East African Scholars Journal of Education, Humanities and Literature

OPEN ACCESS

Abbreviated Key Title: East African Scholars J Edu Humanit Lit
ISSN: 2617-443X (Print) & ISSN: 2617-7250 (Online)
Published By East African Scholars Publisher, Kenya
Volume-9 | Issue-11 | Nov- 2026 | DOI: https://doi.org/10.36349/easjehl.2026.v09i11.002

Review Article

Differentiated Instruction in University Physical Education: A Constraint-Calibration Protocol Linking Representative Practice to Transfer-Sensitive Assessment

Ai Jingming[1]*

[1]School of Liberal Education, Liaoning University of International Business and Economics, China

Article History
Received: 09.09.2026
Accepted: 03.11.2026
Published: 05.11.2026

Journal homepage:
https://www.easpublisher.com

Quick Response Code

Abstract: University physical education classes routinely place students with no racket experience alongside students with years of club play, on the same court, under the same coach, in the same hour. Most lesson plans offer no explicit guidance on when a drill should be made easier or harder, so teachers improvise. This paper converts that improvisation into a repeatable instructional routine. Ideas from representative learning design, functional task difficulty and research on practice variability are combined into four teacher decisions: identifying the constraint that is actually limiting performance, adjusting the smallest constraint that helps, probing whether the improvement survives variation, and re-testing it once support is withdrawn. The paper offers a decision tool—observations, adjustments, stop-and-revise rules and outcome measures—designed for a mixed-ability class. It reports a worked forehand-depth example, a twelve-week progression, a ninety-minute lesson plan and a one-page recording sheet, and it distinguishes winning a rally in practice from genuine learning, stating explicitly when direct technical instruction is the better option. No participants were recruited and no effectiveness data are reported. The paper closes with falsifiable predictions and an evaluation design that accounts for crowded courts and fairness across ability levels.

Keywords: Higher Education Physical Education, Differentiated Instruction, Curriculum Differentiation, Constraints-Led Teaching, Functional Task Difficulty, Transfer Assessment.

Copyright © 2026 The Author(s): This is an open-access article distributed under the terms of the Creative Commons Attribution **4.0 International License (CC BY-NC 4.0)** which permits unrestricted use, distribution, and reproduction in any medium for non-commercial use provided the original author and source are credited.

1. INTRODUCTION

For many students, an elective tennis course is the first time they have ever held a racket. Others show up with years of club play behind them. The coach has to teach striking, movement, rally management, and scoring—all at once, on limited court space, without losing anyone. The easy fix is to standardize everything. Same technique. Same number of reps. Same target. It keeps the class tidy. But it quietly unplugs the drills from the perceptual and decision-making demands of real tennis.

A forehand never happens in a vacuum. It is organized around a moving ball, the time left to recover, where the opponent is standing, the intended target, and what the player can physically do. Reid *et al*., (2007) pushed back on practices that pile up repetitive hitting without the context the skill has to work in. They also warned against the opposite mistake—loose, unstructured play with no real constraints and no learning goals. University teachers need the middle ground, where technique and meaningful play are tied together on purpose.

This paper builds an evidence-informed framework for mixed-ability university tennis. It draws on representative learning design (Pinder *et al*., 2011), constraints-led pedagogy (Renshaw *et al.,* 2010), the challenge-point perspective (Guadagnoli & Lee, 2004), and work on attention and motivation (Wulf, 2013; Wulf & Lewthwaite, 2016). None of these sources is tennis-specific. Moving their insights into a collegiate course is a reasoned application, not direct experimental proof. The paper first explains the theory, then shows how a teacher can put it to work and judge whether it is working. The Game Sense examples in Pill and Hewitt (2017) offer a complementary look at modified-rule teaching.

***Corresponding Author:** Ai Jingming
School of Liberal Education, Liaoning University of International Business and Economics, China

This is a conceptual analysis with worked teaching examples. Not a systematic review. Not a Delphi consensus. Not a classroom intervention. The core sources came from targeted searches of PubMed, publisher records, and reference lists up to October 2026, with an emphasis on tennis-specific studies and foundational motor-learning papers. Because there was no prospective search string, no exhaustive database coverage, and no formal quality-scoring, the absence of a study here should not be read as proof that it does not exist. The tables and procedures below are proposed tools that still need field validation.

Existing constraints-led and representative-design accounts already explain, in principle, how practice environments relate to skilled action (Renshaw *et al.,* 2010; Pinder *et al*., 2011). The unresolved problem in a mixed-ability class is smaller and more concrete. After watching a rally, which variable should the teacher change? By how much? And what observation would justify keeping or undoing that change? This paper tackles that decision gap with a transparent calibration sequence. It is not trying to reinvent the constraints-led approach. The unit of analysis is the fit between a learner and a task during a specific motor-learning problem. Tactical choice in competitive points, feedback literacy, and course-level inclusion are adjacent concerns, not the same outcome.

2. Conceptual Foundations

2.1. Skill as an Adaptable Relationship, Not Merely a Fixed Movement Pattern

The constraints-led view treats skilled coordination as something that emerges as individual, task, and environmental conditions interact (Renshaw *et al*., 2010). Height, mobility, experience, fatigue—those are individual constraints. Court size, scoring, racket, bounce rules—task constraints. Light, surface, wind, space, the other players on court—environment. None of this means mechanics are unimportant. It just changes the question. Instead of "can the student copy one model stroke?", we ask "can the student organize an effective stroke under changing, tennis-relevant conditions?"

A practical consequence follows. Several technically different movement solutions can serve the same tactical purpose. A beginner hitting a compact forehand off a slow ball and an advanced player driving a topspin forehand can both satisfy a lesson goal of sending the ball deep and recovering to a useful spot. Instructors should hold onto non-negotiable points of safety and basic contact quality while allowing functional movement differences. A technical correction earns its place when it improves the result and the adaptability of the action—not when it merely makes the stroke look more like an expert demonstration.

2.2. Representative Information and the Problem of Isolated Drills

Representative learning design asks whether practice keeps the same information-action relationships that exist in real play (Pinder *et al*., 2011). In tennis, the information that matters includes reading an opponent's preparation, judging bounce and speed, moving toward the incoming ball, picking a target, and adjusting after the shot. A basket-fed drill can be fine for an initial contact problem. But a complete program has to gradually reconnect ball contact to those other features.

Representativeness is not the same as full regulation match play. A short court, a slower ball, a cooperative opponent, a simplified scoring rule—any of these can keep the essential sequence of perceive-decide-hit-recover while lowering the demands on a novice. A return-of-serve drill can keep the server's preparatory motion even when the delivery speed is reduced. The question that matters is whether the learner still has to use information that will matter later, in a less constrained match.

2.3. Functional Difficulty and the Challenge Point

Guadagnoli and Lee (2004) argued that the informational value of practice depends on how skill level and task difficulty interact. So making every activity harder at the same rate for the whole class is not a real differentiation strategy. A beginner may need a slower ball, a bigger target, and more recovery time. An experienced learner may benefit from unpredictable directions, narrower targets, and tactical consequences for poor positioning. The goal is a demanding but readable task. Not failure for its own sake.

This framework leans on observable performance to guide adjustments. If a pair can barely keep a rally going, the teacher first lowers task difficulty while protecting the core tactical problem. If a pair succeeds routinely without attending to placement or the opponent's movement, the teacher adds a choice, a narrower target, or a variable feed. The exact success threshold should be set locally, not treated as a universal number. Difficulty is adjusted to keep students solving problems—not to enforce some predetermined success percentage.

2.4. Attention, Autonomy, and Teaching Language

Research reviewed by Wulf (2013) generally supports an external focus of attention in motor learning, though the application depends on the task and the learner. For a forehand, a cue like "send the ball high over the net toward the deep target" ties attention to an intended effect. A cue about elbow angle can still be right when a specific fault has to be fixed. But constant internal monitoring tends to overwhelm novices. The rule of thumb is simple: one primary cue at a time, invite the learner to test alternatives, and check whether the change actually improves performance.

OPTIMAL theory emphasizes expectancies, autonomy support, and attentional focus (Wulf & Lewthwaite, 2016). A university instructor can offer bounded choices. The learner picks a target lane, chooses between two functionally equivalent drills, or decides when to ask for feedback. Choice here is not the absence of guidance. The teacher sets the problem, the equipment, the safety boundaries, and the criteria for useful evidence. The learner exercises agency inside those boundaries.

3. A Constraint-Calibration Design System

The framework rests on four commitments. First, keep a visible tennis problem in every task, even a simplified one. Second, regulate difficulty through modifiable constraints, not permanent ability labels. Third, encourage adaptive variation while giving concise feedback tied to a clear outcome. Fourth, separate immediate practice performance from evidence of retention and transfer. These commitments respond to the tensions raised in tennis skill-acquisition work (Reid *et al*., 2007) and nonlinear pedagogy (Renshaw *et al*., 2010; Tan *et al*., 2012).

Table 1: A constraint-mapping guide for mixed-ability university tennis

Design variable	Novice-access option	Higher-challenge option	Tennis information to preserve
Ball and time	Lower-compression ball; predictable pace	Variable pace, spin, and depth	Read flight and bounce, then time contact
Court and target	Reduced court; wide zones	Full court; changing target lanes	Link placement to available space
Opponent behavior	Cooperative feeder who changes direction by cue	Live opponent with choice and deception	Perceive opponent action and adjust response
Rules and scoring	Two-bounce allowance; rally-count objective	Conditional points rewarding tactical intent	Experience decisions and consequences
Feedback	One outcome cue plus learner reflection	Selective video review and self-diagnosis	Compare intention, action, and ball outcome

3.1. A diagnostic Entry Task

The first lesson opens with a short, low-pressure rally task, not an isolated stroke test. Students try a cooperative exchange on a suitably sized court, then a simple target task, then a quick self-report of playing history, confidence, and access needs. The teacher notes whether students can track the bounce, make a usable contact, recover for a second shot, and keep an exchange going. The diagnostic picks an initial task level. It does not assign a fixed ability category or predict academic worth.

Students should be able to move between challenge versions within the same lesson. A learner who cannot meet the ball with the racket can work from a drop-feed or close-range partner exchange, then step back into a moving-opponent condition once that works. Stronger students can work on directional changes, depth, or recovering after a wide ball. Mixed groups become manageable by organizing stations around a shared tactical question—not a single compulsory drill.

3.2. Progression across a Twelve-Week Course

A twelve-week course is used here as an illustrative timetable, not a validated optimum. The phases overlap. They are not rigid developmental stages. Teachers should advance and revisit tasks according to local evidence of function and safety. The plan assumes one or two regular practical meetings a week and should be scaled to actual contact hours.

Table 2: Illustrative twelve-week progression

Weeks	Central question	Representative task	Formative evidence
1–3	How can I sustain a playable exchange?	Short-court cooperative rallies with ball and court scaling	Bounce judgment, controllable contact, rally continuity
4–6	How can I create time and space?	Crosscourt exchanges, recovery zones, and two-target choice	Court recovery and placement choices
7–9	How do I respond under uncertainty?	Variable-direction feeding, serve-return decisions, conditioned points	Adaptation after unpredictable inputs
10–12	Can I carry learning into authentic play?	Modified singles/doubles, then match conditions appropriate to students	Delayed tasks, tactical quality, independent decisions

In the first phase, activity should prioritize repeated ball contacts and quick restarts. Students rally on small courts with a slower ball, alternate cooperative service starts, and count playable exchanges. When exchanges stabilize, teachers add height and depth targets without piling on simultaneous corrections. A visible court diagram and a demonstration help multilingual or inexperienced learners follow the task.

The middle phase ties stroke direction to opponent location. A player can earn a practice point for sending the ball to open space and then moving toward a

useful recovery spot, whether or not the rally is won. That keeps the outcome score from hiding the behavior being taught. In the final phase, the same criteria are observed during less predictable points. For a learner who cannot move safely at full pace, representative decisions can be assessed on an adapted court or at an adapted pace. Game understanding should not be equated with unrestricted speed.

3.3. The Diagnose–Adjust–Probe–Transfer Calibration Protocol

Step 1: Diagnose the Bottleneck

Watch a short, safe sample of attempts inside a recognizable exchange. Record the incoming ball, available time, first contact quality, resulting trajectory, and readiness for the next ball. Do not try to code every technical feature. The teacher names the dominant constraint-related problem—say, contact happening too late under the current ball speed—not a vague "bad technique." When the evidence is unclear, the next trial is diagnostic rather than corrective: keep conditions constant and watch whether the problem recurs. Students can be asked which ball features made the task hard. Their explanations do not replace observation.

Step 2: Adjust the Smallest Plausible Constraint

Keep the educational aim while changing one manipulable variable: ball compression, feed variability, target width, service start, recovery demand. Document the change and the reason. If a learner cannot coordinate a playable contact under current time pressure, lowering ball speed is defensible. Jumping straight to a stationary, no-opponent drill is a bigger change that may throw away useful information. A short isolated rehearsal is still appropriate when the basic contact solution is absent or the current task creates avoidable risk.

Step 3: Probe Adaptation

Once purposeful attempts appear, vary one element that will matter later—bounce depth, or the partner's starting position. Ask whether the learner keeps the intended function, not one exact racket path. Ranganathan and Newell (2013) note that imposed variability can have different effects depending on the level at which it is introduced. So "more variation" is never an unconditional rule. If variation makes errors impossible to interpret, narrow it while keeping some perception-action connection.

Step 4: Check Transfer without the Original Support

Reassess the same instructional function later, ideally with a new feeder, a slightly changed target, or an altered starting position. A learner who hits a target only under the original teacher feed may have performed well without showing robust adaptation. Soderstrom and Bjork (2015) explain why temporary practice success is an imperfect proxy for learning. The loop closes only when there is both an explicit account of what changed and a test that does not simply reproduce the practice setting.

Table 3: Proposed calibration decisions; triggers are qualitative design rules, not validated cut-off scores.

Observation during brief sample	First teaching response	Probe that would support continuation	Signal to reverse or reconsider
Little contact under current speed	Lower compression or reduce time pressure	Student tracks varied bounces and controls a playable ball	No improvement after targeted simplification
Contact stable but depth erratic	Increase target area; use outcome-focused cue	Depth maintained under small feed variation	Student succeeds only with one memorized feed
Accuracy high, choices passive	Add two feasible depth or direction targets	Target use follows incoming ball characteristics	Decision demand overwhelms basic contact
Rally stable only with instructor	Change partner or initiate from opponent action	Equivalent function with less teacher prompting	New context produces repeated noninterpretable failures

3.4. Worked Example: Diagnosing the Deep-Forehand Problem

Take a hypothetical pair whose common goal is to send a forehand beyond the service line and recover for the next ball. In the first scenario, the learner misses because the incoming ball is too fast to organize contact. The teacher supplies a slower ball but keeps partner initiation and a visible deep target. In the second, contact is stable but balls keep landing short. An external target cue and more net clearance may matter more than further slowing. In the third, depth is reliable only on predictable feeds. The teacher introduces a two-depth sequence and a changed partner before a delayed replay. These are decision examples, not observations from an actual cohort.

Two students can therefore follow different paths toward the same outcome. The teacher records the initial task, the dominant bottleneck, the single modified constraint, the immediate functional response, the variability probe, and the delayed check. That short record blocks post hoc claims that any visible improvement was caused by the theoretically preferred strategy. It also makes the lesson reproducible enough for another teacher to audit.

4. Example of a Ninety-Minute Lesson: Deep Rallying and Recovery

A model session shows how teaching, practice variability, and assessment can coexist. In the first ten minutes, students do an appropriate movement preparation and a short cooperative rally. The teacher introduces the problem: "How can a deep reply provide

more recovery time?" The prompt links a ball outcome to a positional consequence and gives every station a common purpose.

For the next fifteen minutes, pairs compare two conditions on a shortened court: a moderate-height ball aimed at a deep zone, and a flatter reply aimed at a similar zone. They watch how bounce location and flight shape change the time available to recover. The teacher does not prescribe one universal swing. Students experiment within safe movement boundaries, then briefly explain which solution bought them more time.

In the following twenty minutes, the ball is initiated by a partner, not a static drop feed. Novices use a slower ball and a large deep target. Advanced learners get variable lengths or must choose between a crosscourt and a down-the-line reply. During a short interruption, the teacher asks each student to name one informational cue—an opponent's court position, or the ball's early trajectory—and that cue is then tested in the next sequence.

A twenty-minute conditioned game follows. Each rally begins cooperatively but turns competitive after a set number of exchanges. Students earn an optional process point for a deep reply followed by purposeful recovery. The teacher alternates observation between pairs and records two behaviors, not every visible error. That deliberate narrowing of attention is essential when one instructor manages a large class.

The final fifteen minutes are replay and reflection. Students play a brief game without the process-point incentive—an early check on whether the behavior survives a changed scoring context. Each writes one evidence-based statement about a successful response and one decision to test next lesson. Remaining time goes to equipment return, effort and discomfort checks, and transition. The sequence is illustrative. It does not claim that ninety minutes, or this exact partition, maximizes learning.

5. Assessment: Separating Learning from Compliance

Assessment should line up with what the course actually claims to teach. A basket drill can measure contact consistency under standardized conditions. But it cannot by itself establish tactical competence or transfer. A match score is strongly shaped by the opponent's ability and can hide a beginner's improvement. A defensible plan combines controlled skill tasks, representative game observations, and reflective explanation, with pre-specified criteria shared with students.

The proposed rubric has four domains: (a) playable contact and directional control; (b) appropriate decision-making based on available space and time; (c) recovery and readiness for the next shot; and (d) self-regulation, including goal-setting and appropriate use of feedback. Each domain can be scored with anchored descriptors such as "rarely demonstrated," "demonstrated with support," "usually demonstrated," and "adaptively demonstrated." For grade fairness, teachers should give comparable chances to demonstrate the construct through suitably modified tasks.

Table 4: Example evidence map for course assessment

Learning construct	Evidence source	Potential distortion	Suggested safeguard
Stroke control	Standardized feed and target task	Memorized feed pattern	Add varied feed and delayed re-test
Tactical adaptation	Observed conditioned points	Opponent skill differences	Rotate partners and code the decision process
Recovery behavior	Video or live event sampling	Observer inconsistency	Train raters on explicit descriptors
Self-regulation	Short goal-and-evidence log	Reflective writing proficiency	Permit brief oral or recorded response
Transfer	New opponent, target, or scoring rule	Anxiety in novel evaluation	Use low-stakes familiarization before assessment

A delayed test—run after ordinary teaching, or under a new opponent—is conceptually better than treating end-of-drill accuracy as learning. Transfer tasks should change one or two meaningful constraints while keeping the assessed goal recognizable. For research use, independent raters, clear coding rules, pilot testing, and interrater agreement are necessary. The rubric here has not been psychometrically validated.

5.1. A Minimum Evidence Set for Valid Learning Claims

A university assessment should separately report (i) an immediate standardized task, (ii) a representative rally probe, and (iii) a later task under one altered constraint. The point is not to create three interchangeable percentages. It is to see whether the student's action stays functional as informational demands change. Records should include the number of eligible attempts, the task modification, partner characteristics, and occasions when the intended event

could not be observed. Without those descriptors, two students' scores can differ simply because one faced much harder conditions.

For formal research, establish scoring examples and train two observers on practice footage before collecting main-study outcomes. Agreement should be checked on an independently coded subset, with discrepancies used to revise definitions, not quietly averaged away. A performance domain that cannot be coded reliably should stay provisional. The categories and thresholds in this article have not been validated. Reporting interrater agreement, delayed tests, and unexpected adverse effects is essential before the protocol is treated as an evidence-based intervention.

6. Implementation Trade-Offs and Equity Considerations

A constraints-led lesson can look messier than synchronized line drills. Instructors may worry that many simultaneous task variations will cost them control. A workable compromise is to limit each lesson to two or three stations sharing one pedagogical question. Station cards should list the task goal, progression and regression options, safety rules, and the evidence students are expected to notice. Partner roles rotate so that less-experienced students are not permanently stuck collecting balls or feeding passively.

Lower-compression balls, adaptable targets, and enough court space all matter. When equipment is scarce, shorter courts can be marked with cones or temporary lines. Cooperative scoring can cut ball retrieval. Peer observation can run in brief rotating windows. These substitutions should still be checked against the representativeness principle. A drill is not automatically better just because it is more complex or more entertaining.

Teachers also need to resist overinterpretation. The underlying theories supply design rationales, not evidence that a specific twelve-week program will beat every alternative. Variation can confuse students who lack a basic reference for contact. A targeted demonstration or short blocked practice can supply that reference before decision demands return. Pedagogical decisions should track the observed learner-task interaction—not one theoretical school treated as a universal prescription.

6.1. Failure Conditions and Instructional Decision Safeguards

The protocol can fail when time is so short that the teacher sees too few attempts to locate a dominant bottleneck. It can also fail when changing one constraint quietly changes several interacting sources of difficulty. A shortened court, for example, can alter bounce judgment, ball flight, movement demand, and tactical target value all at once. The teacher should record the adaptation as a package when the variables cannot realistically be separated. Likewise, when a student reports discomfort, safety and an appropriate referral or accommodation take priority over maintaining experimental fidelity.

Teachers should predefine at least one disconfirming observation for every planned adaptation. If a slower ball improves contact but markedly worsens bounce reading once normal balls return, the adaptation is not yet a success. If a learner performs accurately in practice but not after a short interval, label it an immediate gain, not durable learning. These safeguards are what separate a decision protocol from a set of attractive activities.

7. Testable Propositions, Research Agenda, and Conclusion

Three propositions make the model contestable. P1: with instruction time and entry-level ability accounted for, context-specific constraint calibration will yield better transfer to varied feeds than a uniformly imposed drill progression. P2: immediate gains on predictable tasks without preserved perception-action information will be weaker predictors of delayed game-function learning than gains in representative probes. P3: calibration may impose higher planning and observation costs on teachers, potentially offsetting any learning advantage in crowded settings. The direction, magnitude, and even existence of these effects are unknown. These are hypotheses, not results.

A feasible evaluation would compare matched course sections taught with the proposed framework and a clearly described conventional approach. Before implementation, investigators should specify primary outcomes, register hypotheses when practical, and record fidelity to both conditions. Baseline experience, attendance, outside practice, and the teacher effect all need attention. The strongest assessment would include delayed retention and transfer to an unfamiliar opponent or scoring condition, alongside participation and perceived competence. Where random allocation of students is not possible, the limits of class-level assignment should be stated plainly.

Qualitative interviews and session observations could clarify mechanisms rather than just declaring one method effective. Useful questions include whether students can explain the information guiding shot choice, whether lower-skill learners experience legitimate challenge rather than marginalization, and which forms of instructor feedback encourage useful exploration. Researchers should also test feasibility for institutions with large classes, limited courts, and short semesters.

In short, effective university tennis teaching needs more than frequent strokes and more than unstructured match play. The framework links representative tennis problems, differentiated constraints, focused feedback, and transfer-sensitive

assessment. Its value is in making motor-learning concepts operational and testable inside ordinary higher-education lessons. Empirical work is now needed to determine when, for whom, and under which institutional conditions these design choices improve durable tennis competence.

REFERENCES

- Guadagnoli, M. A., & Lee, T. D. (2004). Challenge point: A framework for conceptualizing the effects of various practice conditions in motor learning. Journal of Motor Behavior, 36(2), 212–224. https://doi.org/10.3200/JMBR.36.2.212-224
- Pill, S., & Hewitt, M. (2017). Tennis coaching: Applying the Game Sense approach. Strategies, 30(2), 10–16. https://doi.org/10.1080/08924562.2016.1273807
- Pinder, R. A., Davids, K., Renshaw, I., & Araújo, D. (2011). Representative learning design and functionality of research and practice in sport. Journal of Sport and Exercise Psychology, 33(1), 146–155. https://doi.org/10.1123/jsep.33.1.146
- Ranganathan, R., & Newell, K. M. (2013). Changing up the routine: Intervention-induced variability in motor learning. Exercise and Sport Sciences Reviews, 41(1), 64–70. https://doi.org/10.1097/JES.0b013e318259beb5
- Reid, M., Crespo, M., Lay, B., & Berry, J. (2007). Skill acquisition in tennis: Research and current practice. Journal of Science and Medicine in Sport, 10(1), 1–10. https://doi.org/10.1016/j.jsams.2006.05.011
- Renshaw, I., Chow, J. Y., Davids, K., & Hammond, J. (2010). A constraints-led perspective to understanding skill acquisition and game play: A basis for integration of motor learning theory and physical education praxis? Physical Education and Sport Pedagogy, 15(2), 117–137. https://doi.org/10.1080/17408980902791586
- Soderstrom, N. C., & Bjork, R. A. (2015). Learning versus performance: An integrative review. Perspectives on Psychological Science, 10(2), 176–199. https://doi.org/10.1177/1745691615569000
- Tan, C. W. K., Chow, J. Y., & Davids, K. (2012). 'How does TGfU work?': Examining the relationship between learning design in TGfU and a nonlinear pedagogy. Physical Education and Sport Pedagogy, 17(4), 331–348. https://doi.org/10.1080/17408989.2011.582486
- Wulf, G. (2013). Attentional focus and motor learning: A review of 15 years. International Review of Sport and Exercise Psychology, 6(1), 77–104. https://doi.org/10.1080/1750984X.2012.723728
- Wulf, G., & Lewthwaite, R. (2016). Optimizing performance through intrinsic motivation and attention for learning: The OPTIMAL theory of motor learning. Psychonomic Bulletin & Review, 23(5), 1382–1414. https://doi.org/10.3758/s13423-015-0999-9.

Cite This Article: Ai, J., (2026). Differentiated Instruction in University Physical Education: A Constraint-Calibration Protocol Linking Representative Practice to Transfer-Sensitive Assessment. *East African Scholars J Edu Humanit Lit, 9*(11), 644-650. https://doi.org/10.36349/easjehl.2026.v09i11.002