

Introduction

- Discrete trial training (DTT) is a widely utilized teaching procedure in Applied Behavior Analysis.
 - Common teaching errors surround inadvertent facilitation of faulty stimulus control
- Our purpose was to determine whether trainers are programming for detection of common errors.
 - Extended Thomson, Martin, Arnal, Fazzio and Yu, (2009), by conducting a systematic literary review

Method

Keyword search using PsycINFO

- Years 2000 – 2016
- English, Peer Reviewed, Empirical
- Discrete Trial* OR Discrimination Train* OR Direct Teach* AND Train* OR Teach* AND Staff* OR Teacher* OR Parent* OR Caregiv* OR Practition* OR Undergraduat*

N = 474

Inclusionary Criteria

- DV: Participants' procedural integrity
- IV: Training packages for teaching DTT
- References not captured in search

N = 29

N = 1

N=30

Interobserver Agreement

- 33% of articles independently reviewed
- 90% agreement on information sought (range 50%-100%)

Discussion & Future Research

Effectiveness of training is broadly defined across the literature.

- 80% - 100% procedural integrity across 2-3 consecutive sessions
 - Sessions to mastery varied (10-20 trials per session)
- Only 63% of authors assessed generalization.

Author reported measures that varied or were omitted:

- Components of procedural integrity (PI)
- Programs taught
- Method of stimuli presentation
- Errors related to faulty stimulus control

Future Researchers should:

- Develop a PMT to account for procedural errors that facilitate faulty stimulus control (e.g. inadvertent cues)
- Evaluate whether added components from best practice recommendations reduce common stimulus control errors
- Standardize measures for evaluating performance of DTT implementation

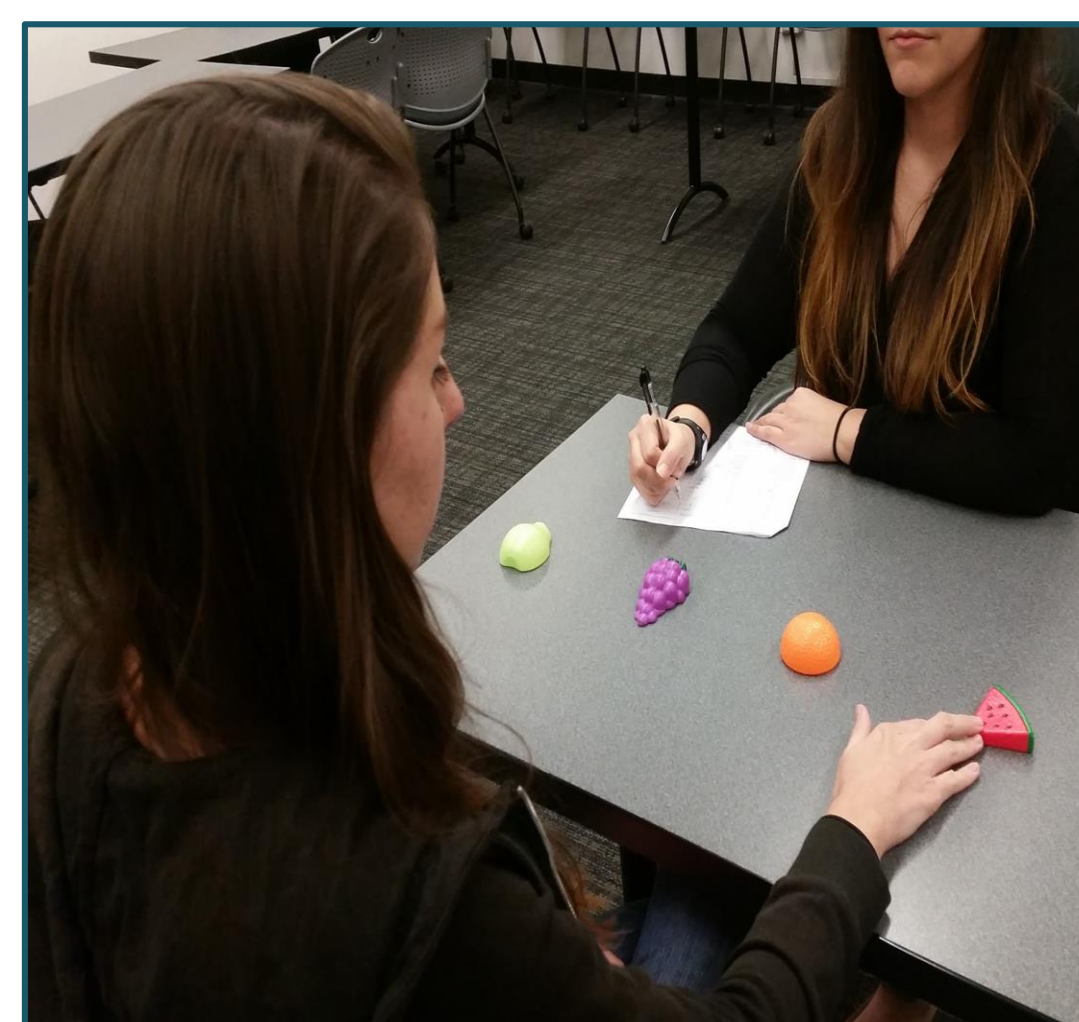
Results

Table 1. Participant Characteristics

Demographics	N = # of Participants N (%age)
Undergraduate Students	110 (42%)
Staff (Behavioral)	55 (21%)
Parents	53 (20%)
School Staff	37 (14%)
Graduate Students	7 (3%)
Experience Implementing DTT	N = # of Articles N(%age)
Yes	12 (40%)
No	13 (43.33%)
Not Stated by authors	5 (16.67%)

Table 2. Elements of Training

Programs Taught	N = # of Articles N(%age)
Receptive (i.e. Listener Responding)	18 (28%)
Match to Sample	13 (20%)
Expressive (e.g., Tacting, Manding)	13 (20%)
Imitation	12 (19%)
Other	2 (3%)
Not Stated by authors	6 (9%)
Number of Programs Taught	N = # of times mentioned N(%age)
1	10 (29%)
2	5 (15)
3+	13 (38%)
Not Stated by authors	6 (18%)
Prompting Method	
Most to Least (MTL)	5 (15%)
Least to Most (LTM)	8 (24%)
MTL and LTM	0 (0%)
Not Stated by authors	21 (62%)
Stimuli Presentation	
Simultaneous	5 (15%)
Sequential	0 (0%)
Not Stated by authors	29 (85%)



▲ Simultaneous Method



▲ Sequential Method

Table 3. Elements of Effective Training

Training Method	N = # of Applications	N = Total Participants	% Effective/ # of applications	% of Experienced Participants	% of Non-Experienced Participants	Mdn. (SD)
Training Manual	3 (8.8%)	22	70%	0 (0%)	1 (33.3%)	NS (NS)
Training Manual + Model	3 (8.8%)	26	75%	0 (0%)	2 (66.7%)	4h 38m (3.13)
Video Model	4 (11.8%)	26	39.67%	1 (25%)	1 (25%)	1h 46m (1.2)
Observer Effect	3 (8.8%)	11	92.25%	3 (100%)	0 (0%)	21m (0.24)*
Behavior Skills Training	11 (32.4%)	54	100%	5 (45.5%)	3 (27.3%)	3h (2.03)
Virtual Reality	1 (2.9%)	4	100%	0 (0%)	1 (100%)	1h 30m (1.01)
Computerized Training	7 (20.6%)	107	50%	0 (0%)	6 (85.7%)	2h 48m (1.89)
Performance Feedback	2 (5.9%)	12	100%	1 (50%)	0 (0%)	NS (NS)
Total	34	262				2h 17m

Review of Performance Monitoring Tools

Components Present in DTT Training Literature	
1	Identified the essential components of a written skill acquisition plan (e.g. target responses and prompting method)
2	Gathered necessary materials (e.g. data sheet, pen, stimuli)
3	Selected effective reinforcers (e.g. unsatiated stimuli, ranked high on a preference assessment)
4	Secured child's attention (e.g. child makes eye contact with therapist for 2 seconds)
5	Presented correct instruction
6	Instruction was delivered in a neutral tone
7	Reinforcer was delivered
8	Reinforcer was delivered immediately (within 30-s)
9	(Incorrect Response) Blocked response and removed materials
10	Begun next trial within 3-5 seconds
11	Collected data on all trials

Note. * Components on PMTs outside of DTTEF

Components Missed in DTT Training Literature	
1	Identified method of stimuli presentation (i.e. simultaneous, sequential)
2	Instruction was clear (i.e. clear of any distractors)
3	Instruction was concise (i.e. minimal number of words used)
4	Implementer bx was absent of inadvertent cues: Eye gaze: therapist looked at the client, rather than the stimuli when delivering instruction; Physical Movements: therapist minimized change in body posture and positioning following instruction (excluding prompted trials)
5	Placement of stimuli: Placed equidistant apart Rotated systematically across trials
6	Appropriate potency/amount/size of reinforcer
7	Correct level of prompt delivered
8	Recorded Prompt Level: Repeat verbal instruction, Partial Verbal, Full Verbal, Textual, Visual, Gestural, Model, Positional Cue, Partial Physical, Full Physical

Selected References

Thomson, K., Martin, G. L., Arnal, L., Fazzio, D., & Yu, C. T. (2009). Instructing individuals to deliver discrete-trials teaching to children with autism spectrum disorders: A review. *Research in Autism Spectrum Disorders*, 3(3), 590-606.

Lerman, D. C., Dittlinger, L. H., Fentress, G., & Lanagan, T. (2011). A comparison of methods for collecting data on performance during discrete trial teaching. *Behavior analysis in practice*, 4(1), 53.

Grow, L. & LeBlanc, L. (2013). Teaching receptive language skills: Recommendations for instructors. *Behavior Analysis in Practice*, 6(1), 56-75.