

Instructor Verbal Guidance and Training Outcomes in the 3D Movement Method: A Mixed Methods Study of Midlife Women

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Abstract

This mixed methods secondary analysis examined how perceived clarity of instructor verbal explanations was associated with practice frequency, satisfaction, physical progress and mental improvement among women practicing the 3D Movement Method (the 3DMM) in a fully remote format. Quantitative analyses used cross-sectional survey data from 330 adult female practitioners; analytic sample sizes ranged from 247 for perceived mental improvement to 329 for practice frequency. Key variables were single-item ratings of explanation clarity (1 - 10), practice frequency (0 - 30), satisfaction (0 - 25), and perceived physical progress and mental improvement (0 - 15). Pearson correlations and robust linear models showed that explanation clarity had small but statistically significant associations with practice frequency, satisfaction, and perceived physical progress. Explanation clarity showed no significant bivariate association with perceived mental improvement. Practice frequency was moderately associated with both physical progress and mental improvement and partially mediated the association between explanation clarity and physical progress. Because explanation clarity was not significantly correlated with perceived mental improvement, no direct or total effect was observed for mental improvement in subsequent models. A focused secondary thematic analysis of interviews with the 3DMM practitioners complemented these findings. Participants described clear, specific verbal explanations as central for understanding exercises, feeling safe during practice, and maintaining engagement over time, while emphasizing that psychological benefits accumulated primarily through repeated practice rather than instructional input alone. Overall, the findings indicate that high-quality, specific verbal guidance functions as an enabling factor in fully remote mind-body programs, whereas regular practice remains the primary driver of perceived physical progress and mental improvement.

Keywords

Instructor Verbal Guidance, Practice Frequency, Midlife Women, Menopausal Transition, Mixed Methods

1. Introduction

Verbal explanation is foundational to the teaching and learning of human movement across domains including coaching, physical rehabilitation, dance, and mind-body practice. Spoken instruction conveys task goals, directs attention, and translates complex coordinative demands into actionable strategies. In motor learning, the way instruction and feedback are delivered directly influences where learners focus their attention and what they anticipate, which subsequently affects both immediate performance and long-term skill acquisition [1] [2].

Evidence synthesized across decades of research indicates that an external focus of attention (directed toward movement effects) confers advantages over an internal focus (directed toward body movements) for motor performance and learning outcomes, including retention and transfer [3]. At the same time, applied practice does not consistently reflect this evidence. Survey research in physiotherapy contexts suggests that clinicians frequently rely on internally focused cues and may not explicitly apply attentional-focus principles in routine instruction, underscoring a persistent gap between experimental findings and real-world cueing habits [4]. This gap becomes especially consequential in remote formats, where learners must interpret verbal explanations and self-correct in the absence of in-person manual guidance.

Remote delivery of exercise and rehabilitation has expanded substantially, increasing reliance on verbal and visual communication through digital platforms. In older-adult populations, evidence from systematic and scoping reviews indicates that synchronous, remotely supervised exercise delivered via videoconferencing is generally feasible, acceptable, and can improve physical and psychosocial outcomes, with safety profiles broadly comparable to control conditions when programs are appropriately designed and supervised [5]-[7]. Mixed methods work from providers further emphasizes the importance of tailoring remote supports to participants' abilities and managing safety and engagement constraints that arise in home-based delivery [8]. Observational research in live-streamed group instruction also points to interaction constraints in remote sessions, particularly reduced individualized feedback relative to in-person formats, highlighting the increased instructional burden placed on verbal explanation and structured cueing strategies [9].

Evidence from fully remote mind-body programs, such as Qi Gong and Tai Chi, indicates that when tactile feedback and in-person correction are absent, the instructional burden shifts toward verbal explanation as a primary means of supporting safe and autonomous practice [10].

The present study examines verbal explanation within a fully remote, instructor-led mind-body practice delivered for home use. Although the cohort consists of adult women in midlife, many of whom practice in the context of the menopausal transition, the analytic focus is on instructional mechanisms that are not inherently menopause-specific. This framing positions clarity of explanation as a practical instructional variable within remote learning environments rather than as a clinical characteristic of a single life stage.

The Zarina del Mar 3DMM provides a suitable case for investigating these issues because verbal explanation is the primary instructional medium across its remote formats. The method comprises live online sessions, recorded programs, and short movement sequences designed for frequent integration into daily routines. Prior qualitative evidence in the 3DMM context suggests that participants place particular value on the clarity and specificity of explanations when learning how to adapt movements and integrate practice into everyday life [11].

This study utilizes the existing survey framework from prior research on the 3DMM cohort [12] but specifically investigates the role of verbal explanation within instructional practice.

Accordingly, the aim of this mixed methods study is to examine how adult practitioners of the 3DMM perceive the clarity of instructor verbal explanations and how these perceptions relate to practice frequency, satisfaction with instruction, and perceived physical progress and mental improvement in a fully remote setting. Based on theory and evidence linking instructional focus and communication quality to engagement and learning, we hypothesized that higher perceived clarity of verbal explanation would be associated with greater practice engagement and satisfaction, and that these factors would, in turn, be related to higher perceived progress.

2. Methods

2.1. Overall Design

This study used a primarily quantitative mixed methods design with a supplementary qualitative component. The quantitative phase consisted of a secondary analysis of cross-sectional survey data collected among adult female practitioners of the 3DMM as part of a broader investigation of remote practice and women's health [12].

The qualitative phase drew on semi-structured interviews with female practitioners from the same practitioner population. These interviews had been collected earlier and analyzed in previous publications [11] [13]. In this article, interview excerpts are used to contextualize and interpret the quantitative associations, not to develop standalone qualitative claims.

2.2. Survey Design and Participants

The parent survey is described in detail in Manaenkova and Santanna [12]. In brief, a descriptive, cross-sectional online survey was conducted between April

and June 2025 among adult women. Eligibility required being at least 35 years of age, self-reporting current practice of the 3DMM through purchased programs or publicly available online content, and being able to provide informed consent and complete an online questionnaire in Russian or English. Men and women younger than 35 years were excluded.

Recruitment was conducted exclusively through the instructor's own digital channels, including email messages to previous course purchasers and public posts on Instagram and Telegram in Russian and English. This recruitment strategy constitutes instructor-affiliated, self-selected convenience sampling and entails an increased likelihood of self-selection bias. No paid advertisements, external mailing lists, or third-party recruitment platforms were used.

The questionnaire was administered via Google Forms (English and Russian) and Yandex Forms (Russian) and was completed asynchronously on participants' own devices. The survey remained open for a predefined period and was closed after two weeks with no new submissions. After an initially slower response rate, optional access to an online workout session was offered upon survey completion.

The parent survey yielded 330 valid responses from female practitioners. As reported in Manaenkova and Santanna [12], the cohort was predominantly mid-life, highly educated, geographically diverse, and oriented toward regular physical activity. Full cohort characteristics are reported in Manaenkova and Santanna [12] and are not repeated here.

2.3. Survey Measures Used in This Analysis

For the present secondary analysis, we focused on variables directly relevant to verbal explanations, practice characteristics, and perceived outcomes. Respondents were retained if they had data on perceived clarity of explanations, practice frequency, satisfaction with practice, and single-item ratings of perceived physical progress and mental improvement. Valid sample sizes were as follows: satisfaction ($n = 327$), practice frequency ($n = 329$), explanation clarity ($n = 326$), perceived physical progress ($n = 327$), and perceived mental improvement ($n = 247$). Inferential models used all available data for each outcome, as described below.

Perceived clarity of instructor explanations was assessed with a single-item asking participants how clear and comprehensible they found the instructor's explanations during practice of the 3DMM. Responses were recorded on a 1 - 10 scale, with higher scores indicating greater perceived clarity.

Perceived physical progress was measured using a single-item rated on a 0 - 15 scale, asking respondents how much physical progress they had experienced since starting the method. Examples provided included strength, mobility, posture, pain reduction, and ease of movement.

Perceived mental improvement was assessed with a parallel single-item on a 0 - 15 scale, referring to perceived changes in psychological domains such as mood, stress regulation, emotional balance, or mental clarity.

Practice frequency was measured as a bounded numeric variable reflecting how

often respondents practiced the 3DMM, with values ranging from 0 to 30 and higher scores indicating more frequent practice.

Satisfaction with practice was measured using a bounded scale ranging from 0 to 25, with higher scores indicating greater overall satisfaction with the 3DMM.

2.4. Quantitative Analysis

Quantitative analyses examined associations among explanation clarity, practice frequency, satisfaction, and perceived physical and mental outcomes. Preliminary analyses assessed missingness and distributional properties. Satisfaction, practice frequency, physical progress, and mental improvement showed adequate variability within their bounded scales, whereas explanation clarity exhibited a pronounced ceiling effect and non-normality.

Given the bounded scales, non-normal distributions, and minimal missingness, subsequent inferential analyses employed robust estimation techniques. Full information maximum likelihood was used to handle missing data under the assumption of missing at random; missingness was minimal for all variables except perceived mental improvement.

Bivariate associations were examined using Pearson correlations, with Spearman and Kendall correlations used as robustness checks. Linear regression models evaluated whether explanation clarity independently predicted practice frequency and satisfaction. Multiple regression models examined whether explanation clarity and practice frequency jointly predicted perceived physical progress and, in a parallel model, perceived mental improvement.

Mediation analyses tested whether practice frequency mediated associations between explanation clarity and each outcome. For physical progress, unstandardized direct, indirect, and total effects were estimated; for mental improvement, standardized estimates were used due to higher missingness. Confidence intervals were obtained via bootstrapping. Full model specifications and estimates are reported in the Results.

2.5. Qualitative Data Source and Analysis

The interviews were originally designed to explore women's everyday physical activity routines, experiences of the menopausal transition, and engagement with the 3DMM, including perceptions of the method's overall approach, video-based delivery, and the instructor's explanations. Within these broader narratives, many participants spontaneously described how they understood and applied the instructor's verbal explanations during home practice, how spoken cues shaped perceived safety and confidence, and how they adapted movements without in-person correction. These interview segments are used in the present secondary analysis to contextualize quantitative findings related to instructional communication, rather than to generate independent qualitative claims.

Participants were recruited through the same digital ecosystem as the survey and represented a range of ages, locations, and durations of practice. Recruitment

procedures, sample characteristics, and the broader thematic framework are reported in Manaenkova and Santanna [11] [13].

For the present article, a focused secondary analysis was conducted. Transcripts were revisited to identify passages where participants discussed the instructor's verbal explanations, including clarity, imagery, anatomical descriptions, sensation-based cues, and guidance for self-adjustment. Interviews containing sufficiently detailed discussion of verbal explanations were retained.

A reflexive thematic analysis was performed. Transcripts were read repeatedly for familiarization, and inductive coding was applied to segments describing how explanations were understood, enacted during live and recorded sessions, and linked to perceived safety, confidence, or change. Coding was inductive but sensitized by the quantitative constructs of clarity, frequency, satisfaction, and perceived progress.

Codes were organized into themes representing recurring patterns in how verbal explanations supported or constrained learning and engagement.

2.6. Ethical Considerations

The survey and interview components were conducted under a shared protocol approved by the Ethics Committee of TSU (Protocol No. 25410_A1_38). All participants received online information and provided electronic informed consent. Data were collected without direct identifiers using self-generated codes. Participation was voluntary, and respondents could withdraw at any time without penalty. All procedures complied with the Declaration of Helsinki.

3. Results

3.1. Descriptive Statistics and Correlations

Item-level missingness resulted in slightly different analytic Ns for each variable: satisfaction ($n = 327$), practice frequency ($n = 329$), clarity of explanations ($n = 326$), physical progress ($n = 327$), and mental improvement ($n = 247$). All variables showed adequate variability within their bounded scales (Table 1). Clarity of explanations displayed a pronounced ceiling effect and substantial non-normality ($skew = -2.74$; $kurtosis = 8.12$); therefore, robust estimation methods and full information maximum likelihood were applied in subsequent models.

Table 1. Descriptive statistics and normality diagnostics for core variables.

Variable	n	M	SD	Min	Max	Skew	Kurtosis
Satisfaction	327	16.74	10.50	0	25	-0.80	-0.40
Practice frequency	329	16.69	9.25	0	30	-0.65	-0.94
Clarity of explanations	326	9.12	1.74	1	10	-2.74	8.12
Physical progress	327	6.88	4.59	0	15	0.07	-0.18
Mental improvement	247	4.05	4.08	0	15	0.73	0.28

Note. Skewness $> |1|$ or kurtosis $> |3|$ indicates substantial deviation from normality.

Pearson correlations indicated that physical progress and mental improvement were strongly and positively associated, $r = 0.54$, $p < 0.001$. Both outcomes were positively correlated with satisfaction (physical: $r = 0.54$, mental: $r = 0.33$; both $p < 0.001$) and practice frequency (physical: $r = 0.59$, mental: $r = 0.39$; both $p < 0.001$). Clarity of explanations showed small but statistically significant correlations with practice frequency ($r = 0.21$, $p < 0.001$), satisfaction ($r = 0.24$, $p < 0.001$), and physical progress ($r = 0.27$, $p < 0.001$), and a weak, non-significant correlation with mental improvement ($r = 0.10$, $p = 0.141$). The Pearson matrix is presented in **Table 2**.

Table 2. Correlation matrix for core variables (Pearson's r).

Variable	1	2	3	4	5
1. Satisfaction	—				
2. Practice frequency	0.59***	—			
3. Clarity of explanations	0.24***	0.21***	—		
4. Physical progress	0.54***	0.59***	0.27***	—	
5. Mental improvement	0.33***	0.39***	0.10	0.54***	—

Note. $n = 326 - 329$ for all variables except mental improvement ($n = 247$). *** $p < 0.001$.

3.2. Regression Models

Simple regression models were used to test whether clarity of explanations independently predicted key practice characteristics. Clarity of explanations significantly predicted practice frequency, $R^2 = 0.042$, $F(1, 323) = 14.11$, $p < 0.001$, and satisfaction, $R^2 = 0.057$, $F(1, 322) = 19.38$, $p < 0.001$, with small standardized effects in both cases.

Multiple regression models examined whether practice frequency and clarity of explanations jointly predicted perceived progress. The model predicting physical progress was significant, $R^2 = 0.378$, $F(2, 322) = 97.97$, $p < 0.001$. Both practice frequency and clarity of explanations had significant unique associations with physical progress, with a larger standardized coefficient for practice frequency ($\beta = 0.563$, $p < 0.001$) than for clarity of explanations ($\beta = 0.158$, $p < 0.001$).

The model predicting mental improvement was also significant, $R^2 = 0.144$, $F(2, 239) = 20.09$, $p < 0.001$, but accounted for less variance than the physical progress model. Practice frequency was a significant predictor ($\beta = 0.373$, $p < 0.001$), whereas clarity of explanations was not ($\beta = 0.031$, $p = 0.608$). Regression coefficients are summarised in **Table 3**.

Table 3. Regression models predicting perceived physical progress and mental improvement.

Outcome	Predictor	B	SE B	β	95% CI for B	p	R^2
Practice frequency	Clarity of explanations	1.080	0.288	0.205	[0.513, 1.647]	<0.001	0.042
Satisfaction	Clarity of explanations	1.006	0.229	0.239	[0.557, 1.454]	<0.001	0.057
Physical progress	Practice frequency	0.281	0.028	0.563	[0.226, 0.337]	<0.001	0.378 ¹

Continued

	Clarity of explanations	0.417	0.089	0.158	[0.241, 0.592]	<0.001
Mental improvement	Practice frequency	0.165	0.032	0.373	[0.102, 0.228]	<0.001 0.144 ²
	Clarity of explanations	0.014	0.028	0.031	[-0.041, 0.070]	0.608

¹R² for the model predicting physical progress; $F(2, 322) = 97.97$, $p < 0.001$. ²R² for the model predicting mental improvement; $F(2, 239) = 20.09$, $p < 0.001$.

3.3. Mediation Models

Mediation analyses tested whether practice frequency mediated the association between clarity of explanations and perceived progress. For physical progress, the indirect effect via practice frequency was significant, $B = 0.303$, $SE = 0.084$, 95% CI [0.138, 0.476], $p < 0.001$. The direct effect of clarity of explanations on physical progress remained significant, $B = 0.417$, $SE = 0.089$, 95% CI [0.238, 0.591], $p < 0.001$, as did the total effect, $B = 0.720$, $SE = 0.140$, 95% CI [0.504, 0.921], $p < 0.001$. Approximately 42% of the total effect was mediated by practice frequency (Table 4, Panel A).

For mental improvement, the indirect effect of clarity of explanations via practice frequency was significant in standardized units, $\beta = 0.076$, $SE = 0.024$, 95% CI [0.034, 0.129], $p = 0.002$, whereas neither the direct effect ($\beta = 0.029$, $p = 0.566$) nor the total effect ($\beta = 0.104$, $p = 0.070$) reached significance. Mediation estimates for both outcomes are reported in Table 4, Panel B.

Table 4. Mediation models testing practice frequency as mediator.

Panel A: Physical progress (unstandardized estimates)				
Path	Effect (B)	SE	95% CI	p
a: Explanations → Frequency	1.080	0.288	[0.513, 1.647]	<0.001
b: Frequency → Physical progress	0.281	0.028	[0.226, 0.337]	<0.001
Indirect effect (a × b)	0.303	0.084	[0.138, 0.476]	<0.001
Direct effect (controlling for mediator)	0.417	0.089	[0.238, 0.591]	<0.001
Total effect	0.720	0.140	[0.504, 0.921]	<0.001
Panel B: Mental improvement (standardized estimates)				
Path	Effect (β)	SE	95% CI	p
a: Explanations → Frequency	0.205	0.051	[0.104, 0.307]	<0.001
b: Frequency → Mental improvement	0.369	0.061	[0.249, 0.490]	<0.001
Indirect effect (a × b)	0.076	0.024	[0.034, 0.129]	0.002
Direct effect (controlling for mediator)	0.029	0.050	[-0.067, 0.123]	0.566
Total effect	0.104	0.056	[-0.013, 0.216]	0.070

3.4. Qualitative Themes

The qualitative material provided additional insight into how verbal explanations

shaped engagement and perceived outcomes in the 3DMM. Three themes were identified that correspond to the quantitative associations between perceived clarity of explanations, practice frequency, satisfaction, and perceived progress.

Theme 1: Explanations as drivers of engagement and routine practice

Participants frequently described the instructor's explanations as the main reason they trusted the program and were motivated to return to it regularly. Clear, specific language and the instructor's tone made sessions feel personally meaningful and restorative rather than generic. One woman emphasized understanding and reconnection: "That's why I appreciate Zarina's programs. What matters most to me is her explanations. They are very specific and help me understand how to move my body. Through her, I've learned how to listen to myself again, despite the pain. Her sessions are moments of mindfulness where I feel reconnected to my body and to myself." (Participant I, 45 years old)

Another participant explicitly connected this experience with the intention to establish a stable weekly routine: "When I feel that I've 'hit the mark' during one of Zarina's exercises, I feel a deep resonance. That's why I keep returning to her programs. I want to build a weekly routine of those exercises that hit the right neural-muscular pathways. I know the process will take time. I'm not expecting quick results or magical weight loss—I'm aiming for sustainable, meaningful movement." (Participant G, 60 years old)

Theme 2: Explanations as technical guidance for physical change

Participants also described explanations as a precise technical tool that helped them "catch" the intended movement, target specific muscles, and achieve stronger physical effects. One woman highlighted pacing and level of detail: "Her pace and explanations are not too slow or too detailed—they're just right. When I follow her instructions precisely, the effect is always stronger." (Participant N2, 61 years old)

Others reported concurrent physical and cognitive benefits arising from verbally guided practice: "With her exercises, I've gained not just physical benefits like flexibility and softer tissues, but especially mental clarity and concentration. My thinking feels lighter, and I have less brain fatigue. This has a strong impact on my day-to-day functioning. Her method connects the body and mind. It's not just movement—it brings awareness, mindfulness, and inner connection." (Participant I, 45 years old)

Theme 3: Constraints of remote, video-based verbal instruction

At the same time, participants pointed to limitations of verbal explanations in a remote, video-based format. Some noted that subtle movement details were difficult to see and required repeated viewing: "Sometimes it's hard to see what Zarina is doing in her videos, which requires me to rewatch them multiple times." (Participant T, 40 years old)

Another participant emphasized that each rewatch revealed additional details: "Every time I rewatch a class, I notice something new." (Participant N1, 36 years old)

3.5. Integration of Quantitative and Qualitative Findings

When quantitative and qualitative findings were considered together, verbal explanations appeared to matter primarily by supporting adherence and the quality of home practice, rather than by producing immediate psychological change. Quantitatively, explanation clarity was associated with satisfaction and practice frequency, and practice frequency accounted for most of the association between explanation clarity and perceived progress.

The qualitative material helped explain these patterns. Participants described clear explanations as essential for trusting the method, feeling safe to practice independently, and returning to sessions over time, which helps clarify why explanation clarity is strongly associated with satisfaction and frequency. Explanations were also described as a technical map that enables participants to translate verbal cues into effective movement, consistent with the small direct association observed with perceived physical progress.

At the same time, participants' accounts of visibility constraints, cognitive load, and the need to repeatedly rewatch classes illuminated why explanation clarity alone didn't show a strong direct association with mental improvement. Psychological change was described as emerging gradually through repeated engagement, suggesting that explanations function mainly by supporting sustained practice rather than acting as an independent driver of mental outcomes.

4. Discussion

The present findings should be interpreted in relation to the structural constraints of fully remote movement instruction. In digitally mediated exercise formats, verbal explanation and visual demonstration substitute for physical guidance, manual correction, and immediate tactile feedback. Observational work on live-streamed group instruction shows fewer individualized corrections and fewer spontaneous corrective interactions than in-person formats, increasing reliance on verbal communication for safe, autonomous practice [9].

In telerehabilitation, remote delivery similarly increases reliance on clear instruction, self-monitoring, and anticipatory guidance to manage safety and adherence without direct supervision [14]. Scoping and systematic reviews of videoconferencing-based exercise further show that effectiveness depends not only on exercise content but also on instructions that anticipate self-correction and risk management in home-based settings [5] [6].

Within this instructional context, the quantitative findings indicate that perceived clarity of explanations is most strongly associated with engagement-related outcomes. Clear explanations were linked to higher satisfaction and more frequent practice, whereas their associations with perceived physical progress and perceived mental improvement were largely accounted for by practice frequency. This pattern is consistent with motor learning frameworks that conceptualize instruction as augmented information that organizes attention, expectancy, and task execution, but does not substitute for repeated practice [1] [2].

The qualitative findings clarify how these mechanisms operate in everyday home-based practice. Participants described explanations as central to understanding movement intent, distinguishing productive effort from discomfort, and feeling sufficiently safe to practice independently. Explanations combining anatomical references, directional cues, and sensation-oriented language were described as particularly important for self-monitoring and movement adjustment in the absence of external correction. These accounts help explain the observed association between explanation clarity and perceived physical progress, which plausibly reflects more effective movement execution rather than generalized psychological change.

In contrast, participants consistently described psychological change as cumulative and contingent on repeated engagement over time. Reports of cognitive load, visibility constraints, and the need to rewatch recorded sessions illuminate why instructional clarity alone did not show a strong independent association with perceived mental improvement once practice frequency was taken into account. Qualitative research in telerehabilitation and remote health interventions similarly emphasizes communication and trust-building as prerequisites for agreement on goals and tasks and for maintaining engagement, rather than as direct drivers of outcome change [15].

Finally, the pronounced ceiling effect observed for explanation clarity suggests limited variability in perceived instructional clarity within this program. Uniformly high ratings may reflect both high baseline instructional quality and recruitment through program-affiliated channels that selected participants with generally positive perceptions of instruction, including social desirability bias. Restricted variance in explanation clarity likely reduced sensitivity to detect stronger direct effects, and the observed pattern should therefore be interpreted as reflecting conditions in which instructional quality is already optimized.

5. Conclusions

In this sample of adult women practicing the 3DMM through remote formats, perceived clarity of instructor verbal explanations was consistently associated with higher satisfaction, more frequent practice, and greater perceived physical progress. Perceived mental improvement, however, was related to instructional clarity only indirectly through practice frequency. Under conditions of fully remote delivery, these findings indicate that verbal explanation primarily supports engagement and the quality of practice, rather than acting as an independent determinant of perceived psychological change.

The scope of these conclusions is delimited by several study-specific limitations. All participants were self-selected and recruited through program-affiliated digital channels, and all had prior experience with the instructional approach, which likely contributed to uniformly high ratings of explanation clarity and limited variability on this measure. Participants engaged with heterogeneous program formats, durations, and content, which were not experimentally controlled and may have introduced variability in instructional exposure. Instructional clarity, en-

agement, and perceived outcomes were assessed using self-report measures, including single-item indicators, and no objective behavioral or clinical outcomes were available. These features constrain generalization to novice populations, settings with lower baseline instructional quality, or programs delivered under different organizational conditions.

Future research should therefore focus on designs that combine multi-item or observational measures of instructional communication with longitudinal tracking of engagement and objective performance outcomes. Such designs would allow more precise estimation of how verbal explanation interacts with practice structure to shape physical and psychological change over time. Experimental comparisons of instructional formats that vary in explanation specificity, imagery use, and guidance for self-correction would further clarify which components of verbal instruction are most consequential for sustaining engagement in remote movement interventions.

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After drafting the manuscript, the authors used ChatGPT (GPT-5 Thinking) solely to improve grammar and readability.

Author Contributions

Z.M.: Conceptualization, methodology, review and editing. E.S.: Formal analysis, original draft preparation, review and editing.

Data Availability Statement

Deidentified data are available from the corresponding author upon request.

Conflicts of Interest

Z.M. is the founder and developer of the 3D Movement Method. To reduce potential bias, Z.M. was not involved in data coding or qualitative theme development. E.S. provides consulting services related to movement and health research. The authors declare no conflicts of interest regarding the publication of this paper.

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