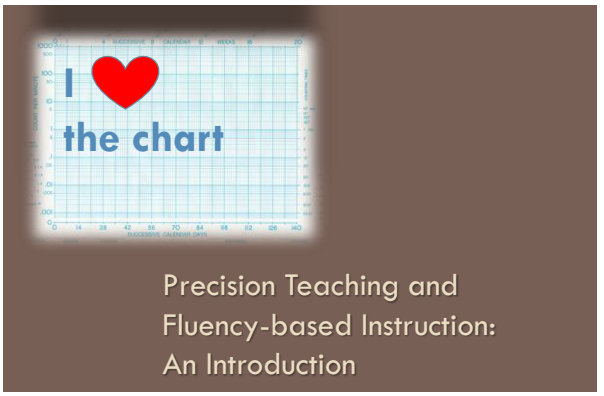
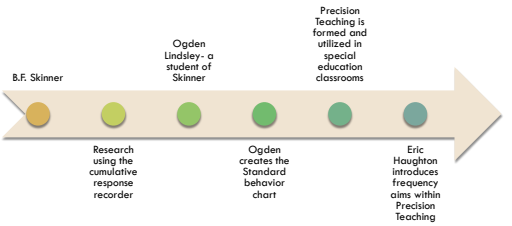


Precision Teaching and Fluency-based Instruction: An Introduction

Heidi St. Pierre, M.Ed., BCBA
Krista Zambolin, M.Ed., BCBA, Zambolin Consulting Inc.

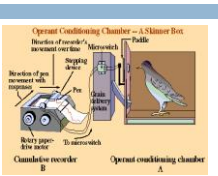
Ready, Set, Begin

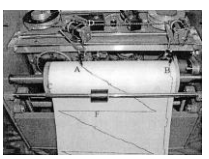


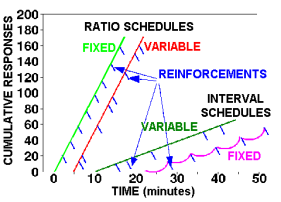
It All Started With…..

"I was going to be a writer but I decided I had nothing to say…."

Cumulative Response Recorder





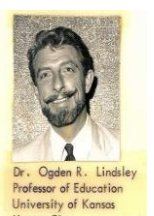


Skinner's Legacy….

"My most important contribution (to science) was rate of response and the cumulative response recorder.."

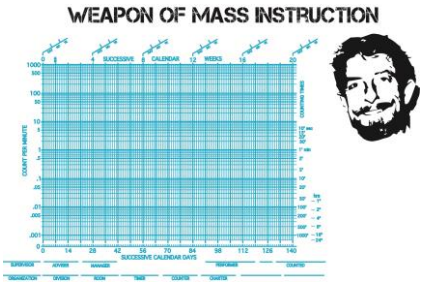
Evans.r.l, 1968. B.F. Skinner: The Man and His Ideas. New York.

Introducing: Ogden Lindsley!



Ogden joined the US army, in 1944. His aircrew went down in the hills of Albania . On his 22nd birthday he and his crew were captured by Germans. Ogden escaped three months later and received thee purple hearts.

The Standard Celeration Chart

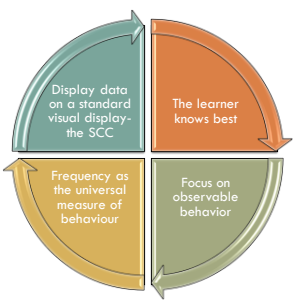


Introducing: Eric Haughton

You can take behavior out of time but you can't take time out of behavior
-Dr Eric Haughton

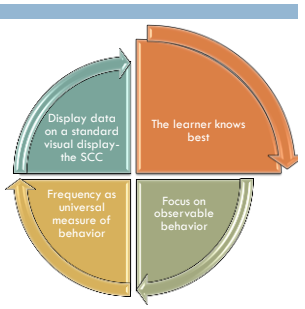
A snapshot of history

PRECISION TEACHING COMPONENTS



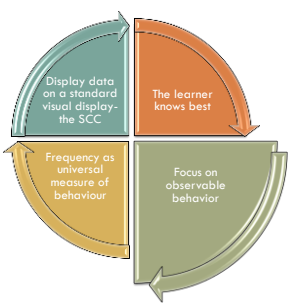
The Learner Knows Best

- Behavior is lawful and responds to environmental variables
- Expected and unexpected data patterns are created by the learner
- Follow the data to understand how the learner is learning!



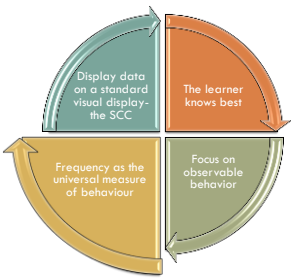
Focus on Observable Behavior

- Direct observation leads to direct measurement
- Use specific language when defining your target behaviors
- Hard to improve behavior you cannot observe!



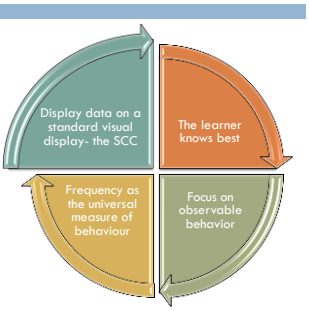
Frequency as the Universal Measure of Behavior

- All behavior occurs in time
- Match the measurement unit to what you are counting
- Frequency allows one to describe, predict and compare data sets easily



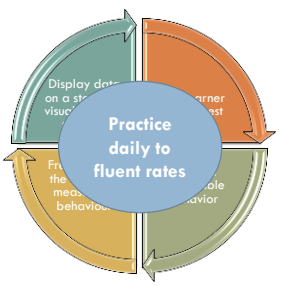
Display Data on a Standard Visual Display- The Standard Celeration Chart

- The SCC is the heart of Precision teaching
- A standard visual display that simplifies data-based decision making
- Comparing and contrasting made simple!



The Standard Celeration Chart

One more component



What is fluent behavior?

- Accurate plus fast
- Second nature
- Automatic
- Quick without thinking
- Smooth
- Effortless

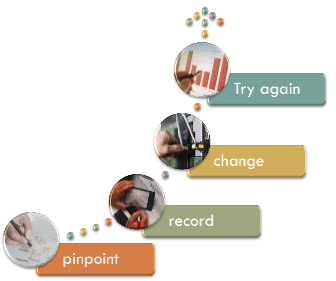
Why Fluency?

- When learners practice behavior to fluent rates:
  - The behavior can be maintained and retained for longer
  - The behavior can endure and be maintained for longer periods of time
  - The behavior can be applied to new situations or materials
  - And the behavior can be displayed even in the face of distraction

In Precision Teaching we call this..

- RESA:
  - Retention- can the same rates of behavior be achieved after a period of time with no practice?
  - Endurance- can the same rates of behavior be achieved during increased sustained practice?
  - Stability- can the same rates of behavior be achieved in the face of meaningful distraction?
  - Application- can the same rates of behavior be achieved when new materials or environments are used within the same response class

The Precision Teaching Process



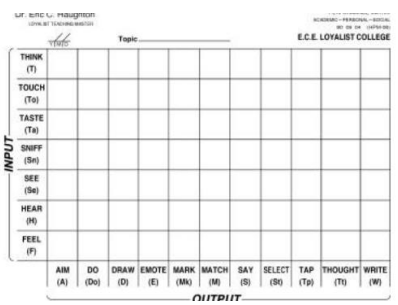
Pinpoint the behaviour to count

- Describe precisely what you are going to count
  - What do you want to increase or decrease?
  - Is it directly observable?
  - Is it countable?
  - What is your movement cycle?
  - Correct descriptions of behavior lead to more accurate measurement systems

Pinpoint the behaviour to count

- Use learning channels to describe the learning process
  - Sensory ins and behaviour outs
  - Describes the interaction between the antecedent stimuli and the response behavior
  - An unambiguous way to describe the form of behavior

Pinpoint the behaviour to count



Pinpoint the behavior to count

- Some learning channel and pinpoint examples
  - See/say animals
  - Hear/do commands
  - Hear/say steps in a process
  - See/match categories
  - Free/say facts about a topic
  - Hear/say questions and answers

Record, record, record

- Effective measurement systems validate learning outcomes
- Daily, direct measurement provides rich information to inform decisions, to compare learning outcomes, to direct progress
- Measurement ensures accountability: to the learner, from the instructor, to the learning outcome!

And record some more!

- Do not underestimate a good timer, a good set of tally counters, effective data sheets, and post-it notes!
- Multiple ways to record
  - Automatic recording on a computer
  - Permanent product recording
  - Observational recording
  - Self-recording

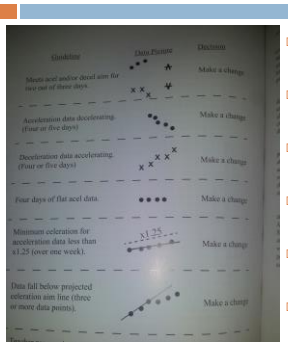
Putting it all together

Pinpoint	Learning Channel	Counted	Recording Method
3rd grade text	See/read words out loud	Words read correctly/incorrectly per minute	Observational recording with same set of materials
items in pictures	See/say labels	Labels said correctly/incorrectly per minute	Observational recording
Brushing teeth	Free/do brush teeth	Number of strokes with bristles on teeth/not on teeth per minute	Observational recording
Addition facts to 10	See/write answers to questions	Number of strokes correct/incorrect per minute	Permanent product

Change

- Data-based decision is made easy using the SCC
- After one data point:
  - We can evaluate the learners accuracy pair (the correct and incorrect responses)
- After three data points:
  - We can start to see a pattern, or a trend in the data
  - We can often decide to change or stay after 3 data points

Some Change Guidelines



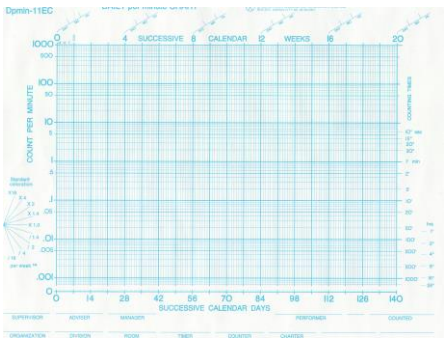
- Meets or exceeds aim over 3 days
- Accelerating data decelerating
- Decelerating data accelerating
- 4 days of flat accelerating data
- Minimum celeration not achieved
- Data falls below projected celeration aim line

(Kubina & Yurich, 2012)

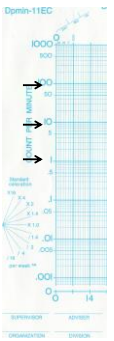
Try Again

- Never give up on the learner
- Systematically change variables to see if it produces improved behavior
- Use the data to help you problem solve
- Keep changing until you get it right!

The Standard Celeration Chart



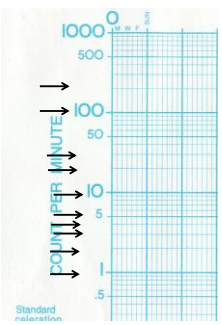
The Standard Celeration Chart



A helpful rhyme:

The numbers on the side that start with one,
Tell you what to count by
And what to count from

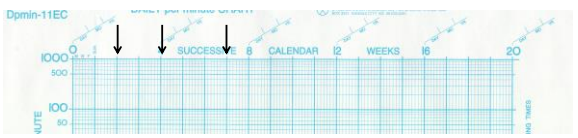
The Standard Celeration Chart



The Standard Celeration Chart

- Your turn!
- We are going to:
  - See.touch/say the numbers on the side starting at 1
  - We will be behaving for 15 seconds
  - We will record our score after the timer beeps
  - We will be doing this three times
  - GO!

The Standard Celeration Chart

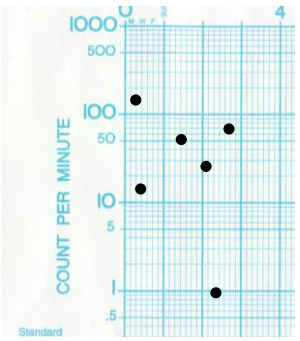


- The vertical lines represent days of the week
- Each dark line is a Sunday
- All data is graphed in real time, we do not break time on the chart

The Standard Celeration Chart

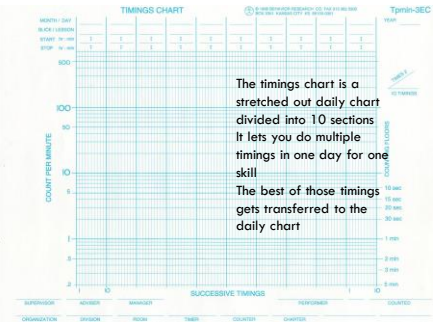
- Your turn!
- We are going to:
  - see.touch/say the days across the top
  - Starting at any Sunday (mark where you start)
  - We will be behaving for 15 seconds
  - We will be doing this three times
  - GO!

The Standard Celeration Chart



- This should be a dot on
- 50
- 100
- 1
- 14
- 65
- 19

The Standard Celeration Chart

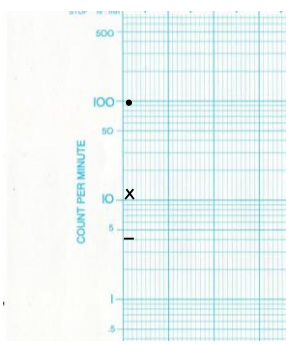


The timings chart is a stretched out daily chart divided into 10 sections
It lets you do multiple timings in one day for one skill
The best of those timings gets transferred to the daily chart

The Standard Celeration Chart

- We are going to transfer our data from the see.touch/say timings we did to see our celeration
- All data on the SCC is converted to 1 minute
- We preformed for 15 seconds
- We need to times our correct responses AND our incorrect responses by 4 to convert them to 1 minute

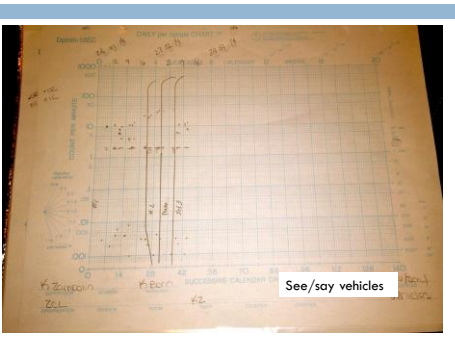
The Standard Celeration Chart



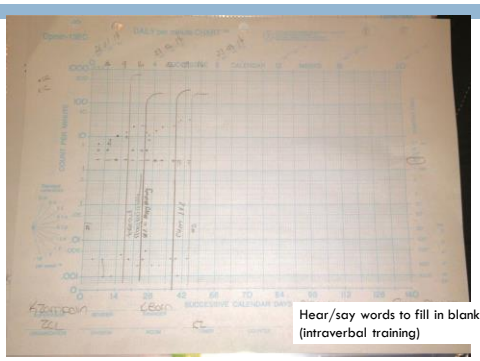
- Step 1:
  - Draw your timing floor on 4 on the first light vertical line- you draw your timing floor on the number you times by
- Step 2:
  - Plot the number of corrects you got per minute on that same line
- Step 3
  - Plot the number of incorrects you got per minute on that same line
- Step 4
  - Do the same for all of your data, moving to the next section for the see.touch/say days of the week
- Step 5
  - Take the best of each set of data and transfer it to the daily on a Saturday

Some SCCs with Data

Some SCCs with Data

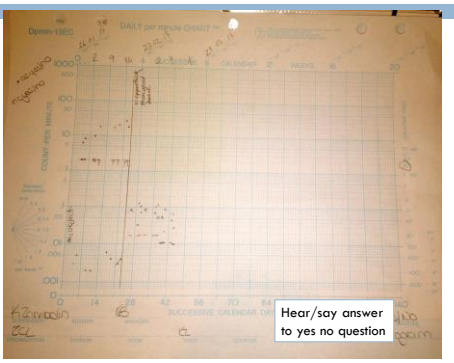


Some SCCs with Data



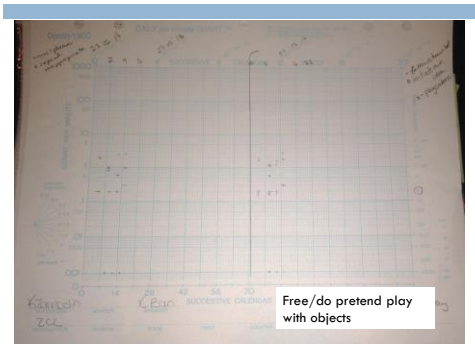
Hear/say words to fill in blank (intraverbal training)

Some SCCs with Data



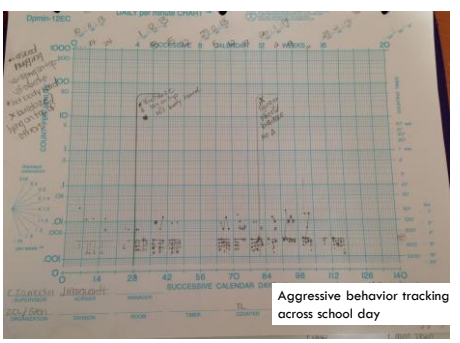
Hear/say answer to yes no question

Some SCCs with Data



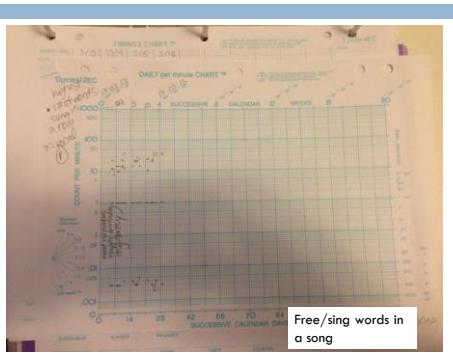
Free/do pretend play with objects

Some SCCs with Data



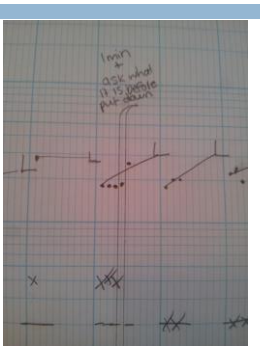
Aggressive behavior tracking across school day

Some SCCs with Data



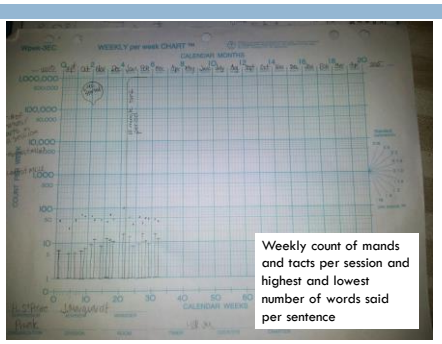
Free/sing words in a song

Some SCCs with Data



Example of a successful intervention using the timings chart

Some SCCs with Data



Weekly count of mands and tacts per session and highest and lowest number of words said per sentence

Some SCCs with Data

An example of a see/say labels chart where we tried to introduce a new slice without first introducing the targets in hear/touch- it did not go well!

References

Binder, C. (1996). Behavioral Fluency: Evolution of a New Paradigm. *The Behavior Analyst,* 19(2), 163-197.

Kerr, K.P., Smyth, P., & McDowell, C. (2003). Precision teaching children with autism: Helping design effective programmes. *Easy Child Development and Care,* 173(4), 399-410.

Kubina, R.M. & Morrison, R. (2002). Benefits of adding precision teaching to behavioral interventions for students with autism. *Behavioral Interventions*, 17(4), 233-246.

Kubina, R.M. (2012). *The precision teaching book*. Lemont, PA: Greatness Achieved Publishing Company.

.

Lindsley, O.R. (1991b). Precision teaching's unique legacy from B.F. Skinner. *Journal of Behavioral Education*, 1(2), 253-266.

References

Lindsley, O.R. (1992). Precision teaching: Discoveries and effects. *Journal of Applied Behavior Analysis*, 25(1), 51-57.

Vargas, J. (2003). Commentary. *European Journal of Behaivor Analysis,* 4(1&2), 80-86.

West, R.P., Young, K.R., & Spooner, F. (1990). Precision teaching: An introduction. *Teaching Exceptional Children*, 22, 4-9.

White, O.R.(1986). Precision Teaching-precision learning. *Exceptional Children*, 52, 522-534

Resources

http://www.haughtonlearningcenter.com/

http://www.morningsideacademy.org/

http://celeration.org/

http://www.fluency.org/

http://www.behaviorresearchcompany.com

kzambolin@telus.net

heidical@shaw.ca