

Do Times Two, Then Go for Four, Or More: Precision Teaching Aims for the 21st Century.

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An outline of our 20th and 21st century challenges

Here follows a brief historical outline of our major 20th century discoveries and the even more exciting challenges facing us in the first half of the 21st century. We have the knowledge, the energy and the tools to accomplish amazing progress in learning in the next 25 years.

We are poised on the threshold of amazing progress. Our knowledge, skills, position and timing are excellent... LET'S GO!

20th Century discoveries

We started with rate of response and "pinpoint, record, and consequate," which Nancy Johnson put to music.

We proved all behaviors multiply with the Behavior Bank.

We proved corrects and errors, positive and negative feelings, and feelings and their related behaviors accelerate and decelerate independently. This required using counting and charting pairs from then on.

We designed and tested in practice a full line of daily, weekly, monthly, and yearly Standard Acceleration Charts, covering weekly, monthly, 6 monthly, and 5 yearly accelerations.

We developed a system of plain English words to describe changes in frequencies and acceleration, along with graphical descriptive and interpretive statistics.

We developed practical, inexpensive classroom Precision Teaching and saw it multiply and then be ignored by the educational establishment.

We joined with our brethren in Direct Instruction and combined our effective educational procedures.

We built and grew to understand fluency, and its producers, blockers and products.

One of our popular workshop songs was "Are you charting," written by Hank Pennypacker in 1975 to the tune of Frere Jacques.

Our slogans were "The child knows best," and "Care enough to chart!"

Sprints

1974 Eric Haughton and Mary Kovacs used 30 and then 15 second practice sessions working with Dominick at St. Catherine's Developmental Center, Hamilton, Ontario.

1979 Harold Kunzelmann and Carl Koenig used 15 second practice and 20 second screening for referral of preschool and kindergarten children in REFER.

1990 10 second sprints (8 to 10 per day) used for establishing new skills at Morningside Academy by Kent Johnson, Hollind Kevo, and Jim Peters.

Celeration fans

1938 the diagram numbering the slope of cumulative records was called "coordinates" by Skinner, and by Ferster and Skinner 1957.

1953 to 1993 I called them "grids" and put them on my cumulative records.

1993 I renamed them "fans" and put them on journal published Standard Celeration Charts (Lindsley, 1996).

1996 Behavior Research Company first put celeration fans on paper SCCs.

It has taken us decades to directly use, describe, and be comfortable with our unique product - celeration. No one else has it.

**Weekly
Celeration
Aims**

1972 - Lindsley describes the celeration aim star. The arms of the star were tipped at the celeration aim angle . (Frequency aim star had horizontal arms).

1975 x 1.25 - Kathleen Liberty took middle aim from 600 projects.
(53% greater than x1.25 and 66% less than x1.25.

1976 x1.25 - White and Haring suggested 6 different celeration aim methods.

1. Set aim date and aim rate.
2. Catch up slope to join peers.
3. Child can do 75% of the time from prior celerations.
4. Similar movement, similar slope. best can do for similar movement.
5. Teacher can do slope for amount of progress that teacher can provide for.
6. x 1.25 Standard Celeration taken from Kathleen Liberty's median.

1979 -x1.9 +2.5 Marilyn Chapel leapt her class of 15 second graders from add to multiply facts without instruction and accomplished X2 celerations. Ever since then I urged precision teachers to set x2 high celeration aims.

1991 Times two per week aims for all daily practice at Morningside Academy.

**Daily Sprint
celeration aims**

1992 (Summer) x2 aims set for ten sprints within one day at Morningside Academy by Kent Johnson, Hollind Kevo, and Jim Peters.

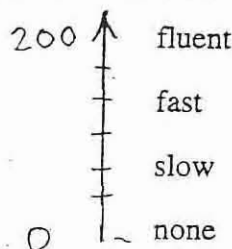
1992 (Fall and Spring, 1993) x2 per day aims for sprints and x 2 per week aims for daily practice repeated with success at Malcolm X College by Joe Layng, Angela Boone, and Hube Dure.

**The
Morningside
Curriculum**

The power of the Morningside curriculum is attributed to its fluency generating. No doubt this is important, but I feel that Morningside's real power is that it is the first program to set and demand realistically high celeration (x2) aims for both repeated 10 second sprints on one day and weekly x2 aims for one minute daily practice sessions.

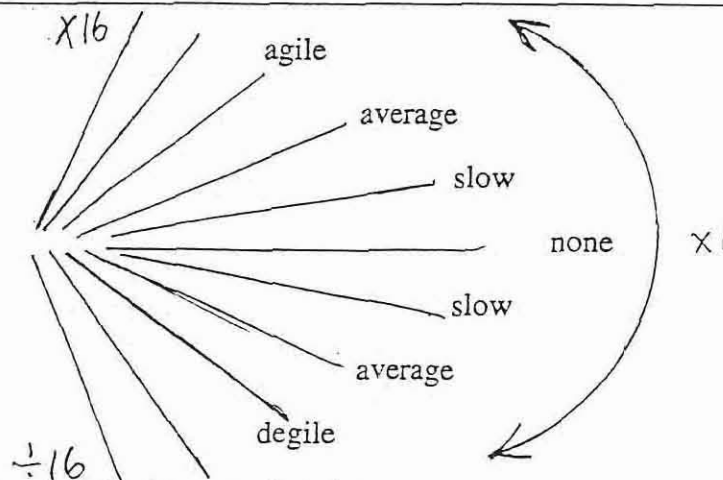
In published articles, the effect and the need for these celeration aims is not mentioned. The whole effect is attributed to fluency with no mention of Morningside's even more powerful and unique use of distinguished (x2) daily and weekly celeration aims (Johnson and Layng, 1992).

**Performance
(frequency)
ladder**



The performance (frequency) ladder has one direction with fluency at its top.

**Learning
(Celeration)
fan**



The learning (celeration) fan has two directions.

An agile person will be able to change direction - to learn new skills and to unlearn old skills rapidly adjusting to the more and more rapid information age changes.

21st Century
challenges

We will build and grow to understand agility, and its producers, blockers and products.

We will focus and add knowledge and experience of celeration.
just as we learned the products of aiming at high fluency.
We will learn the benefits of aiming at high agility.

If we build tool skills at higher accelerations (agility), will we get super high deceleration's (degility) for future tasks?

What are the practical limits to celeration? Will there be different limits for different channels? Is it possible that the hear-say channel, which tends to be our most fluent channel, prove to be our most agile channel as well?

Just as we got fluency generativity from building component tool skills to high frequency, will we get agility generativity from building component tool skills at high celerations?

Our large scale applications at Morningside, Malcolm X, Chicago Public Schools, Haughton Learning Center, Cache Valley Learning Center, and Ben Bronz Academy provide unique opportunities to examine what Harry Harlow called "Learning to Learn" fifty years ago. Harlow tried to study it using percent of trials correct as his measure. We have the advantage of having learning in 3 dimensions - number per minute per week, and of having learning to learn in 4 dimensions - number per minute per week per year.

A popular workshop song will be "We all promise, we will do times two!"

And our slogan will be "Do times two, then go for four, or more!"

Thank you for joining me in this grand adventure!

References

- Ferster, C. B. & Skinner, B. F. (1957). *Schedules of reinforcement*. New York: Appleton-Century-Crofts.
- Johnson, K. R., & Layng, T. V. J. (1992). Breaking the structuralist barrier: Literacy and numeracy with fluency. *American Psychologist*, 47(11), 1475-1490.
- Kunzelmann, H. P., & Koenig, C. H. (1980). *REFER: Rapid exam for early referral*. Columbus OH. Charles E. Merrill Publishing Co.
- Lindsley, O. R. (1972). Celeration goal symbol. *Behaviorgrams*, 1, 123.
- Lindsley, O. R. (1992). Precision Teaching: discoveries and effects. *Journal of Applied Behavior Analysis*, 25, 51-57.
- Lindsley, O. R. (1996). Performance is easy to monitor and hard to measure. In R. Kaufman, S. Thiagarajan, & P. MacGillis (Eds.). *The source guide for performance improvement* (pp.523-567). San Francisco, CA: Jossey-Bass.
- Skinner, B. F. (1938). *The behavior of organisms*. New York: Appleton-Century-Crofts..
- Stromberg, G, & Chappell, M. (1990). Where have all the classrooms gone? *Journal of Precision Teaching*, 7(1), 1-4.
- White, O. R. & Haring, N. G. (1976). *Exceptional teaching: A multimedia training package*. Columbus, Ohio: Charles E. Merrill Publishing Co. 391 Pages.