

This position paper will show via scientific research and studies that the mandated four-week break between learning sessions is not in the best interest of the children (attending our classes). It falls outside the scope of "best practices" with scientific studies providing evidence as such. Time away from a skill-based task, activity, or learning session has been studied and the results of these all conclude that long durations between learning sessions is detrimental to skill and knowledge retention. This extended break does not take into consideration children's developmental growth, best teaching practices, or environmental factors which surround outdoor activities such as swimming lessons. It does not allow for make-up classes due to weather conditions or pool closures. This paper will then discuss how the mandated calendar does not provide ample opportunities for children to learn in the best environment available, when the weather is optimal for these types of classes, and the children are not attending school, thus being available for classes. We believe there should be special consideration taken for these specialty classes. In addition, we will show that the community is in support of continual classes, shorter breaks, and availability during the children's vacations.

As previously stated, long or extended breaks between learning sessions is not developmentally appropriate; these children need consistent time on-task. Repeated opportunity to practice and consolidate new skills and concepts is essential in order for children to reach the threshold of mastery at which they can go on to use this knowledge or skill and apply it in new situations. To better understand this, one needs a general knowledge of motor learning. "Motor Learning is the study of change in the ability of a person to perform a skill. The degree of learning is inferred from improvement in performance over time as a result of practice or experience."¹ Judith E. Rink explains this in a more easily understood fashion, "Learning might be described as a change in behavior that is the result of practice and experience using motor skills. Generally speaking, the more a person practices the better he or she will become at a motor skill." Motor skills can take weeks to months to years to acquire and will diminish over time when there is an absence of continued practice. Having proficiency or mastery of a motor skill denotes a level of performance that is only achievable through practice.²

We support learning as measured by long-term retention and the transfer of skills and knowledge, thus we need to consider the time between sessions, or retention intervals, and the effect this has on the children's learning and knowledge retention. "...between-session delays have been treated either as having a negligible effect on performance or as causing forgetting."³ Retention of a skill drastically declines when the retention interval is one month or longer, hence the learning increases as the retention interval decreases. The study, "Enhancing learning and retarding forgetting: Choices and consequences" indicates that for one day of learning, the optimal retention interval is one week. Their data indicates that it is far more effective to use shorter intervals between sessions. This study goes on to show that spacing between sessions that were one week apart had no negative effect on learning and retention, however, it had a substantial effect when the interval between learning sessions was four weeks or longer. The length of sessions, or spacing between learning sessions, is evidently a potent variable in learning. This study concluded "...that over substantial time periods, spacing has powerful (and typically nonmonotonic) effects on retention, with optimal memory occurring when spacing is some modest fraction of the final retention interval" therefore the extended breaks

¹ *Concepts and Principle of Physical Education: What every Student Needs to Know*. Bonnie Mohnsen, editor. National Association for Sport and Physical Education, 2003.

² *Motor Control and Learning: A Behavioral Emphasis*. Schmidt RA, and Lee TN. Human Kinetics, Champaign, Illinois, 2005.

³ *Forgetting and Learning Potentiation: Dual Consequences of Between-Session Delays in Cognitive Skill Learning*. Timothy C. Rickard, University of CA, Sand Diego.

between sessions would be detrimental to the children's learning and progression of skill acquisition.⁴ Children learn best when instruction is continuous. The extended time away from learning breaks the rhythm of instruction, leads to forgetting, and requires a significant amount of review of material when students return after such a break, Harris Cooper (2003). The NEA, National Education Association, concurs that the extended break learning loss is high; students tend to forget what they had learned the previous session during longer or extended breaks; these breaks are prohibitive in retaining knowledge and skills; hence shorter breaks, with less time away from learning should be utilized as it is indicated that this will increase retention rates.

NAYRE, experts in time and learning, have found students attending programs which take shorter breaks, experience enormous benefits such as a more consistent and on-going learning process; teachers can reduce the time spent on reviewing previous lessons; students demonstrated more improvement; students' attitudes are more optimistic and motivated; and attendance is higher.

Learning sessions are considered time on-task, or the period of time devoted to practicing a particular skill. Practice is the active process of attempting to perform a task or skill, which leads to the acquisition of that particular skill. In order for the practices, or learning sessions, to be effective, they need to be repeated often. Practice variables that affect learning, include the amount of practice (time on-task), practice scheduling (intervals between sessions), and variations in the task and context of practice. Increased practice of a task or skill enhances learning and skill acquisition. Children learn by scaffolding or layering. The general belief is that children gradually build upon or incorporate previously learned skills to facilitate future performance. Experts on motor learning agree with the previously mentioned conclusions as indicated by quotes from said experts: "One practice variable dwarfs all the others in terms of importance, and it is so obvious that it need hardly be mentioned at all – practice. Clearly, more learning will occur if there are more practice trials, all other things being equal. Perhaps we do not need to say any more about the amount of practice than this: in structuring the practice session, the number of practice attempts should be maximized." (Schmidt & Lee, 1999); "Practice is essential for motor learning and the development of motor programs. In general, increased practice leads to increased learning." (O'Sullivan, 1994); "Learning is directly determined by the amount of practice." (Gentile, 2000, p. 173); and "In short, the most powerful way we can enhance skill acquisition would appear to be increasing the amount of practice" (Gilbert Thomson).⁵

To put all this in perspective and to relate it specifically to the aquatics program and learn-to-swim lessons we offer, one would need to make the connection between motor learning, skill acquisition, retention intervals, and the specific skills associated with swimming. Scientific evidence indicates that swimming lessons improve swimming performance. Children in certified swimming programs, such as ours, show significant improvement in swimming ability and pool deck behavior compared to those who do not take lessons. Children are able to retain most motor skills if lessons are continued, and can use those acquired skills in mastering more advanced swimming skills. The interaction between a child's developing motor ability and time between lessons is an important factor in maintaining swimming and safety skills.⁶ In addition to this, to maximize the learning experience, a connection needs to be made and maintained between the instructor and the student, which occurs with shorter breaks between sessions, and is broken with extended breaks. (David Speechley, SwimEd). Swimming lessons offer a unique combination of social and physical interactions with the teacher, their classmates, and the aquatic environment. For some children, before starting school, these

⁴ *Enhancing learning and retarding forgetting: Choices and consequences.* Harold Pashler, University of California, San Diego, La Jolla, California; Doug Rohrer, University of South Florida, Tampa, Florida; Nicholas J. Cepeda, University of California, San Diego, La Jolla, California and University of Colorado, Boulder, Colorado; and Shana K. Carpenter, University of California, San Diego, La Jolla, California.

⁵ *Motor Learning & Practice.* Gilbert Thomson, PT

⁶ *How many lessons are enough?* Harborview Injury Prevention and Research Center.

relationships can become their primary social bonds outside of the home and immediate family. It can be important to maintain these relationships with regular attendance. For parents involved in the water with their children, the close physical contact and quality time helps strengthen the natural bond like no other environment.

There are other factors influencing when learn-to-swim lessons should be offered, some of which are misguided such as the risk of drowning decreases as the weather gets cooler, or that they need not be offered on a consistent basis—a seasonal approach leads to the loss of swim skills during the “off-season.” Water safety is the first priority for parents enrolling their students in swimming lessons and this important factor is a year-round concern, not a seasonal concern. Continual lessons build and reinforce existing skills, especially in students whose long-term skill retention and muscle memory are just beginning to develop. The parents spend their hard-earned money and commit a significant amount of their time for their children to learn to swim, and by mandating these extended breaks, the parents will spend more money on lessons, as their children will experience extended break learning loss, thus needing additional lessons.

We promote, advocate, and believe in year-round swimming lessons, in order for the children to learn to swim and be safer in the water. This approach is less intensive, less stressful, and more consistent, which results in higher skill retention. It allows for maximum water and lesson exposure. The consistency and repetition allows for optimal retention and smoother learning, especially for cautious children or those not liking water on their face. Generally our students progress in the early stages of development at a higher rate than that of programs who offer seasonal lessons. With this approach we are able to eliminate the stress of registering for a specific class since there are classes offered on a consistent basis, and we are able to service more community members seeking lessons. In addition, this saves parents a significant amount of money and time. This schedule is the most effective both for acquisition of skills and for retention.

The Centers for Disease Control and Prevention (CDC) has made recommendations for community programs, which would encompass the County of Maui Community Courses. The CDC expects community programs to provide a range of developmentally appropriate community sports and recreation programs that are attractive to all young people; and provide access to community sports and recreation programs for young people. The CDC expects communities to take an active role in reducing the obesity rates of their community members, both children and adults. It is especially disturbing that the obesity rates in children are rising across the Country. One out of every ten preschoolers (10%) is now overweight. Risks involved include increased odds of becoming an obese adult; Type II diabetes; at risk for early heart disease; elevated blood pressure; being a target of systematic abuse and tormenting. At the same time that children are eating more, they are also leading increasingly sedentary lives caused by T.V., DVD, Videos, Computer, and academic pressure.

The CDC recently reported that children that swim year-round make swimming and other forms of exercise a habit that will stick with them for their entire life. Swimming is especially well suited for children because it results in fewer injuries than any other sport.

A 1991 study found that the hundreds of thousands of young people enrolled in organized swim programs throughout the United States are thinner, stronger, and in better health than their non-swimming peers. Participation in swimming programs also promotes self-discipline and responsibility and develops regular exercise habits that can benefit children throughout their lives.

Scientific studies of infant swimming have shown that the early stimulation which swimming provides helps to develop the child in three key areas: Physically, Mentally, and Emotionally. As compared with a control group who did not take year-round lessons, the children who swam consistently from infancy were found to be significantly stronger and more coordinated. Muscles developed in a process similar to physical therapy,

enabling the children to excel at all physical activities, which was not limited to swimming. Emotionally, children who swam year-round were found to be more self-disciplined, motivated, and self-confident due to the constant goal setting, learning, and achievement, that goes on during lessons.

We understand the need to take a break between sessions, however we feel these breaks should be at the discretion of the instructor, according to the type of class they are teaching. We believe that taking natural breaks is more appropriate, for example, a dance class will generally have a recital, it would make sense to take a break after the recital is complete; in a competitive sport, it would make sense to take a break after a contest or a tournament; we usually take a one-week break between sessions and then a longer break between the Thanksgiving holiday and New Years. We have determined that this is a more appropriate time to take a break due to the participants' family obligations and planned vacations, weather factors prohibiting the use of the pools, and the water temperature not being adequately warm enough for the children to sustain a period of time in the water. It is important that we offer and teach classes consistently, year-round, when the children are on vacation from school, and during the time of year when families start going to the beaches and pools. We should not be in an "off" period during these critical times.

We feel that each community course should be looked at on an individual basis since each one has its own needs as well as constraints, as stated at the Community Course Instructor's meeting, 2008. If your office/department would consider setting the calendar according to the agreement made between the community course instructor and the community courses office, then we believe that will meet the needs of all community members, according to the particular program they are involved.

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