

ANTHONY SMITH, PHD, CSCS,*D, NSCA-CPT,*D

Personal trainers and strength and conditioning coaches hold an important role in helping clients and athletes achieve their fitness goals. They provide inspiration and motivation, create routines and fitness programs, and educate clients on best practices associated with fitness and living a healthy lifestyle.

The educational mechanisms for becoming a personal trainer include attending classes and workshops, home study programs, and online testing (2,5). The content knowledge for personal training includes basic anatomy and physiology, the energy systems of the human body, training phases, aerobic and anaerobic program planning, nutrition, business marketing and management, and many other topics. One glaring omission not found in many personal training manuals is fitness pedagogy. The term pedagogy means the methods and practice of teaching (6). Fitness pedagogy is the technique of teaching others fitness concepts, and in the case of personal trainers and strength coaches, this is done not in a classroom, but on the gym floor.

Teaching fitness skills to clients on the gym floor is remarkably like teaching skill acquisition in a physical education setting. Personal trainers, like teachers, are encouraged to teach their clients fitness concepts while on the move, not during a lecture while at the front of the room. Fitness pedagogy involves developing skill acquisition plans for fitness that includes a task presentation, content analysis, selected teaching strategies, and skill assessment (3,6,10). In this article, personal trainers and strength coaches are provided a model that can be used to teach clients in four simple steps: “Say it, Show it, Supervise it, and Share it.” Clients should be able to

trust their personal trainers to help them meet personal goals and educate them about a healthy and fit lifestyle. The purpose of this article is to present pedagogical content knowledge to personal trainers aimed to enhance client performance and satisfaction.

SAY IT – MOVEMENT DESCRIPTIONS AND THE TASK PRESENTATION

Movement descriptions and the task presentation include the verbal communication that the personal trainer gives to the client. Some examples are shown in Table 1. At the beginning of the session, personal trainers conduct a set induction. A set induction is a two-minute section of the training session, and is important to both the personal trainer and the client, and explains what is going on for the day while providing a brief schedule of events. When the client has a better idea of what the purpose of the session is and knows what is to be involved, they become more invested in the training session (3,6). This is a good time for clients to provide some input to the personal trainer about issues of the day that may impact the training goals.

Once the set induction is concluded, the workout session can proceed. When a new skill is to be introduced, the personal trainer includes a full, rich description of the movement (6). The personal trainer details the new movement, including major body parts, safety, the purpose of the activity, and critical features. Learning occurs more often when the client has a better understanding of not only what the activity is, but how it is performed and why it is necessary (3,6). Critical features are aspects of the movement or exercise that are necessary for successful completion of the

TABLE 1. SAY IT – CHARACTERISTICS AND EXAMPLES

CHARACTERISTIC	DESCRIPTION	EXAMPLE
Set Induction	Said at the beginning of the session to introduce the new material, review previous material, and provide a schedule for the session events.	“Today we are going to do some more options to the front lunges that we started doing last week. After we perform a few sets of front lunges, I will show you how to do a lateral lunge and the reverse lunge. After lunges, we are going to move into other hip- and knee-dominant exercises for the rest of the day.”
Rich, Full Description	Explanation of the skill being learned or developed; include the role of all major body parts and movements and can include “color” commentary.	“The squat is a basic, functional movement that involves the knee and hip joints moving in unison to raise you out of a chair. The thigh muscles are the primary ones used; however, hamstrings, glutes, and the lower back all play an important role too.”
Purpose	Includes why this movement or program is included in the overall fitness plan.	“As we age, our balance becomes more difficult to sustain due to atrophy in the muscles from underuse. Since the squat uses so many muscle groups in the lower body, having strong muscles in these areas will help you get up and down from the seated position and will also help with balance.”
Critical Features	Identify the portion(s) of the movement that must be performed exactly as described.	“The squat movement begins with the knees first.” “Having the knees go out slightly when raising up takes some pressure off the front of the knee.”

task. Every movement in fitness contains multiple critical features that help determine the technique and a successful repetition. In a bench press, the forearms can provide better leverage against the barbell if they are directly under and perpendicular to it during the entire range of motion. A critical feature of the squat is to avoid looking down at the ground during the movement because looking down could cause the lifter to lean forward too much. The elbows do not move during the bar squat, but the placement of the elbows may impact the safety of the squat lift (1). Placement of the elbow, forearm, and upper arm is considered a critical feature for the squat, in order to prevent the bar from moving during the lift. To aid in the verbal description of the movement, the second part of the task presentation, the demonstration, is added.

SHOW IT – DEMONSTRATIONS AS A TASK PRESENTATION

Demonstrations of the task or exercise are an effective way to present new material to the client. A full demonstration contains several parts and should always be done at full speed, performed several times, and at different angles for the client to view (3,6). This includes any management concepts leading into the exercise. Management concepts include demonstrating how to set the equipment up or adjust the seat and back settings. For example, a beginning lifter may not know how to efficiently move a portable bench into the Smith squat rack and locate it at the appropriate place. Part of the demonstration of the exercise is to show the client how to perform this management task. After the full demonstration is performed, a partial demonstration is next. In a partial demonstration, the client performs the movement in phases using slow motion (7). The movement phases could be the concentric contraction, the static or isometric contraction, and the eccentric contraction used during a biceps curl. When performing a concentration curl with a dumbbell, if you want the client to supinate the wrist during the second phase of the movement, you can slow down the demonstration, review the description, and highlight the critical feature of twisting the wrist when and where you want them to do it.

A more complex exercise, such as a burpee, may require more phases. Each phase of the movement can be paused, and the critical features of that phase can be explained, demonstrated, and then connected. During the burpee, the client squats down in one phase, shifts their weight and kicks back in a second phase, returns to the squat position in the next phase, and explodes up in the final phase. Since there are other options for this movement, including adding a push-up or just standing up instead of exploding, the personal trainer needs to make sure the client knows what is expected of them for the exercise through each phase. Demonstrations have been shown to enhance learning, especially with psychomotor skills like fitness exercises (3,6). Performing various forms of the exercise, including what not to do, is another pedagogical tool to aid personal trainers in helping clients achieve their personal goals.

Just as critical features summarize the movement description, teaching cues serve as a quick reminder to the client of a broad range of activities and descriptions relevant to the movement. A teaching cue is a simple reference for personal trainers to give to clients to remind them of a particular action. A simple “eyes forward” cue can be mentioned to clients during the squat if they begin to look down at the ground. In many complex lifting movements, the hips, knees, and ankles are in a flexed position with the weight being closer to or on the ground. Movement that produces force to lift the barbell will cause the hips, knees, and ankles to extend. This movement, termed “triple extension,” is a simple teaching cue to remind clients to explode upwards with the lower body to increase force.

Acronyms and abbreviations are another way to help clients remember material. While an abbreviation is a shortened version of a single word, such as “reps” for “repetitions,” an acronym uses the first letter of each word for a phrase to make a new word. Some general acronyms found in fitness include AMRAP (as many reps as possible), TUT (time under tension), and HIT (high-intensity training)—not to be confused with HIIT (high-intensity interval training). Telling a client they achieved a PR means their lift on that day set their personal record. Reminding a client that after a serious workout they will be sore for a few days can simply be reduced to DOMS (delayed onset of muscle soreness). If a client begins to tire during a workout and does not attempt a full range of motion, personal trainers can mention a comment about increasing the ROM (range of motion) in the joint on every repetition. Teaching cues are an easy tool to reduce the amount of explanation needed by the personal trainer to correct a movement or to encourage more effort during the workout. Educating clients is a comprehensive process and begins before the client begins a workout with the set induction and exercise description, during the workout with demonstrations and critical features, and after the routine is over as you transition between sets. See Table 2 for more information about the “Show It” component. The next section will discuss best practices for observing client performance and evaluating growth in performance and results.

SUPERVISE IT – OBSERVATION AND EVALUATION OPPORTUNITIES

Watching someone work out seems like a simple task; however, there is much more to it than just observing movement. Personal trainers constantly observe flaws in technique, especially those that could cause injury if not corrected. To completely observe the movements of a client, the personal trainer needs to observe the client from various positions. For example, since there is no option to spot during the deadlift, personal trainers can stand directly in front of their client or to the side (1,9). Both angles combined provide opportunities for the personal trainer to see any slight deviance from the prescribed movement technique. Proper technique for the deadlift includes keeping the angle of the shoulders and hips in the initial position and the movement is initiated with hip extension. From the side, a personal trainer can see if the client attempts to move their shoulders or if hips

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TABLE 2. SHOW IT – CHARACTERISTICS AND EXAMPLES

CHARACTERISTIC	DESCRIPTION	EXAMPLE
Full Demonstration	Show movement or exercise performed at full speed from start to finish multiple times for the client, and show from multiple angles.	Show the entire process for the bench press, including how to get onto and off the bench; location of body under the bar; hand placement; travel path of the bar up and down; and breathing pattern for inhale, static hold, and exhale.
Video Demonstration	Substitute a video of the movement or exercise to be performed and show at full speed from multiple angles.	Show video of the entire process.
Partial Demonstration	Show slow motion of the movement or exercise in partial segments.	Performance of the movement is broken into a minimum of three phases. Each phase of the bench press is performed several times.
Critical Features and Cues	Identify critical features of each of the partial segments and include “catchy” cues whenever possible.	“See how my wrist is under the bar before I begin? It provides support to the weight of the bar. I call this ‘revving up the motorcycle’ and will remind you to perform the movement this way by saying “rev it up” if you move out of the position.”

TABLE 3. SUPERVISE IT – CHARACTERISTICS AND EXAMPLES

CHARACTERISTIC	DESCRIPTION	EXAMPLE
Observation	How to supervise, where to supervise from, and how and when to spot movements.	Observe from the front. Observe from the rear. Observe from the left side. Observe from the right side. Observe from below. Observe from above. Observe from close up. Observe from farther away.
Feedback	Timing, amount, and type of feedback performed during and after the workout or exercise to improve overall performance of the client.	Corrective feedback occurs during the exercise to fix technique. General feedback occurs during the exercise to encourage effort. Concurrent feedback aligns statements to critical features of the movement or exercise and can be done during or after the exercise.
KR and KP	Knowledge of the performance based on the critical features (usually qualitative). Knowledge of the results based on the number of sets, repetitions, weight, and goals (usually quantitative).	KP: “Everything looked good except you let your elbows bow out a little too wide.” KP: “I noticed you picked your back up off the bench during that last rep, so that rep did not count.” KR: “I just checked and last week you only got five reps and this week we improved that by two.” KR: “Last week you only completed three cycles of the bench press circuit and this week you beat that by one.”
Assessment	Occurs in three learning domains: psychomotor, cognitive, and affective. Allow client to demonstrate learning and knowledge of exercise and program.	Psychomotor: skill assessment of the techniques taught during the session. Cognitive: client is asked questions about the cues, critical features, purpose, sport science, and program content. Affective: client is asked about interests, values, safety, personal challenge, and gym etiquette.

exert force first, as examples. When performing a warm-up lift or training with lighter weights, a client may initiate the lift by initiating the shrug to begin the lift. If the hips rise before the shoulders, the client could have excessive curvature in the spine, leading to a strain of the lower back. It might be hard to see this error if the only observation was directly behind the lifter. Observation also entails evaluating performance for growth in skill acquisition and for performance measures like increasing weight or repetitions in the next workout.

While the client is performing the set, personal trainers should be observing all phases of the movement and providing feedback to clients during and after the set. Feedback comes in many forms, including general, positive, corrective, and concurrent (6,8). General feedback can include anything from “good job” to “nice try” or “I like how you finished strong.” This type of feedback is almost always positive, providing encouragement to the client throughout the workout session. During a set, a client may utilize momentum or reduce the range of motion in the exercise; at that point, the personal trainer should administer corrective feedback, usually in a review of the critical features or cues associated with the movement. Concurrent feedback can serve as an assessment tool during the workout. Providing feedback to the client in the middle of a set that incorporates positive statements using the critical features and teaching cues for that movement instills knowledge in the client that their performance is on par with the directions. An example of concurrent feedback might sound like, “I liked that when you started getting tired you ‘revved up the engine’ with your wrists and continued to drive the bar up with support from your forearms.” This tells the client their effort was noticed and appreciated, encouraging continued performance at a higher level. Table 3 contains a summary of the characteristics and examples of the “Supervise It” component.

Evaluating growth and progress can be done in any number of ways using various tools of the trade (9). Two types of feedback personal trainers can provide are knowledge of performance (KP) and knowledge of results (KR). Providing KR is the simplest: did the client achieve the expected number of repetitions in a set? Did they complete an adequate number of sets? Did their heart rate meet the standard for vigorous activity? Clients themselves

can easily see their results in these categories and may only need a few reminders, including KR, from the personal trainer during the workout. KP is a more complex type of feedback and personal trainers can provide this important information to their clients. Performance can be measured in various ways, although a checklist or a rubric are among the easiest to administer (9). Personal trainers that have developed a technique for a specific lift, or the description found in the National Strength and Conditioning Association’s (NSCA) *Essentials of Strength Training and Conditioning* (fourth edition) textbook, can create a checklist with each step of the movement to be evaluated (1). A typical checklist may have only a “check yes” or “check no” option for the completion of the movement. Once the client achieves enough positive checkmarks, the skill is said to be mastered. See Table 4 for an example of a checklist for the biceps curl.

Another more advanced evaluation and assessment tool is a rubric. The same steps to the movement are evaluated, but instead of a dichotomous response option, there are three or four progressive score options with increasing value and criteria embedded in the scorecard. After a rubric evaluation, the personal trainer and client can pinpoint correctable errors in performance and focus on fixing the specific areas of weakness in the lift. See Table 5 for an example of a rubric for evaluating the bench press. Along with the “See It, Show It, Supervise It” process, personal trainers can borrow content from pedagogy experts when it comes to the overall educational experiences for their clients. The next section discusses some teaching strategies that personal trainers and strength and conditioning coaches can use in their daily routines to wrap up a training session.

SHARE IT – BEST PRACTICES FOR TEACHING FITNESS

Fitness professionals can have extremely rewarding careers. Helping clients and athletes achieve what they considered impossible, overcoming physical obstacles, and achieving short-term and long-term goals provides internal and external motivation and inspiration. Part of the process of working with a client is to educate them in fitness concepts so that they can utilize the information you provide to them across their entire lifetime, not just when they are with a personal trainer.

TABLE 4. CHECKLIST EXAMPLE

Barbell biceps curl: stand with feet shoulder-width apart, knees slightly flexed to take pressure off the lower back. Holding a short bar at mid-thigh position with an underhand grip, squeeze your shoulder blades together and push your chest out. With control, slowly raise the weight up to chest-height by bending the elbows. Hold the upper arms close to the ribs and do not let them move forward. Pause at the top. With control, slowly lower the weight back down to the mid-thigh position.

CRITICAL FEATURE	CIRCLE YES OR NO
Pre-lift position and readiness	Yes or No
Soft knees	Yes or No
Elbows at the ribs	Yes or No
Control weight going up	Yes or No
Control weight going down	Yes or No

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TABLE 5. RUBRIC EXAMPLE FOR BENCH PRESS

CRITICAL FEATURE	EXPERT	ADVANCED	INTERMEDIATE	NOVICE
Pre-Lift Form	5 points of contact secured; no arch in back; bar directly over eyes; allow spotter to assist in liftoff.	5 points of contact are secured; slight arch in back; bar over forehead or chin; allow spotter to assist liftoff.	5 points of contact contain no more than 1 error; arch in back; bar too far over forehead or chin; does not allow spotter to assist liftoff.	5 points of contact contain 2 or more errors; large arch in back; bar too far over forehead or chin; does not allow spotter to assist liftoff.
Grip	Pronated grip, thumb is wrapped; hands evenly spaced; hands wider than shoulder-width apart.	Pronated grip, thumb is wrapped; hands evenly spaced; hands wider than shoulder-width apart or too narrow.	Pronated grip, thumb is wrapped; hands unevenly spaced; hands wider than shoulder-width apart or too narrow.	Pronated grip, thumb is not wrapped; hands are unevenly spaced; hands wider than shoulder-width apart or too narrow.
Eccentric Contraction	Slowly lowers weight to chest; bar touches just above the nipple line; elbows are between 45 – 60 degrees from body; wrists are stiff; forearms are perpendicular to bar; bar lightly touches chest and pauses.	Slowly lowers weight to chest; bar touches just above the nipple line; elbows flare out wider than 60 degrees; wrists are stiff; forearms are perpendicular to bar; bar lightly touches chest and pauses.	Lowers weight to chest too quickly; bar touches just above the nipple line; elbows flare out wide or are unevenly spread out; wrists are stiff; forearms are not perpendicular to bar; bar presses into chest or no pause.	Allows weight to lower to the chest too rapidly; touches well above or below the nipple line; elbows flare out wide or unevenly spread out; wrists bend backwards; forearms are not perpendicular to the bar; bar presses into the chest.
Concentric Contraction	Presses bar forcefully upwards; 5 points stay in contact; wrists are stiff; forearms are perpendicular; elbows are extended and not locked out.	Presses bar forcefully upwards; 5 points stay in contact with fewer than 1 error; wrists are stiff; forearms are perpendicular; elbows are extended and not locked out.	Presses bar upwards or unevenly; 5 points of contact contain 3 or more errors; wrists are stiff; forearms are perpendicular; elbows become locked out.	Presses bar upward unevenly; more than 4 errors in points of contact; wrists bend backwards; forearms are not perpendicular; elbows lock out.

TABLE 6. FITNESS PEDAGOGY BEST PRACTICES

BEST PRACTICE	EXAMPLE
Establish a Learning Environment	Personal trainers can be friendly with clients but always remember they are paying you to help them, not just be nice to them.
Use Technology when Applicable	Many tools have been created to aid in fitness development, including smart watches, pedometers, accelerometers, video capture, and new fitness products.
Hold Clients Accountable for their Actions	As part of the supervision process, make sure clients perform the skills how you instructed, not their version—remember, you hold the degree and/or certification and have the experience and background in fitness, they are there to learn and follow.
Plan for Variation and Changes	Be knowledgeable of the gym and the available equipment and space in case the gym is overcrowded—be prepared to alter exercises to accommodate the client, space, and available equipment.
Read—Stay Abreast by Reading Research Journals	Fitness journals range in quality—read peer-reviewed, reputable journals with scientific research articles by experienced, educated, and knowledgeable leaders in the field and apply that knowledge to your clients.
Stay Focused on Client Goals	Design and prepare workout routines and programs that are aligned with the client goals and objectives, not what might be the new hot trend in the market.
Constantly Assess and Evaluate	Practice daily informal and formal assessments—use rubrics or checklists, oral questions, and homework assignments.

Some strategies that can be utilized by personal trainers to enhance the personal trainer-client experience include setting an appropriate and professional learning and communication environment, utilizing technology, holding clients accountable for proper technique and performance, and continually discussing goals with the client. An appropriate learning environment includes establishing trust between the client and the personal trainer. This may involve professional communication verbally, through emails, via text messaging, and during sessions. Providing consistent attention to clients both in-person and when communicating with them is necessary, especially with the availability of several forms of electronic communication. Maintaining digital and electronic records of exercises, sets, repetitions, weights, and client goals that can easily be communicated is another tool for success. Clients may like to have some of their workouts filmed and analyzed by the personal trainer for form and technique, especially if the workout is done without direct supervision.

After a workout session, the personal trainer should review the workout with the client. The discussion can include questions about what the client liked, or disliked; which exercises were the hardest to do; and why. The client can reflect on the workout after a few days on the impact of the intensity, duration, or organization of the exercises. The personal trainer should also provide praise for correct actions and the effort the client exhibited during the workout, much like the concurrent feedback, only summarized about the overall workout for the day. All comments and communication may refer to the client goals and desires. At the end of the day, if the client is performing exercises that are not leading to the completion of their goals, then the workout plan may need to be adjusted or altered. The final step is to use teaching strategies that are aligned with psychomotor and fitness activities. Some of these techniques and practices are listed in Table 6.

CONCLUSION

The purpose of this article is to show how content-specific pedagogy related to fitness is a necessary component to the skillset of personal trainers and strength and conditioning coaches. People learn by engaging in physical skills repetitiously, receiving adequate instruction and feedback, and by engaging in the pedagogy process. Fitness experts need to know not only the sport science behind strength and conditioning, but also how to relate the information to their clients. This article provides four components of success that personal trainers can easily implement into their training sessions: “Say it, Show it, Supervise it, and Share it.” Clients come from various backgrounds and learn new material in personalized ways. Personal trainers need to be able to verbally express the directions and perform full and appropriate demonstrations of the exercises in words and examples that all clients can learn from. Constant supervision of the client performing skills during the workout provides a visual form of feedback to the personal trainer, who in turn can provide effective feedback on the performance of the client. Finally,

personal trainers and strength and conditioning coaches should utilize established strategic teaching methods to enhance learning and performance of their clients and athletes.

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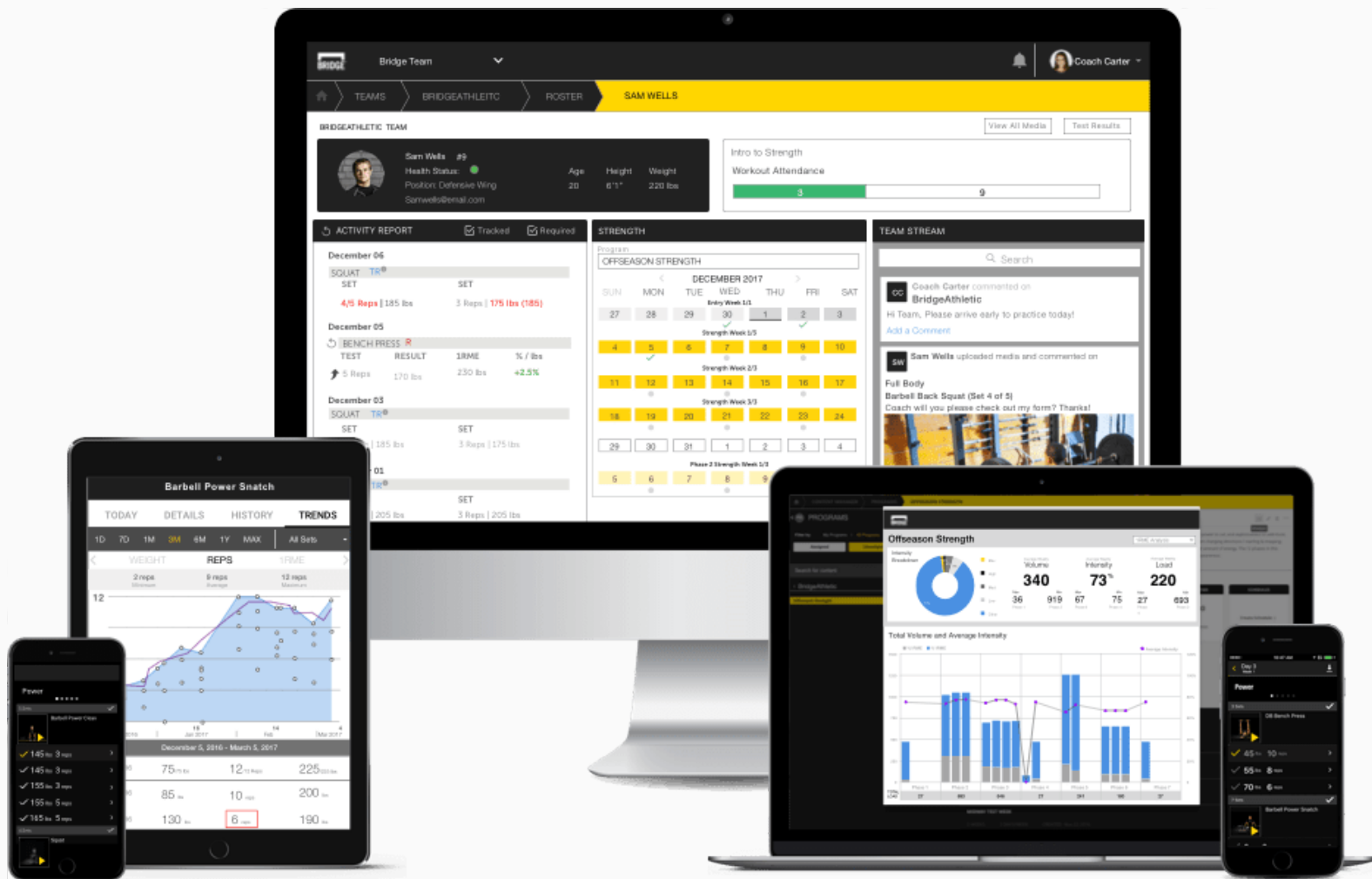
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ABOUT THE AUTHOR

Anthony Smith is an associate professor of physical education and sport coaching. He is best known for his research into the development of athletic talent. For over 20 years, he has helped train athletes at all skill levels to develop sport skills and greater levels of athletic prowess. Smith holds the Certified Strength and Conditioning Specialist® with Distinction (CSCS,*D®) and National Strength and Conditioning Association (NSCA) Certified Personal Trainer® (NSCA-CPT®) credentials through the NSCA. He has traveled the country presenting his research and knowledge at national and international conferences to encourage coaches, teachers, and trainers to include new teaching strategies into their fitness presentations. He is currently working on a handbook for implementing deliberate practice techniques in skill development and strength and conditioning for young basketball players.



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5 IT'S YOU AND YOUR CLIENTS POST- WORKOUT PAL

Sure, low-fat white and chocolate milk are delicious, but research shows they're also an effective **workout recovery drink**. Its protein helps muscles recover after a tough workout and stimulates muscle growth. If that's not good enough, carbohydrate in milk (12 g) and chocolate milk (25 g) helps refuel muscle glycogen and its fluid as well as sodium and potassium — also known as electrolytes — help rehydrate your body and replenish what's lost in sweat. We thought you'd enjoy this a choco-LOT.

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