

# Celeration and Agility for the 2000's

## Ogden Lindsley \*

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### Frequency

- The number of times something happens divided by the counting time.
- Has two dimensions: count, count time. (Number per minute)
- Scale up the left side of our standard celeration chart (SCC).
- Given us by Fred Skinner, 1938, 1950 "Rate is a universal datum."
- You can count and chart anything you can think of including your thoughts.
- SCC covers all human performance from 1 a day to 1000 a minute.

(Rate focused song: "Pinpoint, Record, Consequence" Nancy Johnson 1967)

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### Fluency

- A Frequency high enough to guarantee Retention, Endurance, Application, and Stability. Clay Starlin, 1970; Eric Haughton 1972; Carl Binder, 1993.
  - Charting hit and miss frequencies guarantees both accuracy and fluency
  - Performed without effort or thought, fluent skills become second nature.
  - Think of fluency as fast, smooth, accurate, automatic skilled performance.
  - Fluent performances are very high dots on our standard chart.
  - A fluent person is a fast, accurate, performer.
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### Celeration

- How much a frequency multiplies over a standard time period.
  - Has three dimensions: count, count time, celeration period. (number per minute per week)
  - Slope of charted frequencies on our standard celeration chart. Lower left to upper right corner is x2. That is a 34 degree angle on all SCCs.
  - Standard charters can read the values on our celeration fan blades of x1, x1.4, x2, x4, x16 and ÷1.4, ÷2, ÷4, ÷16. Those angles and their meanings are what is standard on our chart.
  - Given us by no one. We discovered, measured, and named it our selves.
  - SCC covers all human learning from x100 to ÷100 per learning period.
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### Agility

- A celeration high enough to guarantee high celerations on future learning.
  - Agility is to celeration as fluency is to frequency.
  - Our SCC shows agility growing by steeper and steeper slopes.
  - Once agile (steep celeration) a learner feels ready for any learning challenge.
  - Think of agility as fast, smooth, accurate, automatic, skilled learning.
  - Agile performances are steep slopes on our standard chart.
  - An agile person is a fast, accurate learner.
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(PT Teacher focused song: "Are You Charting?" Hank Pennypacker 1973)

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**Early research:  
Frequency and  
celeration  
found  
independent**

- 1965-1974 Behavior Bank, Behavior Research Company  
Lindsley, Koenig, Kantor, Nichol, & Young, 1971.  
Proved frequency and celeration were independent.  
Divided 12,000 performances into 18 frequency bands from 1 to 3 per day up to 100 to 300 per minute.  
All frequency bands had the same from median celeration of x1.3 per wk.
- 1975-1980 Learning Bank, International Management Systems  
Koenig & Kunzelmann, 1980.  
Proved frequency and celeration were independent.  
Studied 8,868 school children in grades 1 to 6 finding no correlation between frequency and celeration.  
Frequency was minority class related, but celeration was not.  
Combining both more accurately predicted later special education assignment than did either alone.
- Frequency and celeration indicate different aspects of performance and both must always be reported and researched.

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**Later research:  
Fluency cult  
ignores  
celeration**

- Every chart ever charted has frequency, celeration, and bounce.
- Every precision teacher and precision learner tracks frequency, celeration and bounce every day. These are the three crucial aspects of performance.
- We must look at length, width, and height to know how to improve a box.
- We must look at frequency, celeration, and bounce to improve performance.
- Most of our research publications since 1980 ignored celeration and bounce.
- Morningside Academy's high gains were attributed to fluency.  
Johnson & Layng, 1992.
- Yet Morningside was the first to set school-wide x2 celeration aims in 1992.
- Fluency makes REAPS? How do we know it was not also celeration, or only celeration, if we don't report the celeration?

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**Teachers and  
learners set  
both frequency  
and celeration  
aims**

- Many of our private schools and learning centers now set three aims:  
Acquisition celeration aims above x2 per 10 timings on a Timings chart, and fluency building celeration aims above x2 per week on a Daily chart, and tool skill frequency aims above 100 per minute on the Daily chart.
- When your curriculum steps are so small that you get no jump down, you have no celeration to show learning. You can not estimate learning from the complex curriculum content. So leap over steps to get steep celerations!

(PT discoveries song: "How Does Performance Grow?" Og Lindsley 1999)

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**Research  
suggestions**

- Researchers should no longer ignore celeration, but should look at Retention, Endurance, Application, and Stability for these performance combinations:  
High Cel / High Freq  
High Cel / Low Freq  
Low Cel / High Freq  
Low Cel / Low Freq
- Michael Fabrizio has recently run such a pilot study with 4 middle school children at Morningside Academy. Fabrizio, 1999 He found:  
1) Celeration is at least as good a predictor of skill retention as frequency.  
2) Celeration is a better predictor of endurance than frequency.
- Finally, we have someone researching celeration! Congratulations, Michael!

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**Teaching suggestions.**

- Leap up your public school curriculum in giant steps.  
The small step curricula were built for learners without charts to motivate them and dispell their fear of low correct and high error frequencies.  
Gene Stromberg & Marilyn Chappell, 1990.
- Look for climbing bottoms and climbing tops showing fluency growth.
- Look for steeper slopes showing agility growth.

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**Og Quote 1999**

You have not described performance until you have described its frequency, its celeration, and its bounce.

(Celeration aim focused song: "We Will Do Times Two!" Og Lindsley 1996)

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**PRECISION TEACHING SONGS**

**Pinpoint,  
Record, and  
Consequate  
1967**

Words and music © by Nancy Julia Ann Johnson for Precision Teaching workshops, Operation Upgrade, Kansas City. MO.

Pinpoint, Record, and Consequate.  
Be specific, get that rate,  
Aim at the target, then consequate!  
Pinpoint, Record, and Consequate.

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**Are You  
Charting?  
1973**

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Words © by Hank Pennypacker, sung to the folk tune of “Frere Jacques,” for Precision Teaching of Florida workshops.

Are you charting? Are you charting?  
Yes we are! Yes we are!  
Chart a little movement. Look at the improvement!  
Every day, In every way.

Are you changing? Are you changing?  
Yes I am! Yes I am!  
Changing my procedures. Helping little creatures,  
Learn to grow. See them grow!

Are we teaching? Are we teaching?  
Yes we are! Yes we are!  
Teaching with Precision, making each decision,  
with our charts. From our hearts!  
From our hearts!

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**How Does  
Performance  
Grow? 1999**

Words © by Og Lindsley, sung to the tune of “Jingle Bells,” for industrial standard charting workshops.

**1st Verse**

How does performance grow?  
As we count it day by day.  
To chart it we must know.  
To change it we must say:

**Chorus**

Multiply, multiply,  
multiply each week.  
That's how our performance grows  
To the fluency we seek.

**2nd Verse**

Start with zero? No!  
To that there's no debate.  
We need one to grow,  
Two, then four, then eight!

**3rd Verse**

Do errors go away,  
when corrects go up each day?  
It's not as you think.  
They go their own way!

**4th Verse**

Middle guy does ten.  
And our bottom guy does two.  
Will top guy do eighteen?  
No! Top guy does fifty!

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**We Will Do  
Times two!  
1996**

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Words © by Og Lindsley, sung to tune of union song, "We Shall Not Be Moved." for summer workshop and institute in Seattle.

We all promise - we will do times two.  
We all promise - we will do times two.  
Just like our friends who shared and learned at Provo,  
We will do times two!

Kent is our designer - we will do times two.  
Kent is our designer - we will do times two.  
Just like our friends who shared and learned at Provo,  
We will do times two!

Og's our chart inventor - we will do times two.  
Og's are chart inventor - we will do times two.  
Just like our friends who shared and learned at Provo,  
We will do times two!

Ray's our teacher trainer - we will do times two.  
Ray's our teacher trainer - we will do times two.  
Just like our friends who shared and learned at Provo,  
We will do times two!

Chuck is our President - we will do times two.  
Chuck is our President - we will do times two.  
Just like our friends who shared and learned at Provo,  
We will do times two!

Bruce set up our meeting - we will do times two.  
Bruce set up our meeting - we will do times two.  
Just like our friends who shared and learned at Provo,  
We will do times two!

Tracy did the hard work - we will do times two.  
Tracy did the hard work - we will do times two.  
Just like our friends who shared and learned at Provo,  
We will do times two!

We all promise - we will do times two.  
We all promise - we will do times two.  
Just like our friends who shared and learned at Provo,  
We will do times two!

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