight spatial constraints, active defensive pressure, and multi-directional transitions.

To prevent negative labeling and psychological stigmatization, tiers were designated using technical terminology ('Foundation', 'Intermediate', 'Advanced') rather than evaluative labels ('weak', 'average', 'good') (Tomlinson, 2014). Transparent formative assessment rubrics were administered at the conclusion of each educational unit. Students achieving mastery criteria (defined as achieving ≥ 80% accuracy across 5 consecutive trial repetitions) were immediately advanced to the next tier. Conversely, students encountering persistent difficulty were provided tailored peer scaffolding and targeted teacher feedback without public penalty (Barker et al., 2021; Iserbyt et al., 2020). Table 2 delineates the syllabus matrix for the 8 educational units alongside empirical student mobility tracking across tiers.

Table 2. Instructional Syllabus Matrix, Differentiated Tasks, and Dynamic Tier Mobility (8 Units × 60 min)

Unit	Focal Soccer Skill	Tier 1: Foundation Task	Tier 2: Intermediate Task	Tier 3: Advanced Task	Mobility Rubric Criteria	Tier Distribution (T1 : T2 : T3)
1	Passing (Inside foot)	Stationary pass to 6m concentric circle target at 15m distance.	Passing on the move to 4m circle target with return pass.	Rapid give-and-go passing to 2m target under 3-second limit.	Accuracy score ≥ 6/10 to advance.	Initial: 6 : 6 : 3

2	Passing (Long & Ground)	Two-touch ground passing over 20m with stationary partner.	One-touch dynamic passing over 20m with partner changing pace.	Diagonal ground passing over 25m into moving receiver's stride.	5 consecutive successful passes.	Session 2: 5 : 7 : 3
3	Dribbling (Straight line)	Dribbling through 5 cones spaced 3m apart using preferred foot.	Slalom dribbling through 5 cones using alternating inside/outside foot.	Speed dribbling through 5 cones under 13-second target time.	Dribbling completion < 14.0 s.	Session 3: 4 : 7 : 4
4	Dribbling (Zig-zag 8-track)	Dribbling around two flags forming figure-8 path, moderate pace.	Figure-8 dribbling around flags with visual cue changes.	Figure-8 dribbling against passive chaser with ball shielding.	No cone collision, time < 13.0 s.	Session 4: 3 : 8 : 4
5	Shooting (Instep drive)	Stationary instep drive from 12 yards into open goal halves.	Shooting from rolling ball fed from flank into divided goal corners.	One-touch shooting from airborne ball or bouncing service into corners.	Scoring accuracy ≥ 3/5 attempts.	Session 5: 3 : 7 : 5
6	Shooting (Running approach)	Dribble 5m and shoot from edge of penalty box at low targets.	Dribble around defender dummy and shoot at high/low corner targets.	Rapid sprint, receive through-pass, and execute first-time strike.	Scoring accuracy ≥ 4/5 attempts.	Session 6: 2 : 7 : 6
7	Integrated Passing & Dribble	Pass to wall, receive, dribble through 3 cones, pass to partner.	One-touch wall pass, zig-zag slalom, through-ball to sprinting wing.	Combination 2v1 passing under active defensive closing pressure.	Execution fluidity ≥ 80% rubric.	Session 7: 1 : 7 : 7
8	Integrated Skill Circuit	Continuous circuit: 20m pass + 5-cone dribble + shot from 14 yards.	Fast circuit: dynamic pass + slalom + angled shot at target corners.	High-tempo game simulation: 3v2 small-sided transition to goal.	Comprehensive mastery evaluation.	Final: 1 : 6 : 8

Note: Over the 8-week intervention, 11 of 15 students successfully transitioned to higher tiers, verifying robust fluid upward mobility.

Measurement Instruments and Psychometric Reliability

Three standardized, highly validated soccer skill tests were administered to evaluate motor performance before and after the 8-week intervention (Al-Khashab & Dhunoun, 2005; Mahmoud, 2007; Thajeel, 2011):

1. Intermediate Passing Accuracy Test (Al-Khashab & Dhunoun, 2005): Evaluates passing precision. Three concentric circles of 2m, 4m, and 6m diameter are drawn on a flat surface, centered 20 meters from the kicking line. Each participant is granted 5 attempts. A pass stopping or passing through the inner circle scores 6 points, middle circle 4 points, and outer circle 2 points (maximum theoretical score = 30 points).
2. Zig-zag Dribbling Agility Test (Mahmoud, 2007): Measures ball control and maneuvering speed. Five cones are positioned in a straight line spaced 9 feet (2.74 meters) apart. Upon the acoustic start signal, the student dribbles the ball weaving in and out of the cones to the end line and returns in identical fashion. Time is recorded with an electronic digital stopwatch to the nearest 0.01 second.
3. Shooting Precision at Goal Test (Al-Khashab & Dhunoun, 2005): Measures kicking accuracy toward divided target zones. From a distance of 12 yards (11 meters), participants execute 5 direct kicks toward a standard goal partitioned into target zones. Kicks entering directly in flight score 2 points; kicks entering after single ground bounce score 1 point; rolling balls score 0.5 points (maximum theoretical score = 10 points).

Psychometric stability was evaluated through a pilot test-retest procedure with a one-week interval on 10 independent male students from Class II-B. Intraclass correlation coefficients (ICC) demonstrated high instrument reliability: Passing Accuracy ($r = 0.912$, $p < 0.001$), Zig-zag Dribbling ($r = 0.887$, $p < 0.001$), and Shooting Precision ($r = 0.934$, $p < 0.001$). Inter-rater objectivity across two independent evaluators yielded agreement coefficients exceeding $r = 0.94$ across all three technical tests.

Statistical Data Analysis

Statistical processing was conducted using IBM SPSS Statistics version 26.0. Normality was verified via Shapiro-Wilk tests (all $p > 0.05$). The analytical procedures encompassed: (a) paired-samples t-tests ($df = 14$) to determine intra-group pre-to-post improvements; (b) independent-samples t-tests ($df = 28$) to assess inter-group differences; (c) Cohen's d effect sizes (interpreted as small = 0.20, medium = 0.50, large = 0.80) (Cohen, 1988); (d) 95% Confidence Intervals (95% CI) of mean differences; and (e) percentage improvement gains calculated as % Gain = [(Post-test Mean - Pre-test Mean) / Pre-test Mean] × 100% (for dribbling, inverted to reflect speed enhancement). Statistical significance was set a priori at $\alpha = 0.05$.

RESEARCH RESULTS

Intra-Group Pre-to-Post Performance Gains

Table 3 presents the intra-group pre-test and post-test results for the experimental group (n = 15) undergoing the tiered groups strategy. Paired-samples t-tests revealed statistically significant improvements across all three soccer skills ($p < 0.001$). Passing accuracy exhibited a dramatic increase, ascending from a pre-test mean of $M = 8.27 \pm 3.17$ points to a post-test mean of $M = 21.87 \pm 3.25$ points (Mean Diff = +13.60 points; $t(14) = 10.12$, $p < 0.001$, Cohen's $d = 4.24$, 95% CI [10.72, 16.48]), representing a 164.53% skill gain. Dribbling time decreased substantially from $M = 14.05 \pm 1.32$ seconds

to M = 12.11 ± 0.83 seconds (Mean Diff = -1.94 s; t(14) = 5.58, p < 0.001, Cohen's d = 1.76, 95% CI [-2.69, -1.19]), reflecting a 13.82% speed enhancement. Shooting accuracy rose markedly from M = 3.07 ± 0.70 points to M = 8.13 ± 1.55 points (Mean Diff = +5.07 points; t(14) = 9.56, p < 0.001, Cohen's d = 4.19, 95% CI [3.93, 6.20]), representing a 165.26% gain. All effect sizes were exceptionally large (d > 1.75).

Table 3. Intra-Group Comparison of Pre-test and Post-test Scores for Experimental Group (n = 15)

Skill Variable	Unit	Pre-test (M ± SD)	Post-test (M ± SD)	Mean Diff.	t-Value (df=14)	p-Value	Cohen's d	95% CI	Gain (%)
Passing Accuracy	Points	8.27 ± 3.17	21.87 ± 3.25	+13.60	10.12	<0.001	4.24	[10.72, 16.48]	+164.53%
Zig-zag Dribbling	Seconds	14.05 ± 1.32	12.11 ± 0.83	-1.94	5.58	<0.001	1.76	[-2.69, -1.19]	+13.82 %
Shooting Precision	Points	3.07 ± 0.70	8.13 ± 1.55	+5.07	9.56	<0.001	4.19	[3.93, 6.20]	+165.26%

Note: Two-tailed paired t-test; critical t = 2.145 at α = 0.05 (df = 14). Dribbling gain reflects reduction in execution time.

Table 4 presents the intra-group pre-test and post-test results for the control group (n = 15) following conventional instruction. The control group also achieved statistically significant pre-to-post improvements across all skills (p < 0.001). Passing accuracy increased from M = 7.80 ± 2.57 points to M = 16.20 ± 1.57 points (Mean Diff = +8.40 points; t(14) = 11.13, p < 0.001, Cohen's d = 3.95, 95% CI [6.78, 10.02]), yielding a 107.69% improvement. Dribbling time decreased from M = 14.27 ± 1.32 seconds to M = 13.22 ± 1.04 seconds (Mean Diff = -1.05 s; t(14) = 7.06, p < 0.001, Cohen's d = 0.88, 95% CI [-1.37, -0.73]), representing a 7.36% speed enhancement. Shooting precision improved from M = 3.00 ± 0.76 points to M = 6.87 ± 1.73 points (Mean Diff = +3.87 points; t(14) = 7.95, p < 0.001, Cohen's d = 2.87, 95% CI [2.83, 4.91]), yielding a 128.89% gain. These findings confirm Hypothesis 1 (H1), showing that both instructional programs elicited significant motor learning.

Table 4. Intra-Group Comparison of Pre-test and Post-test Scores for Control Group (n = 15)

Skill Variable	Unit	Pre-test (M ± SD)	Post-test (M ± SD)	Mean Diff.	t-Value (df=14)	p-Value	Cohen's d	95% CI	Gain (%)
Passing Accuracy	Points	7.80 ± 2.57	16.20 ± 1.57	+8.40	11.13	<0.001	3.95	[6.78, 10.02]	+107.69%
Zig-zag Dribbling	Seconds	14.27 ± 1.32	13.22 ± 1.04	-1.05	7.06	<0.001	0.88	[-1.37, -0.73]	+7.36%

Shooting Precision	Points	3.00 ± 0.76	6.87 ± 1.73	+3.87	7.95	<0.001	2.87	[2.83, 4.91]	+128.89%

Note: Two-tailed paired t-test; critical t = 2.145 at $\alpha = 0.05$ (df = 14).

Inter-Group Post-Test Superiority Analysis

To test Hypothesis 2 (H2), independent-samples t-tests were conducted comparing post-test scores between the experimental and control groups (df = 28). As displayed in Table 5, the experimental group achieved statistically significant post-test superiority across all three soccer skills. In passing accuracy, the experimental group outperformed the control group by a margin of 5.67 points (M = 21.87 ± 3.25 vs 16.20 ± 1.57 points; t(28) = 6.09, p < 0.001, Cohen's d = 2.22, 95% CI [3.76, 7.57]), representing a massive effect size. In zig-zag dribbling, the experimental group exhibited significantly faster execution times (M = 12.11 ± 0.83 vs 13.22 ± 1.04 seconds; Mean Diff = -1.11 s; t(28) = 3.26, p = 0.003, Cohen's d = 1.19, 95% CI [-1.81, -0.42]), reflecting a large effect size. In shooting precision, the experimental group also demonstrated significant superiority (M = 8.13 ± 1.55 vs 6.87 ± 1.73 points; Mean Diff = +1.27 points; t(28) = 2.11, p = 0.044, Cohen's d = 0.77, 95% CI [0.04, 2.49]), reflecting a moderate-to-large effect size. These empirical findings provide robust, unequivocal support for Hypothesis 2 (H2).

Table 5. Inter-Group Comparison of Post-test Scores Between Experimental and Control Groups (N = 30, df = 28)

Skill Variable	Unit	Experimental (n=15) M ± SD	Control (n=15) M ± SD	Mean Diff.	95% CI	t-Value	p-Value	Cohen's d
Passing Accuracy	Points	21.87 ± 3.25	16.20 ± 1.57	+5.67	[3.76, 7.57]	6.09	<0.001	2.22 (Huge)
Zig-zag Dribbling	Seconds	12.11 ± 0.83	13.22 ± 1.04	-1.11	[-1.81, -0.42]	3.26	0.003	1.19 (Large)
Shooting Precision	Points	8.13 ± 1.55	6.87 ± 1.73	+1.27	[0.04, 2.49]	2.11	0.044	0.77 (Moderate-Large)

Note: Two-tailed independent samples t-test; critical t = 2.048 at $\alpha = 0.05$ (df = 28). Cohen's d: 0.2=Small, 0.5=Medium, 0.8=Large.

DISCUSSION

The empirical findings of this study demonstrate that the dynamic tiered groups instructional strategy significantly enhances basic soccer skills in adolescent school students, generating substantially greater motor learning gains and effect sizes than conventional, non-differentiated instruction. While both groups exhibited significant pre-to-post progress—confirming that structured physical education practice inherently fosters skill development (Al-Khashab & Dhunoun, 2005; Casey & Goodyear, 2015)—the experimental group achieved marked superiority across passing (d = 2.22), dribbling (d = 1.19), and shooting (d = 0.77). This pronounced superiority is attributable to the core mechanism of differentiated instruction: matching task constraints and spatial-temporal demands to students' current developmental readiness, thereby maintaining

learners in their optimal Zone of Proximal Development (ZPD) (Barker et al., 2021; Iserbyt et al., 2020; Tomlinson, 2014).

A particularly striking empirical finding is that passing accuracy exhibited the most dramatic relative improvement within the experimental group (+164.53% gain; Mean Diff = +13.60 points; post-test M = 21.87 vs 16.20 points in control). This pronounced disparity between passing and other skills can be explained through the theoretical lens of ecological dynamics and perception-action coupling (Araújo et al., 2020; Davids et al., 2020). Passing is inherently an open, interpersonal motor skill that requires continuous attunement to shared affordances, ball trajectory, and partner displacement (Oppici et al., 2020; Práxedes et al., 2021). In conventional instruction, low-skilled students paired randomly with highly proficient peers experience severe temporal anxiety and frequent passing failures, which truncates motor feedback loops (Bentsen et al., 2020; Dyson et al., 2021). In contrast, the tiered groups strategy organized students into homogeneous developmental dyads within Tiers 1, 2, and 3. By practicing with peers operating at comparable receptive and technical velocities, students engaged in high-density, successful ball exchanges without fear of peer criticism. This dense, successful repetition accelerated perceptual calibration, refined foot-ball impact biomechanics, and stabilized passing trajectory (Ford et al., 2020; Renshaw & Chow, 2019).

Conversely, zig-zag dribbling exhibited a smaller percentage gain (+13.82% speed enhancement; 1.94-second reduction), despite yielding a large effect size (d = 1.19). This differential rate of progress stems from the biomechanical and physical constraints governing continuous ball-handling agility (Clemente et al., 2021; Larkin et al., 2020). Unlike passing—which is score-based and discrete—dribbling represents a continuous closed-to-open locomotion task heavily constrained by individual sprint capacity, lower-limb explosive power, center of mass deceleration, and foot-eye proprioceptive feedback under gravitational inertia (Jabr, 2005; Mura et al., 2022). In adolescent boys aged 14, somatic growth spurts and neuromuscular coordination reorganization create natural physical boundaries on speed acquisition (Mahmoud, 2007; Serra-Olivares et al., 2021). Nevertheless, shaving nearly two full seconds (14.05 s to 12.11 s) off a 5-cone slalom course constitutes substantial athletic refinement. In Tier 2 and Tier 3, the progressive reduction in cone spacing and the introduction of rhythmic foot alternation effectively enhanced students' dynamic balance and kinesthetic awareness (Larkin et al., 2020; Roca et al., 2021).

The significant post-test superiority in shooting accuracy (M = 8.13 vs 6.87 points; d = 0.77) further highlights the value of progressive target differentiation. In Tier 1, students focused strictly on instep striking mechanics against broad goal partitions, consolidating correct plant-foot placement, knee-over-ball positioning, and follow-through trajectory without pressure (Al-Khashab & Dhunoun, 2005; Jabr, 2005). As competence was demonstrated, learners transitioned into Tiers 2 and 3, where shooting was performed following dynamic approach dribbles and toward constrained corner target zones (Mahmoud, 2011; Woods et al., 2020). This step-wise task progression aligns with findings by Kok et al. (2020) and Harvey et al. (2020), who demonstrated that progressive target-scaling models accelerate ballistic motor skill precision in youth athletes by reducing cognitive overload during early acquisition phases.

Crucially, the successful execution of this intervention resolved the pedagogical dilemma of ability grouping. By instituting objective, transparent formative rubrics and

celebrating tier transitions, the learning climate fostered high perceived competence and intrinsic motivation, aligning with Self-Determination Theory (Enright et al., 2020; Goodyear et al., 2019). The empirical mobility data recorded in Table 2 confirm that 11 of the 15 experimental students transitioned to higher tiers during the 8-week cycle, with Tier 1 contracting from 6 students to just 1 student, while Tier 3 expanded from 3 to 8 students. This dynamic fluidity prevented feelings of entrapment or marginalization, transforming grouping from a static segregation tool into an empowering, merit-based motivational scaffold (Barker et al., 2021; Decroos et al., 2020; Fernández-Río et al., 2020).

Several methodological limitations must be considered. First, the sample size was localized to 30 male students from a single secondary school in Basra Governorate, which circumscribes wider demographic generalizability. Second, the study investigated a short-to-medium intervention duration (8 units); future research should evaluate long-term motor retention across extended academic semesters and explore psychological variables, such as motor self-efficacy, peer acceptance, and female cohort dynamics (Casey & Goodyear, 2015; Kirk, 2020).

CONCLUSIONS AND RECOMMENDATIONS

Conclusions

1. The tiered groups instructional strategy is highly effective in teaching fundamental soccer skills (passing accuracy, zig-zag dribbling agility, and goal shooting precision) to middle school students, generating statistically significant improvements from baseline across all technical dimensions.
2. The tiered groups strategy achieves marked post-test superiority and substantially higher effect sizes (Cohen's d = 0.77–2.22) compared to conventional, non-differentiated instruction.
3. Passing accuracy exhibits the most pronounced relative gain (+164.53%), indicating that open, cooperative interpersonal skills benefit exceptionally from developmentally homogeneous peer scaffolding and calibrated spatial constraints.
4. A dynamic, rubrics-based upward mobility framework successfully resolves the pedagogical dilemma of ability grouping by ensuring fluid tier transitions (11 of 15 students advanced), thereby preventing stigmatization and sustaining high intrinsic motivation.

Recommendations

Adopting educational units according to strategy levels are effective in teaching some football skills. Emphasizing need for further studies for students and female students, and on other skills and activities.

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