



American Swimming
Coaches Association

On Incremental Improvement By: Coach Ulysses Perez

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For a swimmer to become the best they can possibly be, they must be consistent. Although the sport of swimming is truly a collective result of endurance, consistency, passion, and effort, I would like to focus on the aspect of consistency for this analysis. Further, the word consistency we will define as the effort to do one or many tasks over an extended amount of time. As coaches and parents, we must understand that swimmers will not always succeed in recognizing their gradual improvements over time. So, how do we shift their paradigm? And how do we know what incremental improvement looks like? Well, if we know that a swimmer's success is directly proportional to their improvement over time, then we can further analyze the controllable variables: consistency, time, and effort. Let's dig into each one as a factor of incremental improvement:

- Time** is the single-most important variable in the sport of swimming, on a small scale and a large scale. “What was my time, coach?” “How long did I stay under the water after my turn?” “Did I negative split that 50?” – These are just a few of the questions I receive *frequently* on the deck at practices and at meets. This is because time is truly of essence. We can look at racing, at a microscopic scale, and say: when a swimmer drops .01 seconds from their previous best time, this is an *incremental improvement*. Since, they were able to manipulate the variable of time, we know that there can be a change in their performance, this is denoted as Δt . This can also be negative when we have a swimmer add time in an event. Macroscopically, we can look at the athlete in training over time. How many days did the swimmer come to practice? How many hours did they *actually* train? Did they start warmup on time? On the one hand, when we have a swimmer who practices, let’s say, 1 hour, for 4 days a week. This is 4 hours over 52 weeks, which totals **208 hours** a year of training. On the other hand, we have another swimmer who comes to practice for 1 hour and 15 minutes for 4 days a week as well. Over a year, this swimmer will have trained for **260 hours**. In this scenario, by increasing the duration of time by just 25%, daily, we see that their *incremental improvement* resulted in more work done and a promising season for that swimmer.
- Effort** is the perceived measure of grit, endurance, force, and ability to adapt under stress. Thankfully, this variable is **not the same for every swimmer**. We can measure this variable as the Rate of Perceived Effort (RPE) and change it accordingly. In practice, we can do a kick set where we ask swimmers to gradually decrease the time taken to complete a given distance. For the purpose of this example, we will use the set of 4 rounds of 3 x 50 M choice kick on a 1-minute interval, descending by round. What this is telling us is as the swimmers complete each round, their times per 50 kick should decrease, so we say: descend. This set allows swimmers to **increase their rate of perceived effort**. As an athlete, this controllable is critical to the *incremental improvements* over time. We can, again, look to physics and see that the formula for **the amount of work done is directly proportional to power exerted multiplied by the time**. Expressed as $W = P \times t$. Therefore, the amount of **Power** (or RPE) generated is **proportionate to the amount of work done over time** ($P = W/t$). As the work increases over time, we can see that the power, or desired goal, will increase as a result.
- Consistency** is an unwavering controllable that must be held to the highest regard in the 3 variables. It is the cornerstone of an athlete’s overall growth in the sport of swimming. It is also the result of an athlete who is truly committed to their “why”-which can be anything ranging from making a Junior Olympic cut, to simply being able to

make it down the length of a pool with a specific number of strokes. When we have a swimmer that **shows up to practice on time every day, checks in with coach before and after every practice, and always gives their best effort**, we can say that they are consistent. The 1% rule (as used by *financiers*) furthers this concept by explaining the benefits of creating results over time. Let's go back to that example of swimmers training for 1 hour every day for 4 days. In total, we can say that the swimmers trained for 208 days out of the year for just one hour. This is expressed as 1^{208} . The result of which is 1, or no net change. If we have the swimmers train for 1% more, every day, or 1.67 minutes per training session, (for the purpose of realistic change we will say about 2 minutes every day). Over the course of the year, the swimmer will have trained for 1.02 hours every day, 4 days a week, for 208 days. The result is an *incremental improvement 60 times greater than before*. Denoted as 1.02^{208}

So what does this all mean? How do we apply this to swimming? Well, it is quite simple. Consistency is critical to the sport of competitive swimming. If athletes understand that time is of the essence, the amount of effort we give at practices is directly proportional to the success in the pool, and that by remaining consistent in our daily routines, we can truly reap the benefits of *incremental improvement*. As parents and coaches, we must understand that these results take time. Given the facts and information above, we know that success, although easily **quantitative**, must be reflected **qualitatively** as well. When a swimmer finishes practices from beginning to the end, or drops a small amount of time in a given distance, or when a swimmer smiles after finishing a high-stress anaerobic set, it is not only our absolute prerogative, but *responsibility* to praise these *incremental improvements*. For age group swimmers, those moments will foster positive emotions and confidence that bleed into future successes and triumphs in life. For senior-level swimmers and adults, we know that these faint glimmers of achievement can propel us into the future with a power to accomplish goals, overcome adversity, and become *successful in and out of the pool*.

"Space we can recover, time never." – Napoleon Bonaparte

