Self-Science Pilot – Initial Report
June 01, 2001

Background:

Self-Science – so named because emotional intelligence grows from the study of ourselves and our relationships – is a comprehensive, developmental, and research-based curricula for creating a school-wide culture of emotional intelligence **[Appendix I, Self-Science]**.

Self-Science teaches specific skills related to self-awareness, self-management, and self-direction. Skills include recognizing patterns of behavior, becoming more aware of multiple feelings, accepting responsibility, and using optimistic thinking **[Appendix II: Self-Science Competencies]**. Self-Science classes are structured to help students integrate thinking, feeling, and behavior; classes typically include an individual or group activity, a discussion of the activity and how the lessons from the class apply to daily life.

Rather than telling children what not to do, Self-Science provides multiple options of what to do. It helps children become more aware of themselves and make more conscious decisions about the ways they think, feel, and act independently and interdependently.

While Self-Science has been used in a broad variety of schools in the US and world-wide for over 30 years, there has been little systematic research to explore the mechanisms that make the program most effective. In 2000, Six Seconds – the nonprofit organization that publishes the curriculum – undertook an initial pilot study with the goal of testing to see if measurable benefits, such as improvement of the classroom climate and reduction of violence and violence-related behaviors, would indicate that further research is warranted.

Research Overview:

Self-Science is designed to teach specific emotional intelligence skills and to improve the classroom climate outlined. A series of competencies was outlined for the teachers, and an initial survey of classroom environment was conducted **[Appendix III: Summary Survey Questions]**.

To accurately measure the efficacy of a program with these broad goals would require an extensive and costly research program. Prior to such an undertaking, a preliminary pilot was designed to investigate the promise of the program. The 2000-2001 Pilot sought to answer: "Are the EQ competencies and classroom climate changes described by Self-Science measurable?" And, "Do teachers utilizing the curriculum find it to be an effective mechanism for enhancing their teaching?" In addition, the 2000-2001 Pilot created the opportunity to test various experimental methods, and particularly the SEQI (Student Emotional Intelligence Inventory) survey instrument.

From the pool of teachers who had previously expressed interest in some kind of affective education, thirty teachers were selected. Because the pilots' purpose is to test the feasibility of future research, this group was selected based on teacher availability, and represents a broad cross-section of classroom environments -- urban and rural, public and private, diverse and homogenous, special needs and mainstream.

Twenty of the teachers were randomly selected and invited to participate in the pilot on a volunteer basis. The twenty pilot teachers were each asked to invite a peer teacher to participate in the control group, and each was responsible for obtaining permission from

their administration. Teachers who could not get permission were not included, and additional teachers were added to create a 20 teacher pilot group. The pilot group was primarily in the San Francisco Bay Area; one teacher was near Modesto, California, one in Florida, and another in the US Virgin Islands **[Appendix IV: Subject Classrooms]**.

Between October, 2000, and January, 2001, teachers received initial materials, and most commenced instruction in January/February. Teachers received introductory materials including the curriculum text, an observation assessment (a checklist with which another teacher or adult would observe the teacher) **[Appendix V: Teacher Observation Checklist]**, and a student questionnaire (the SEQI, an experimental EQ self-report survey).

Prior to any Self-Science instruction, both Pilot and control teachers were asked to deliver the SEQI and complete one observation assessment. Pilot teachers were instructed to experiment with Self-Science lessons, and dedicate at least 10 class periods to the delivery on these lessons. Ongoing coaching was available; teachers received periodic follow-up materials including further lesson instructions.

Prior to the completion of the 2000-2001 Pilot, the pilot teachers were given an overview survey questionnaire to capture initial responses.

A final observation assessment was scheduled with a Six Seconds' staff member, and all teachers were instructed to deliver the SEQI as a post-test.

Of the 20 members of the experimental group, three dropped out of the study. Eight of the 17 remaining pilot teachers responded to the survey in time for this initial report.

Preliminary Findings:

The 2000-2001 Pilot was not designed to generate conclusive findings, and these initial results must now be validated by more comprehensive research. That said, the response to Self-Science is overwhelmingly positive, and without doubt, future research is warranted

The result of the surveys is promising **[Table 1: Self-Science Pilot Project Summary]**. The findings as of this preliminary publication are based on the eight teacher surveys and on observational records from the pilot.

100% of the teachers found that the program:

- **Increases cooperation**
- **Improves student/teacher relationships**
- **Improves classroom relationships**

They also agreed (88%) that the program helped:

- Increase student focus/attention
- Improve student learning
- Decrease "put downs" (negative verbal messages) between students.

All the teachers also found Self-Science to be a positive experience and plan to continue Self-Science and/or other affective curricula in the future.

Two of the teachers did not answer the question about reducing violence, perhaps because there were no incidents that they labeled as "violent" either before or after teaching Self-Science. On the other hand, factors that other studies have correlated with violence (put

downs, cooperation, and positive relationships) indicate that the program can reduce violence.

The major goals of Self-Science are the improvement of classroom environment and the development of specific skills. The environment does seem to be positively affected, and the improvement of skills will be measured with the tabulation of SEQI data.

There does not seem to be any correlation between demographic indicators and the efficacy of the program; in other words, the program appears to be equally promising for all kinds of students/environments (such as minority, special needs, public, private, parochial).

The next steps are to correlate the survey data with the SEQI, observation reports, and academic performance. Following this data analysis, this report will be updated, and a more comprehensive study will be initiated. At present, the 2001-2002 Pilot is under development and seeking both research partners and funding.

The 2001-2002 Self-Science Pilot will utilize additional norm-referenced measures to cross-validate the SEQI, surveys, and observations. It will also seek to more carefully compare pilot classrooms with control groups to deliver more conclusive findings. Six Seconds would like to include partners in the research process and, ultimately, to include other affective curricula in the validation process.

With further research it will be valuable to discover the influences that maximize success. The 2000-2001 Pilot began to explore, but did not conclude, how training, experience, and administrative support influenced results. It is clear that there are meaningful opportunities to positively influence classroom instruction. Given that positive change can be made with only a small investment of resources, perhaps we are all obligated to make this form of instruction a priority.

Self-Science is published by Six Seconds, a 501(c)3 public benefit corporation -- online at www.6seconds.org or by phone at (650) 685-9885. The curriculum was created by Karen Stone McCown, and was first published in 1978. The 2000-2001 Pilot was directed by Anabel L. Jensen, Ph.D., and coordinatated by Marsha Rideout. Data analysis and reporting was coordinated by Joshua Freedman.

Table 1: Self-Science Pilot Project Summary

17 classrooms used Self-Science over a six month trial. Eight classrooms are represented in this initial survey of teachers:

As a result of doing Self-Science…	**Teachers who agree (%)**
Cooperation increased	100%
Conflict decreased	75%
Collaborative work is improved	63%
Positive verbal statements increased	75%
Students have become more focused/attentive	88%
Put downs decreased	88%
Violence decreased	63%
My relationship with my students has improved	100%
My relationship with my students' parents has improved	63%
Learning in my classroom has improved	88%
Relationships in my classroom have improved	100%
I found this to be a positive experience	100%
I plan to continue Self-Science/other affective curricula in the future.	100%
Average years as a teacher:	6.7
Average months of using Self-Science:	5.1
Average number of Self-Science lessons:	12.4
Total group size:	209
White (non Latino)	62%
Asian/Asian Amercian	11%
Latino	12%
African American	10%
Other	5%
Grade ranges	2-10
Students identified as Special Needs	11%

Appendix I: Self-Science

Rationale

While people are seeking quality of life, joy, purpose, and connection, we have not learned how to make those a part of daily life. Our society is faced with nearly overwhelming problems of poverty, violence, racism, and selfishness. In order to grow and survive as a culture, our children have to learn to reach their full human potential. They need to be equipped with tools to grow strong despite the negativity that surrounds them. They need strategies to manage themselves and to reshape their society.

In addition, improved EQ skills have benefits for both students and teachers. For students, these skills create higher achievement and improved social skills (Ornstein, 1986; Lakoff, 1980). For teachers, improved EQ skills increase "on task" behaviors (Rosenfield, 1990, 1991) and reduce discipline problems (Doyle, 1986).

Schools can not replace family, church, or other cultural systems that historically have shaped the integrity and morality of children. Given the current situation, however, schools do need to help reinforce those principles that we share as a society. In fact, the U.S. is the only country on the entire planet that does not have either a religious context for instruction or a values program as a framework/foundation (Hayes and Chalker, 1998). So, although it may not be appropriate for all schools to teach a particular set of values, it is essential that schools support the learning of parental and community values and the universal principles of our society.

The Self-Science curriculum is based on some very simple assumptions:

- The more conscious one is of experiencing, the greater the potential for self-knowledge.
- The more self-knowledge one gains, the more likely it is that one can respond positively to one's self and others.

These assumptions are based upon a careful and critical study of respected research in the area of affective education. Eclectic in origin, Self-Science draws principally from 30 years of practice along with research on learning and development; Seligman's studies of optimism; Maslow's hierarchy of needs; Kelly's psychology of personal constructs; child personality and development studies; Neuro-Lingusitic Programming; and scientific methods of inquiry.

While the term "emotional intelligence" is relatively new, the principles are founded in a long tradition. Plato wrote, "All learning has an emotional base." It is remarkable to see specialized and technical brain research confirming these age old truths. Emotions are not in the way of learning, they are the route to learning. Emotions are not peripheral, they are central to being human. Perhaps most satisfying for educators, emotional skills are learnable.

Today's children grow up in a world plagued by violence and despair. Daily headlines assault us with tragedy and mayhem, more and more involving children and their families. Over half of America's youth are at risk (analysis of 9th and 10th grade students, US Census, 1997). Despite decades of national efforts to alleviate these symptoms, young people are afraid of being mugged in the rest room at school; metal detectors are placed at the school doors; drive-by shootings on the freeway are news only when a celebrity is involved; half of America's high school seniors have witnessed violent crimes at school —

and daily between three and six of our children are killed by abuse. And our educators struggle with few tools to effectively equip students for this climate of trauma and fear.

At the same time, the last decade has seen a burst of scientific study of emotional learning and the functioning of the brain. Work by Damasio, Salovey and Mayer, among others, gives us more accurate insight into the processes of learning, feeling and thinking. Their work confirms the fundamental principles of Self-Science as a valuable, effective approach to building a vital set of skills and understandings.

Emotional Intelligence

Emotional intelligence is creating conscious choice in our thoughts, feelings, and actions in relationships with ourselves and others. It is essential to interpersonal and intrapersonal relationships at school, at home, and at work. People are guided by a system of understandings, skills, and patterns. This system develops in conjunction with other aspects of personality and intelligence. Damasio, for example, writes that emotions are "enmeshed in the neural networks of reason" (*Descartes' Error*, 1994). This interconnected system of reason and feeling has great influence on both day-to-day behaviors and long-term growth.

Like other kinds of intelligence, EQ is identified through the use of particular skills – there are eight fundamental skills in the Six Seconds' model, divided into three areas:

Know Yourself:

Build emotional literacy

Recognize patterns

Choose Yourself:

Evaluate and re-choose

Apply consequential thinking

Engage intrinsic motivation

Increase optimism

Give Yourself:

Create empathy

Commit to noble goals

Since the EQ fundamentals and resultant behaviors interconnect and overlap, it may be helpful to categorize emotional intelligence in a more general way. Six Seconds uses a three-part approach: Know Yourself, Choose Yourself, and Give Yourself.

"Know Yourself" includes naming and communicating emotions, understanding the way emotion and cognition interrelate (i.e., emotional thinking and cognitive thinking affect one another), recognizing your own patterns, and identifying your needs.

"Choose Yourself" is defined by reshaping those patterns, setting priorities, and making choices based on conscious processes.

"Give Yourself" is the aspect of emotional intelligence which concerns a commitment to the larger world — like recognizing interdependence and committing to noble goals (e.g., service learning).

These fundamentals lead to certain behaviors. Because it is nearly impossible to see what happens inside a learner's brain, educators compromise and observe a learner's behavior. While there are some serious flaws in this approach — for instance, learners demonstrate understanding in many ways — it remains a useful "yardstick" for assessment. Conversely, by learning to do these behaviors well, people develop an internalized understanding — they create new habits of mind and body. It is quite useful, then, to recognize behaviors that mark the developing EQ. Some of these are:

- Talk about feelings and needs
- Listen, share, comfort
- Grow from conflict and adversity
- Prioritize and then set goals
- Include others
- Make conscious decisions
- Give time and resources to the larger community

History:

Self-Science has roots in both the cognitive and affective domains. Thirty years ago, the program grew from questions about how children change their ways of thinking, and how they develop socially and emotionally. The initial development was supported by advisors including Ralph Tyler, Head of the Behavioral Sciences Research Laboratory and Ernest R. Hilgard, Head of the Psychology Department at Stanford University.

From the outset, *Self-Science* also incorporated ideas and concepts from the writings of many authors, such as Carl Jung's work about unconscious processes, archetypes and the self, and Jean Piaget's writing about developmental stages and learning processes.

In developing the program, we met with Abraham Maslow about his schema of hierarchical needs and self-actualization, and with Anna Freud about her psychoanalytic work, primarily with children. We talked with Eric Erikson about the drive for identity, and tasks of children at stages such as trust vs. mistrust, identity vs. role confusion. We studied Jerome Bruner's work and particularly appreciated the spiral curriculum he describes.

We were seeking ways to design a school for tomorrow's children. All our advisors, including Nobel Laureate in Physics, Luis Alvarez, renowned violinist Yehudi Menuhin and 10 other major contributors to society, told us that the school needed to address children's emotional and social needs as well as their intellectual needs.

For 30 years, this curriculum was a part of the Nueva School in Hillsborough, CA, founded by Karen Stone-McCown in 1967. Over the years, additional research has shaped the curriculum.

Appendix II: Self-Science Competencies

Goal 1: Legitimizing Self-Knowledge as Subject Matter

Goal 2: Developing a Trusting Attitude Toward the Class

Goal 3: Becoming More Aware of Multiple Feelings

Goal 4: Developing Communication Skills for Affective States

Goal 5: Disclosing Thoughts and Feelings

Goal 6: Enhancing Self-Esteem

Goal 7: Accepting Responsibility

Goal 8: Becoming Aware of Major Concerns

Goal 9: Recognizing Present Behavioral Patterns; Learning About Learning Styles

Goal 10: Experimenting With Alternative Behavioral Patterns

Outcomes

Self-Science is designed to build emotional intelligence and to develop a learning community which fosters respect, responsibility, and resiliency.
The program teaches fundamental skills:

- Recognize, understand, communicate, and manage feelings.
- Recognize and redirect patterns of behavior.
- Set goals and move toward them.
- Increase respectful communication, thinking, and behaviors.

Appendix III: Summary Survey Questions

As a result of doing Self-Science…

Cooperation increased

Conflict decreased

Collaborative work is improved

Positive verbal statements increased

Students have become more focused/attentive

Put downs decreased

Violence decreased

My relationship with my students has improved

My relationship with my students' parents has improved

Learning in my classroom has improved

Relationships in my classroom have improved

I found this to be a positive experience

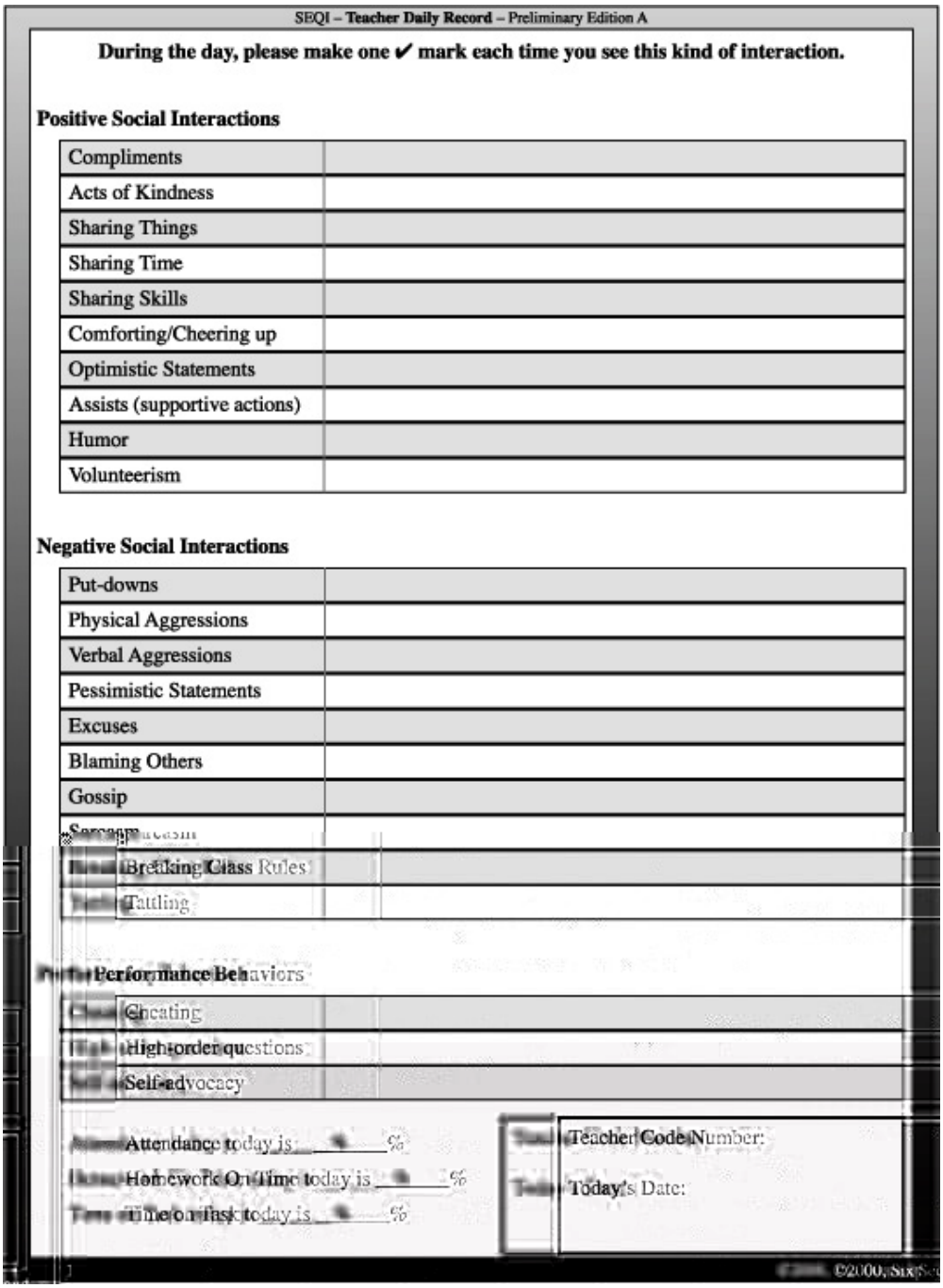
I plan to continue Self-Science/other affective curricula in the future.

Appendix IV: Subject Schools

School, City, Teacher or contact name.

1. Carlmont HS, San Carlos - Dan Raffa
2. Presentation HS, San Jose - Jennifer Giachetti
3. Santa Clara HS, Santa Clara - Amy Obenour
4. Sequoia HS, Redwood City - Taja Henderson
5. Jordan MS, Palo Alto - Kelly Kobze
6. Odyssey MS, San Mateo - Lee Shult
7. Shirakawa MS, San Jose - Gail Donovan, Principal
8. Schools of the Sacred Heart, MS, San Francisco - Amy Van Dragt
9. Beechwood School, Menlo Park - Lisa Somers
10. The 49er Academy, East Palo Alto - Saree Mading
11. La Honda ES - Melba Rhodes, Principal
12. Lakeside ES, Los Gatos - Karen Greenstein, Coordinator
13. Marin Country Day, Corte Madera - Jared Colvin
14. Modesto ES - Kendra White-Lyon, Coordinator
15. Ohlone ES, Palo Alto - Susan Charles, Principal
16. St. Joseph's MS/ES, Boynton Beach, FL - Wendy Tobias
17. Good Hope School, St. Croix ES, US Virgin Islands – Charlene McGowan

Appendix V: Teacher Observation Checklist



SEQI – **Teacher Daily Record** – Preliminary Edition A

During the day, please make one ✔ mark each time you see this kind of interaction.

Positive Social Interactions

Compliments	
Acts of Kindness	
Sharing Things	
Sharing Time	
Sharing Skills	
Comforting/Cheering up	
Optimistic Statements	
Assists (supportive actions)	
Humor	
Volunteerism	

Negative Social Interactions

Put-downs	
Physical Aggressions	
Verbal Aggressions	
Pessimistic Statements	
Excuses	
Blaming Others	
Gossip	
Sarcasm	
Breaking Class Rules	
Tattling	

Performance Behaviors

Cheating	
High-order questions	
Self-advocacy	

Attendance today is _____%

Homework On Time today is _____%

Time on task today is _____%

Teacher Code Number:

Today's Date:

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