

Executive Summary



We teach the venerable Chinese martial art of Tai Chi Chuan to people with special needs so students have better health, an inclusive social group and life goals, notably performance-based collegiate bachelors and masters degrees. Like many martial arts, Tai Chi Chuan has a number of canonical sets or forms that are composed of sequences of movements, and there are published international competition judging standards for each movement. Typical would be a two hour class five days (seven days preferred) per week where students wearing smart garments (clothing with sensors embedded) follow videos of a grandmaster. We will provide parents and physicians a daily digital stream of movement scores so that a statistical anchorpoint is available to inform decisions about diet, medications, sleep and logistics. If the scores, which we aggregate as a velocity of learning, increase at an expected rate, the change was right.

Currently, there are at least twenty million Americans in the thirty disability categories where we can provide benefits. Those span 634 syndromes and 1340 genes. The major categories are

Description	Syndromes	Genes	Americans	
Autism spectrum	97	214	9,780,000	includes Fragile X syndromes
Ataxia spectrum	131	179	310,000	
Amyotrophic lateral sclerosis	1	38	40,000	ALS; Lou Gehrig's disease
Arthrogryposis spectrum	23	35	220,000	
Alzheimer's syndrome	3	27	6,650,000	includes some other dementias
Cerebral palsy spectrum	15	19	860,000	
Down Syndrome	4	11	370,000	includes translocations
TOTAL			18,230,000	

Supporting conditions like Alopecia (areata) spectrum, Huntington's Disease and microcephaly would require some thought. Without making light of the suffering, we currently view panic phobia anxiety spectrum, sleep disorders, Crohn's disease and other similar irritable bowel syndromes, glucose intolerance, lactose intolerance and galactosemia as secondary symptoms. While we have no (zero) plans to teach people who cannot walk, saying 'no' has not historically been a strength of ours.

Even our preliminary results already very clearly show that it is not very accurate or even useful to compare the velocities of learning of among students with generic autism. Presently, there is no map defining which genes influence common metabolic pathways, and, in many cases, even knowing the gene or genes judged to be the cause of a student's condition is not sufficient. We were able to measure significant differences in velocity of learning between two students both of whom had Van Der Aa-Helmsmoortel syndrome (a type of autism) caused by different mutations in their ADNP genes. Fair comparison of students has to take into account specific mutations, repetitions, deletions and translocations. Such comparisons would help parents and physicians make informed choices.

Our supporting software, code-named SAITO (an acronym, and Japanese for 'wisteria') is already 480

Windows forms and 190,000 lines of code. Both SAITO and HERON, our smaller software application that functions as an electronic diary, and, to an extent, our website, www.silverwolfwushu.com, support languages besides English. The horizontal challenges ahead are to start and maintain economically sustainable schools staffed by teachers who have integrity, compassion and courage, and to consider eventual international expansion. The vertical challenges ahead are to consider extension from 120 minute daily classes to adult day care and clustered group homes. We are aware of the market for home-schooled neurotypical people. It is not unlikely we will be asked by a school district to teach an alternative physical education class, and there is certainly the possibility of co-teaching a practicum course at one of the University of California or private medical schools.

In the United States the agency in charge of care and services for people with disabilities varies considerably by state. In California, for example, 22 non-profit regional centers manage most of the special services. We would plan to teach three 120-minute classes per day with 16 students per class. The regional center or the associated school district provides minimum-wage aides who accompany the students all day. Using biometrically validated attendance, we would bill \$5 per hour for each student so a total of between \$200 and \$300 per student per month or \$9600 per school. These rates increase considerably when students are involved in whole day care – typically from 9 AM to 3 PM with lunch and snacks. We anticipate that the regional centers and similar agencies will send us their most difficult clients. How much revenue merchandise sales, especially kits for remote students, as well as income from non-attending subscribers would represent is unknown. We note in passing that baccalaureate curricula were formulated and approved for several other Chinese martial arts, notably Xing Yi Chuan and Bagua Zhang. Our technologies and the SAITO application can readily accommodate other martial arts, even so-called hard external styles such as Hung Gar or Shaolin, but these would be poor choices for most special needs students.

The major expenses before opening for business would be building any lavatory facilities required and meeting any lease or rental requirements. Ongoing expenses would include rent, utilities, snacks, cleaning supplies and loan repayments. Martial arts insurance providing secondary coverage is about \$40 per month – it is likely some sort of general liability insurance will be required by most landlords.

There are two unusual risks associated with this student population: seizures and tachycardia. Our sensors and software are designed to monitor for warning signs of both so that the student can be seated, cooled off, and given a drink in hopes of preempting most incidents. Tai Chi Chuan prizes slowness in practice so there should not be any exacerbating effects, but many people with the disabilities we find of interest are in below average to poor physical health and are taking three powerful drugs. While Tai Chi Chuan, especially the 500 year old Chen Family style, is famed for its profound impact on both body and mind, we will endeavor to make each school a legally isolated entity so that an unfortunate incident at a school in Richmond does not unduly influence a school in Antioch. We have made some progress on measuring pain in hopes of at least partially overcoming the inability of students to communicate that they are uncomfortable or even suffering.

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