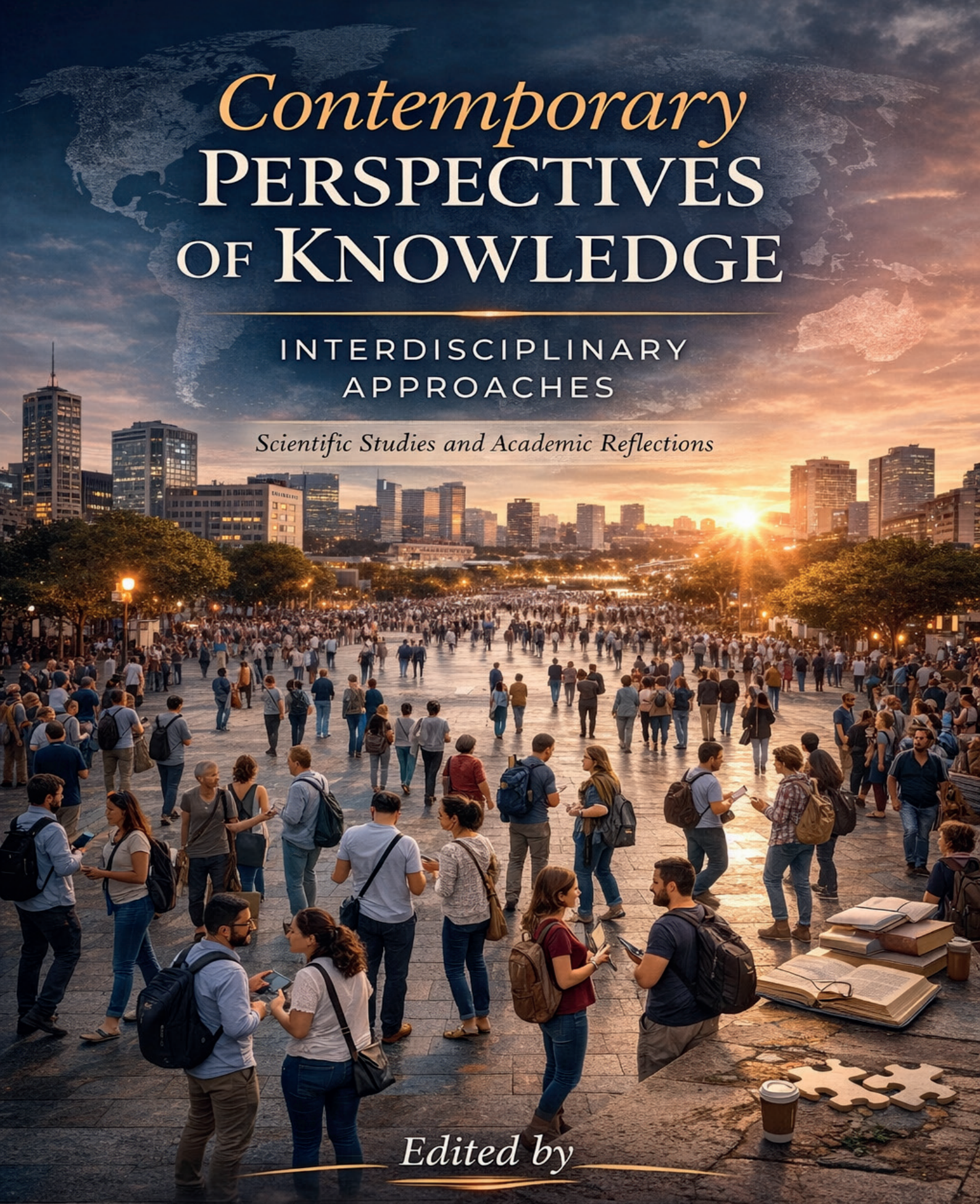
Contemporary PERSPECTIVES OF KNOWLEDGE

INTERDISCIPLINARY APPROACHES

Scientific Studies and Academic Reflections



Edited by

Flávia Moreno Alves de Souza

Periodicojs
EDITORA ACADÊMICA

Editorial Team

Abas Rezaey

Ana Maria Brandão

Fernado Ribeiro Bessa

Filipe Lins dos Santos

Flor de María Sánchez Aguirre

Isabel Menacho Vargas

Izabel Ferreira de Miranda

Leides Barroso Azevedo Moura

Luiz Fernando Bessa

Manuel Carlos Silva

Renísia Cristina Garcia Filice

Rosana Boullosa

Graphic Design, Layout and Cover

Academic Publisher Periodicojs

Language

Portuguese and English

International Cataloging-in-Publication Data (CIP)

(Brazilian Book Chamber, SP, Brazil)

C761 Contemporary Perspectives of Knowledge: Interdisciplinary Approaches/ Flávia Moreno Alves de Souza (org) – João Pessoa: Periodicojs publisher, 2026.

E-book: il. color.

Includes bibliography
ISBN: 978-65-6010-196-8

1. Free themes. I. Souza, Flávia Moreno Alves. II. Title

CDD 370

Prepared by Dayse de França Barbosa CRB 15-553

Index for systematic catalog:

Indexes for systematic catalog:

1. Education: 370

Work without funding from public or private bodies.

The published works have been submitted to peer review and evaluation (double-blind), with respective acceptance letters in the publisher's system.

The work is the result of studies and research from the Interdisciplinary Studies in Human Sciences section of the Humanities in Perspective book collection.



Filipe Lins dos Santos
President and Senior Editor of Periodicojs

CNPJ: 39.865.437/0001-23

Rua Josias Lopes Braga, n. 437, Bancários, João Pessoa - PB - Brazil
website: www.periodicojs.com.br
instagram: @periodicojs

34 PDCA-GOVERNED ADAPTIVE PERIODIZATION IN BODYBUILDING ATHLETE PREPARATION: ARCHITECTURE, INSTRUMENTS AND APPLICATION CASE

Chapter



PDCA-GOVERNED ADAPTIVE PERIODIZATION IN BODYBUILDING ATHLETE PREPARATION: ARCHITECTURE, INSTRUMENTS AND APPLICATION CASE

Marcos Paulo Nonato de Almeida[1]

Abstract: This technical report describes a management method for bodybuilding athlete preparation, called the High-Performance PDCA Method, which grew out of the author's professional practice. The method organizes assessment, planning, execution, measurement, and adjustment into weekly cycles, with a light weekly checkpoint and an in-depth checkpoint every 30 days. It integrates training and nutrition, recovery, mental rehearsal, AI-assisted visual projection (not evaluated in this case), body-measurement triangulation, and root-cause analysis. The architecture is organized into eight decision layers, with the competitive project serving as the unit of preparation; its duration is set by the initial assessment and the competition date. The report presents the method's operational instruments and its application in a real competitive preparation case. Because this is a single case with no comparison group, the results point to practical applicability but do not support claims of causality or superiority over other approaches. Studies with more athletes are needed to confirm these findings.

Keywords: technical report; bodybuilding; periodization; PDCA cycle; autoregulation; body composition; preparation management.

INTRODUCTION

PROFESSIONAL CONTEXT AND TECHNICAL PROBLEM

Competitive bodybuilding preparation requires long-term coordination of training, nutrition, recovery, technique, physical condition, and the competition calendar. The

[1] Strength and Conditioning Coach and independent researcher — preparation of bodybuilding athletes and athletes in other high-performance sports

development materials describe a real-world scenario in which static spreadsheets, training and diet decisions made in isolation, non-standardized photos, scattered communication, and late adjustments make it hard to connect assessment, execution, and outcome. Relying on the coach's memory and treating body weight as a proxy for progress increase the risk of contradictory interventions or changes made without an identified root cause.

Against this backdrop, this report describes the method, ties it to a concrete professional problem, identifies what sets it apart, presents its application instruments, and discusses the observed results and their limitations.

OPERATIONAL ORIGINS AND EVOLUTION OF THE METHOD

The method grew out of a practical need to keep the full preparation cycle connected: assessment, prescription, execution, interpretation of results, and the next decision. The problem was never a lack of training techniques or nutrition strategies, but the absence of a shared framework that would keep those decisions from becoming fragmented and preserve the rationale behind every adjustment over the course of the project.

The documented development moves from the formulation of three pillars to an individual execution manual and, later, to a periodization architecture with multiple time horizons, linked checkpoints, measurement criteria, and a plan for digitization. This path shows progressive refinement: the initial idea becomes a process, the process produces instruments, and the instruments become part of a control model that can be applied to competitive preparation.

OBJECTIVE

The objective of this report is to describe the architecture, operational instruments, and initial application of the High-Performance PDCA Method in bodybuilding athlete preparation, and to discuss its scientific basis, its limitations, and the steps needed for future validation.

TECHNICAL DESCRIPTION

DEFINITION OF THE METHOD

A data-driven autoregulation system for bodybuilding athlete preparation, governed by weekly PDCA cycles, with a light weekly checkpoint and an in-depth checkpoint every 30 days, integrated training and nutrition, cross-cutting recovery and mental-rehearsal modules, body-measurement triangulation, root-cause investigation, and documented reprogramming of the plan.

The term “training method” does not adequately describe what this is. The training content may draw on established periodization, rep ranges, and techniques; what sets the method apart is how the process is governed and how data are combined to decide when to maintain, progress, correct, deload, or refer the athlete out.

PROBLEM AND RESPONSE

The method addresses recurring problems of fragmented practice. When training and diet are adjusted separately, conflicting decisions and misdiagnoses can result; in the proposed system, both tracks go through the same CHECK and the same ACT. When body weight is interpreted on its own, gains and plateaus can be misread; that is why decisions combine a moving average of body weight, circumference measurements, standardized photos, and performance.

The same principle applies to the other pain points. Photos taken without controlling for lighting, pose, and distance are replaced by a comparable protocol and a timeline; plans left unchanged for long stretches give way to operational cycles and in-depth checkpoints; failures generically blamed on a lack of discipline undergo root-cause investigation; and recovery stops being an afterthought and becomes part of planning, execution, review, and adjustment. In short, the technical response is not to add isolated tasks, but to restructure professional decision-making.



CORE OF THE INTEGRATION

The proposed differentiator lies at the level of architecture. This method does not claim to have created the PDCA cycle, sports periodization, imagery, recovery, or body monitoring in isolation. Rather, it reorganizes, prioritizes, and operationalizes these elements into a system built specifically for competitive bodybuilding.

1. the ACT of one cycle becomes the PLAN of the next cycle for training and nutrition at the same time;

2. the weekly checkpoint is light (photos and a basic adherence tally), while the in-depth checkpoint adds measurements, available body-composition data, technique, load progression, incidents, and a joint review;

3. progress is interpreted only once complementary body signals converge;

4. AI-assisted visual projection, a feature not evaluated in the case presented, is built into the athlete's actual timeline rather than presented as a standalone image;

5. recovery follows the same logic of planning, execution, review, and adjustment;

6. the coach's tasks, records, and decisions become traceable and auditable.

EIGHT DECISION LAYERS

The architecture organizes preparation into eight interconnected layers. The first is the vision, a three- to ten-year horizon that defines the athlete's identity in the sport and long-term direction. The second is the multi-year project, spanning two to five years, which links successive competitions and structural development. These first two layers are strategic career horizons and do not determine how long preparation for a given competition lasts. The third layer, the competitive project, is the actual unit of preparation: it is tied to a specific target, and its duration is set by the initial assessment and the competition date. Duration should be individualized based on prior experience, development needs, and the competition calendar. The eight-month horizon observed in the case analyzed serves as a calibration

reference, not a limit.

Next, the periodization phase, typically four to twelve weeks long, structures biological adaptation and energy balance. The in-depth checkpoint, held every 30 days, provides a joint review of photos, measurements, available body-composition data, and technique. Within that interval, the weekly cycle, which closes with a light weekly checkpoint, serves as the mechanism for fast, documented monitoring.

TWO CHECKPOINT LEVELS: WEEKLY AND 30-DAY IN-DEPTH

The seventh layer is the daily session, which brings together training, nutrition, mobility, sleep, and the mental task. The eighth is real-time feedback, designed to detect critical deviations and allow for early intervention. The layers do not operate as independent plans: short-term decisions are interpreted in light of the competitive project and the athlete's long-term development vision. The daily session is where records of load, rest, frequency, and adherence to training and diet are generated. Unlike the others, the fifth and eighth layers are not time horizons but points of review and response within those horizons.

The proposed control system operates on two checkpoint levels, supported by daily training and nutrition logs. The weekly checkpoint, held every seven days, looks at standardized photos, completed and missed sessions, plan execution, load logs, dietary adherence, and reported discomfort. Its purpose is to catch deviations and guide justified adjustments. The in-depth checkpoint takes place every 30 days and pulls together all records from the previous 30 days, including the weekly reviews and the remaining days in the period. The monthly window, therefore, does not necessarily equal four weeks. The review combines photos, body measurements, body composition when available, technique, load progression, and reported incidents, in an in-person or remote meeting. The analysis seeks to clarify possible causes of deviations and to document the decision to keep or modify the plan. Subsequent adjustments are tracked at the weekly checkpoints. The 30-day frequency describes the version of the method presented here; whether it matches the frequency actually used in the historical case should be verified against the original records.

Table 1 — The method's two checkpoint levels.

Level	Frequency	What Is Reviewed	Purpose
Weekly checkpoint (light)	Every 7 days	Photos in standardized poses; basic weekly tally: training days completed and missed, sessions below 100%, days with no load logged, adherence or non-adherence to the meal plan (scored 0 to 10), and discomfort reported in training or diet.	Catch deviations early and correct them before the end of the month.
In-depth checkpoint	Every 30 days	Records from the entire previous 30 days; photos; measurements; available body-composition data; technique; load progression; incidents and inflammation. Held in an in-person or online meeting.	Identify the one non-negotiable priority and readjust strategies for the upcoming seven-day blocks.

THREE DIFFERENTIATING COMPONENTS

FUTURE PHYSICAL IDENTITY: MENTAL REHEARSAL AND ARTIFICIAL INTELLIGENCE

This component turns the physique goal into a visual reference sequence. Starting from an actual photo, the assessment, and the project timeline, the system generates AI-assisted interim and final scenarios and integrates them into ongoing monitoring. Its stated purpose is to sharpen goal clarity, focus, and identification with the process. Use of this component was not documented in the case presented; its stage of development and any use with other clients still need to be confirmed by the author.

Projecting the athlete's own image personalizes the visual reference, while interim milestones reduce reliance on a distant outcome and make it possible to compare the observed trajectory with the planned scenario. The coach's guidance translates the image into actionable tasks and ties each milestone to cycle data. To maintain credibility, every projection must be labeled as an illustrative estimate, recalibrated against actual results, and shown alongside the original, unedited photos.

The image is not a promise of results. Its use requires a clear explanation of its limitations, consent for processing visual data, and care not to reinforce rigid body expectations or psychological distress.

The motor imagery literature supports mental rehearsal as a complement to physical practice, but it does not show that AI-generated body projections drive adherence or hypertrophy (DEVRIM; BILGIC; HONGU, 2018; SLIMANI et al., 2016). This component should be presented as a process and communication innovation, with consent, privacy safeguards, and monitoring of psychological risk.

PDCA-GOVERNED ADAPTIVE PERIODIZATION

The core component turns the coach's experience into a repeatable workflow with defined inputs, criteria, records, and outputs. Training content changes from phase to phase; the control engine stays the same.

In PLAN, the coach assesses, prioritizes, and prescribes, documenting the cycle objective, plan version, indicators, and adjustment criteria. In DO, the athlete executes and logs load, reps, perceived exertion, videos, meals, sleep, mobility, and adherence. CHECK compares execution against outcomes using trends, body triangulation, technique, fatigue, and deviations. Finally, ACT justifies the decision to maintain, progress, correct, deload, or refer out, and produces the next version of the plan.

The operations manual uses the fields Why, How, Where, Value, and Status to structure each task. These fields promote clarity, but they are not the same as the 5 Whys. Root-cause analysis is a separate procedure, applied when a task fails or results diverge.

STRUCTURED RECOVERY PROTOCOL

This component brings sleep, cold-water immersion, and myofascial release into the decision-making system. What sets it apart is not the use of these practices per se, but the fact that they are assessed, planned, logged, and adjusted by phase rather than offered as generic recommendations.

Sleep serves as a baseline variable for recovery and readiness and should be interpreted by trend and context; persistent symptoms call for evaluation by a healthcare professional (WALSH et al., 2021). Cold-water immersion is treated as an optional tool for acute recovery in select situations, because regular use after resistance training may blunt adaptations and should not be automatic (GRGIC, 2023; MALTA et al., 2021; ROBERTS et al., 2015). Myofascial release may support range of motion and perceived recovery, but the evidence is mixed and does not justify assuming structural repair that has not been demonstrated (CHEATHAM et al., 2015).

Heart rate variability can be part of the long-term dashboard, but it should not be presented as a stand-alone gold-standard measure or as an automatic trigger for load changes. Lab tests, including creatine kinase, fall within the clinical scope when indicated and should not be interpreted independently by the coach.

INNOVATION IN MEASUREMENT AND DECISION-MAKING TRIANGULATING PROGRESS

The theoretical periodization architecture rejects body weight as sufficient proof of progress. The method requires convergence among signals that capture different dimensions of body change.

The moving average of body weight shows the systemic energy-balance trend, but it cannot separate muscle, fat, water, glycogen, and gut content. Circumference measurements add a quantitative regional measure, although they vary with hydration, anatomical landmark,

and pump. Standardized photos broaden the analysis to density, separation, proportion, and visual presentation, as long as lighting, pose, lens, and distance are controlled. Performance, in turn, reflects strength and tolerance to the training stimulus, but it is also affected by technique, sleep, motivation, and fatigue.

Decisions are driven by how these signals converge over time. A single divergence does not justify an immediate adjustment; instead, it triggers a check of data quality, adherence, physiological context, and probable cause before any intervention.

DIVERGENT-SIGNAL EVENTS AND THE CROSS-MATRIX

A divergent-signal event occurs when body weight suggests progress or a plateau, but circumference and photos do not confirm that reading. Before changing calories, cardio, or volume, the coach checks standardization, hydration, glycogen, adherence, and root cause.

Training Signal Body/Nutrition Signal Probable Cause Integrated ACT Strength dropping Weight dropping + low adherence Low energy or poor adherence. Fix diet/adherence before cutting training. Strength dropping Stable weight + adequate adherence Fatigue, sleep, or stress. Consider a deload; keep diet unchanged at first. Stable Weight and fat rising quickly Excessive surplus. Review energy intake/cardio; maintain stimulus if appropriate. Circumferences changing Stable weight Favorable recomposition. Maintain and confirm at the next checkpoint. No progress Adequate adherence and energy Insufficient stimulus or time horizon. Review volume/intensity; avoid making multiple changes at once. Unsafe technique Any Biomechanical risk. Hold progression until corrected.

PROCEDURES AND METHODOLOGY

SOURCES AND ANALYTICAL APPROACH

This report was prepared through document analysis of the method's development materials, functional breakdown of its components, and selective comparison of those components with peer-reviewed scientific literature. Four of the author's unpublished working

documents, each serving a complementary role, were used: (1) a document setting out the integrated definition of the three pillars; (2) the operations manual for the cycle in one-on-one coaching; (3) a document describing the method's differentiators; and (4) a theoretical paper developing the periodization architecture. Reading them together shows how the method progresses from concept to instruments and from instruments to application. These are internal working documents held by the author. The analysis maps the components described to the corresponding passages and records in these documents.

The analysis addressed six questions: what method was developed; what operational need prompted its creation; how it differs from the fragmented practice described; where it sits in the preparation process; how it was turned into an executable solution; and what results can be stated based on the available material. Each claim was tied to documented content and, where necessary, distinguished from technical inference or external evidence.

NATURE AND SOURCE OF THE INFORMATION

Information was classified into four categories based on its nature and source. A documented fact is an element directly observable in the files and can be stated with reference to the material. An author statement is information described in the documents and is therefore presented as a firsthand account when not accompanied by independent verification. A technical inference is a logical conclusion drawn from the convergence of multiple elements and is presented along with the basis that supports it.

External evidence is published knowledge that demonstrates the plausibility of the scientific components. It is used to inform the analysis of periodization, autoregulation, body composition, sleep, recovery, and imagery, without taking the place of documentary evidence of the specific method's authorship, architecture, and application.

ANALYSIS CRITERIA

Integration of components: a description of how known practices are combined and

of the proposed differences from approaches discussed in the literature.

Scope: identification of the stages and decisions in the preparation process that the method covers.

Operational relevance: the relationship among the problems described, the proposed instruments, and the available observations, without assuming proven effectiveness.

Applicability: turning the idea into executable instruments, processes, and decisions.

Traceability: the ability to reconstruct assessment, execution, review, and adjustment.

TECHNICAL AND SCIENTIFIC BASIS

The method's plausibility is supported by literature on continuous improvement and lean production (DEMING, 1986; OHNO, 1988), periodization (BOMPA; BUZZICHELLI, 2019; ISSURIN, 2010; SCHOENFELD; OGBORN; KRIEGER, 2017), bodybuilding nutrition (HELMS; ARAGON; FITSCHEN, 2014; IRAKI et al., 2019; MORTON et al., 2018), autoregulation based on perceived exertion, reps in reserve, and velocity (GREIG et al., 2020; HELMS et al., 2016; WEAKLEY et al., 2021), body composition (ACKLAND et al., 2012), sleep (WALSH et al., 2021), cold-water immersion (GRGIC, 2023; MALTA et al., 2021; ROBERTS et al., 2015), myofascial release (CHEATHAM et al., 2015), imagery (SLIMANI et al., 2016), and risk of body dysmorphia (DEVRIM; BILGIC; HONGU, 2018). This literature explains why the components may be useful; on its own, it does not show that the proposed combination produces superior results.

ETHICS, PRIVACY, AND PROFESSIONAL GOVERNANCE

The individual case examined was analyzed solely to verify operationalization. Names, images, measurements, health conditions, and personal routines are not reproduced. Any external use must include consent, a defined purpose, and proportionate redaction.

The system must keep coaching, nutrition, and health decisions separate. Dietary prescription, interpretation of lab results, persistent symptoms, cardiovascular risk, eating

disorders, and psychological distress must be handled by appropriately licensed professionals in accordance with the applicable jurisdiction. Referral is a sign of sound governance and safety.

RESULTS

PROGRESSIVE DEVELOPMENT OF THE METHOD

The materials show increasing complexity over time. The three-pillar formulation defines the method's identity; the manual translates that identity into assessment, prescription, records, and tasks; the document on differentiators lays out the author's logic for the integration; and the periodization paper expands the framework to eight layers, two checkpoint levels, signal triangulation, and governance criteria. This sequence demonstrates sustained technical development, not mere repetition of the same content.

EVIDENCE OF REAL-WORLD APPLICATION

The one-on-one coaching material includes hands-on application instruments. The document contains an intake questionnaire, a body-composition assessment, a personalized meal plan, a training split, rest and rep guidelines, technique instructions, photos of body poses and exercises, and sections for the DO, CHECK, and ACT phases. Taken together, this indicates that the method was turned into a usable solution for individual coaching.

The questionnaire and assessment show structured intake and personalization, although the classification criteria could be formalized more precisely. The body assessment shows that data were used to establish the starting point, though no generalization can be drawn from a single case. The meal plan confirms practical integration of the nutrition component, subject to professional licensure and the applicable jurisdiction.

The A-E training split and instructions break planning down into detailed tasks; for a more robust longitudinal analysis, complete CHECK and ACT series and outcomes would still be desirable. Photos and videos demonstrate the visual and technical side of coaching,

whose comparability depends on documenting the standardization conditions.

The table below presents, for each in-depth checkpoint in the case analyzed (every four weeks), the preparation phase, dietary adherence, body weight, change in target-region measurements, photo submissions, and strength performance, without identifying the athlete. Checkpoints with a divergent signal are marked with an asterisk (*).

Time Point Phase Dietary Adherence 0 to 10 Weight kg Measurements % Photos Submitted Load % Week 0 Adaptive 5 86 Baseline Not submitted 50% Month 1 Adaptive 4 85 +1% Submitted 50% Month 2* Beginner 3 86 +3%

Partial 70% Month 3* Beginner 7 86 +10% Submitted 40% Month 4 Intermediate 8 83 Maintained 50% of month 80% Month 5 Advanced 8 83 Maintained 70% of month 90% Month 6 Advanced 9 82 +13% 50% of month 90% Month 7* Final Phase 8 81 +14% 80% of month 80% Competition Final Phase 10 80 +14% Daily 100%

DECISIONS RECORDED AT EACH CHECKPOINT (ACT)

Week 0: Baseline recorded; photos not submitted. Correct: reinforce the photo submission protocol.

Month 1: Low diet adherence and no load progression from baseline. Correct: adapt the meal plan to the athlete's routine and review load logging and progression.

Month 2*: Adherence dropped and weight went back to 86 kg, with reported increases in circumference (divergent signal). Investigate the root cause of low adherence and correct the nutrition strategy.

Month 3*: Adherence improved and circumferences showed reported increases, but load dropped (divergent signal). Keep the diet; investigate the drop in performance (sleep, recovery, technique).

Month 4: Weight dropped with measurements maintained, good adherence, and load recovered. Keep the strategy and confirm the trend at the next checkpoint; correct photo submissions.



Month 5: Weight and measurements stable with high load (possible plateau). Progress: adjust the calorie strategy.

Month 6: High adherence, weight dropping, and measurements improving. Maintain and prepare for the final phase; correct photo submissions.

Month 7*: Load dropped as weight decreased (divergent signal, expected in the final phase). Keep the strategy; monitor recovery and adjust volume.

Competition: Full adherence and target weight reached. Close out the cycle and schedule a post-competition review.

Note: dietary adherence = average of weekly scores (0 to 10); weight = weekly average; measurements = cumulative percent change from baseline in the target region defined during the assessment (e.g., back, hips, glutes, or legs), combining circumference and skinfold caliper measurements, with positive values indicating favorable change; strength = performance on benchmark exercises relative to the preparation goal; photos = proportion of scheduled submissions actually completed. During the cutting phase, an increase in measurements alongside a drop in weight is consistent with body recomposition: maintenance or gain of muscle mass in the target region, with a reduction in fat and water. In the two weeks leading up to the competition, submissions become daily (fasted photo and video, plus a photo before bed). ACT decisions were recorded at each checkpoint.

COMPETITIVE CASE USED FOR CALIBRATION

The periodization document reports an actual preparation of roughly 34 to 35 weeks, including a cutting phase of about twelve weeks, culminating in a championship title at a major competition. The account is relevant as evidence of feasibility and as the source for phase calibration. However, the document itself acknowledges a single subject, no comparison group, survivorship bias, and confounding factors. The appropriate reading is this: the case demonstrates applicability to a full preparation and an association with a favorable competitive outcome; it does not prove causality or superiority.

RESULTS BY FUNCTIONAL DOMAIN

In the governance domain, the main result is a single workflow for decisions that normally stay siloed. Training, nutrition, recovery, and mental rehearsal all go through objectives set in PLAN, evidence logged in DO, signal comparison in CHECK, and a justified decision in ACT. The plan stops being a static document and becomes a working version tied to the athlete's history.

In the operational domain, the method turns concepts into instruments. The questionnaire, assessment, training split, meal plan, technique protocol, video logs, photos, and status fields let both athlete and coach know what to do, what evidence to produce, and how to interpret the end of each cycle. This translation is central to applicability because it closes the gap between methodological design and day-to-day professional practice.

In the measurement domain, the moving average of body weight is combined with circumferences, standardized photos, performance, and adherence context. Divergence between signals is no longer treated as noise; instead, it becomes a trigger for investigation. This approach aims to reduce snap decisions and to steer corrections toward the probable cause, rather than making several changes at once without a diagnosis.

In the continuity domain, the two checkpoint levels link quick response with in-depth review. Weekly checkpoints make it possible to track deviations without dismantling the project, while the broader review repositions phase, priorities, and strategy when the cumulative trend warrants intervention. The architecture thus keeps the big-picture goal stable while allowing the path to be recalibrated based on real data.

In the transfer domain, versioned records, decision criteria, and standardized instruments make the method teachable and reproducible as a process. The technical documentation also describes a digital support system, currently under development, intended to help coaches and dietitians apply the method. This system does not constitute independent validation of the method, but it does indicate that the architecture has been specified in enough detail to guide a digital solution.

In summary, the materials document the method's architecture and application

instruments, and the case reported provides initial evidence of practical feasibility. The strength of the whole lies in the consistency among definition, operation, application, and theoretical development; its main limitation is the lack of data from additional athletes and of a comparison group.

ANALYSIS AND DISCUSSION

COMPARISON WITH THE FRAGMENTED PRACTICE DESCRIBED

In the fragmented practice described in the author's materials, planning tends to live in a static spreadsheet with occasional adjustments, while training and nutrition may follow parallel and conflicting decisions. The method evaluated replaces this setup with a hierarchical project, short cycles, versioned reprogramming, and a single CHECK that integrates both dimensions. Measuring progress also no longer depends on body weight or photos alone; it now relies on triangulation and divergent-signal events.

The shift also extends to adherence, recovery, mental rehearsal, and traceability. Instead of blaming failures on a lack of discipline, the system investigates causes; instead of treating recovery as an add-on recommendation, it builds it into planning; and instead of a generic visual goal, it sets an individual timeline with interim milestones. Scattered messages, photos, and spreadsheets are consolidated into a single history of plan, execution, signals, and decisions.

The comparison indicates that the method goes beyond an incremental tweak to training. It changes how information is organized, how hypotheses are tested, how failures are pinpointed, and how adjustments are justified throughout the competitive project.

WHAT SETS THE METHOD APART

The differentiator lies in the specific integration of known components. The claim is not that each technique is new; rather, it is that the architecture, cadence, hierarchy, and decision rules form an identifiable whole. This framing is more precise and more defensible

than claiming to have created PDCA, periodization, recovery, or imagery.

SCOPE

The method sits at the center of the professional process and covers assessment, the competitive project, phases, sessions, nutrition, training, recovery, mental rehearsal, measurement, and review. It produces concrete deliverables and changes how decisions are recorded, justified, and carried over from one cycle to the next.

FUNCTIONAL RELEVANCE AND TRANSFER POTENTIAL

Functional relevance lies in how the system restructures professional work. The review cadence was designed to shorten the time between deviation and correction; integration aims to avoid changing training when the probable cause lies in nutrition, recovery, or adherence; triangulation turns divergent signals into investigations; and the versioned history tends to reduce reliance on the coach's memory. The expected gain is in decision-making: every change comes with an objective, evidence, a rationale, and a consequence for the next cycle.

Transfer potential stems from standardized inputs, records, checkpoints, criteria, and outputs. The same logic can be taught, audited, and implemented digitally without relying on a literal copy of any particular training program. The specification of a digital support system strengthens this potential by translating the conceptual architecture into software modules, although the solution is still in development and not commercially available.

SYNTHESIS AND INTERNAL CONSISTENCY

Taken together, the evidence shows consistency across the conceptual, operational, and applied levels. The three pillars define the identity of the contribution; the PDCA engine establishes the control logic; the eight layers connect career, competitive project, phase, cycle,

and session; and the individualized instruments show that this structure can guide concrete decisions. Each document adds a specific function to the same system, which reinforces the internal consistency of its development.

The growth in complexity is also technically significant. The method evolves from improvement cycles and coaching protocols to a bidirectional checkpoint architecture, divergent-signal events, body triangulation, and joint governance of training and nutrition. This progression shows practical experience being turned into structured knowledge, with defined concepts, a decision workflow, and execution deliverables.

Applied innovation shows up less in the creation of individual techniques and more in how they are connected. Mental rehearsal and visual projection are tied to the assessment and to real milestones; recovery is built into the same control cycle; body measurements are interpreted through convergence; and root-cause analysis comes before reprogramming. The result is a system that determines when, why, and on the basis of which signals an intervention should take place.

LIMITATIONS

This report presents a single application, with no comparison group, based on information from materials produced by the author himself and with no independent evaluation presented. This design does not allow the results to be attributed to the method, nor does it support claims of superiority or generalizability. The analysis depends on the completeness and quality of the records; the operational definitions of the indicators and the ACT decisions are presented in Section 4.2 as provided in the author's revised materials, without independent review of the original records. AI-assisted visual projection was not documented in the case described, and the digital system is presented as under development. The literature cited supports individual components but does not validate the integrated architecture. Future studies should use predefined outcomes, standardized measurement protocols, and study designs suited to the research question.

CONCLUSIONS

TECHNICAL CONCLUSION

This report described a management method for bodybuilding athlete preparation that organizes training, nutrition, recovery, and mental rehearsal into review cycles. The method has its own identity, a coherent architecture, and operational materials. It is more than a training routine: it works as a control system that links assessment, periodization, execution, measurement, and recalibration throughout the competitive project.

Its differentiator lies in the integration and governance of known elements. Linked cycles, two checkpoint levels, signal triangulation, joint interpretation of training and nutrition, a visual timeline, root-cause analysis, and structured recovery form a specific configuration. The method changes the decision-making process by having the outcome of each cycle generate the rationale and priorities for the next.

The method sits at the center of the preparation process. It governs the handoffbetween goal, phase, session, log, measurement, and adjustment; it spans the physical, nutritional, recovery, and mental components; and it produces deliverables that make it possible to reconstruct the professional path. The individualized material demonstrates operationalization, while the competitive case reported shows initial feasibility across a full preparation.

The materials show the progression from a methodological formulation to an executable, traceable system, ready to be transferred through protocols and eventually digitized. The case reported indicates practical applicability, but studies with more athletes and a comparison group are needed to confirm the results.

CONFLICT OF INTEREST

The author discloses that he is developing the Unlock MP Coaching software, which is based on the method described; this represents a potential commercial interest related to the subject of this report. At the time of writing, the software is still under development, is not

commercially available, and was not used as evidence to validate the method.

Marcos Paulo Nonato de Almeida Strength and Conditioning Coach and independent researcher — preparation of bodybuilding athletes and athletes in other high-performance sports (Dallas, Texas, USA)

This technical report was prepared based on document analysis of the method's development materials and peer-reviewed scientific literature (Section 3).

REFERÊNCIAS

DEMING, W. E. Out of the Crisis. Cambridge, MA: MIT Press, 1986.

BOMPA, T. O.; BUZZICHELLI, C. Periodization: Theory and Methodology of Training. 6th ed. Champaign, IL: Human Kinetics, 2019.

ISSURIN, V. B. New horizons for the methodology and physiology of training periodization. Sports Medicine, vol. 40, no. 3, pp. 189-206, 2010. DOI: 10.2165/11319770-000000000-00000.

SCHOENFELD, B. J.; OGBORN, D.; KRIEGER, J. W. Dose-response relationship between weekly resistance training volume and increases in muscle mass. Journal of Sports Sciences, vol. 35, no. 11, pp. 1073-1082, 2017. DOI: 10.1080/02640414.2016.1210197.

HELMS, E. R.; ARAGON, A. A.; FITSCHEN, P. J. Evidence-based recommendations for natural bodybuilding contest preparation. Journal of the International Society of Sports Nutrition, vol. 11, art. 20, 2014. DOI: 10.1186/1550-2783-11-20.

IRAKI, J. et al. Nutrition recommendations for bodybuilders in the off-season: a narrative review. Sports, vol. 7, no. 7, art. 154, 2019. DOI: 10.3390/sports7070154.

MORTON, R. W. et al. A systematic review, meta-analysis and meta-regression of protein supplementation and resistance training. British Journal of Sports Medicine, vol. 52, no. 6, pp. 376-384, 2018. DOI: 10.1136/bjsports-2017-097608.

OHNO, T. Toyota Production System: Beyond Large-Scale Production. Portland, OR: Productivity Press, 1988.

HELMS, E. R. et al. Application of the repetitions in reserve-based rating of perceived exertion scale for resistance training. Strength and Conditioning Journal, vol. 38, no. 4, pp. 42-49, 2016.

WEAKLEY, J. et al. Velocity-based training: from theory to application. Strength and Conditioning Journal, vol. 43, no. 2, pp. 31-49, 2021.

GREIG, L. et al. Autoregulation in resistance training: addressing the inconsistencies. Sports Medicine, vol. 50, no. 11, pp. 1873-1887, 2020. DOI: 10.1007/s40279-020-01330-8.

ACKLAND, T. R. et al. Current status of body composition assessment in sport. Sports Medicine, vol. 42, no. 3, pp. 227-249, 2012.

WALSH, N. P. et al. Sleep and the athlete: narrative review and 2021 expert consensus recommendations. British Journal of Sports Medicine, vol. 55, no. 7, pp. 356-368, 2021. PMID: 33144349.

ROBERTS, L. A. et al. Post-exercise cold water immersion attenuates acute anabolic signalling and long-term adaptations. The Journal of Physiology, vol. 593, no. 18, pp. 4285-4301, 2015. DOI: 10.1113/JP270570.

MALTA, E. S. et al. The effects of regular cold-water immersion use on training-induced changes in strength and endurance performance. Sports Medicine, vol. 51, no. 1, pp. 161-174, 2021.

CHEATHAM, S. W. et al. The effects of self-myofascial release using a foam roll or roller massager. International Journal of Sports Physical Therapy, vol. 10, no. 6, pp. 827-838, 2015. PMID: 26618062.

GRGIC, J. et al. Effects of post-exercise cold-water immersion on resistance training-induced gains in muscular strength. European Journal of Sport Science, 2023. PMID: 35068365.

SLIMANI, M. et al. Effects of mental imagery on muscular strength. Journal of Sports Science & Medicine, vol. 15, no. 3, pp. 434-450, 2016. PMID: 27803622.

DEVRIM, A.; BILGIC, P.; HONGU, N. Body image perception, eating disorders, and muscle dysmorphic disorders in male bodybuilders. American Journal of Men's Health, vol. 12, no. 5, pp. 1746-1758, 2018.