11th International CABAS® Conference

Advances in Research in Behavioral Development

Dedicated to recent advances in the sciences of learning, pedagogy, and verbal behavior development

March 4-5, 2022

Hotel Nyack
400 High Street
Nyack, New York 10960

The CABAS® Conference is hosted by the Foundation for the Advancement of a Strategic Science of Teaching (FASST; scienceofteaching.org)

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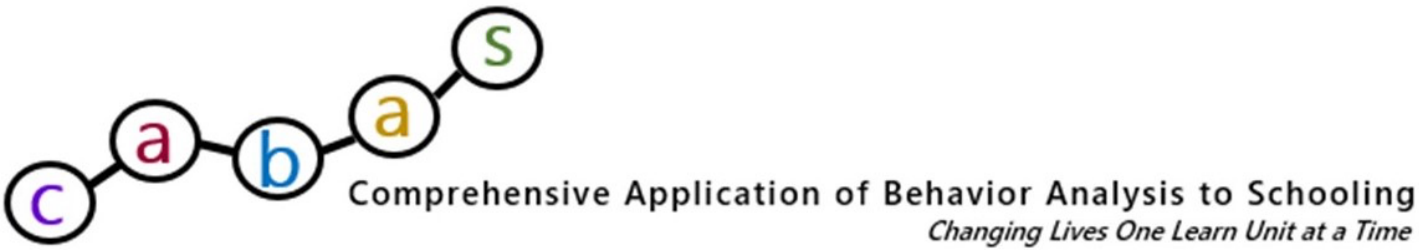

We are pleased to announce that CABAS® has been selected to receive the SABA award as an organization for Enduring Programmatic Contributions in Behavior Analysis to be awarded in 2024 ABAI conference in Philadelphia!

Friday, March 4, 2022

Event 1
1:00-3:00pm: WORKSHOP
Location: Wellington
2 CEUs
Chair and CE Instructor: Claire Cahill, PhD, LBA, BCBA-D, SBA

Early Learner Curriculum and Achievement Record and Protocol Updates
CLAIRE CAHILL, LIN DU, JEANNEMARIE SPECKMAN, JENNIFER WEBER, JENNIFER LONGANO, AND JESSICA DUDEK
The Fred S. Keller School and FASST®

This workshop will cover recent changes in the ELCAR and early verbal behavior developmental protocols. Come meet with the authors of the ELCAR to share your feedback and hear about upcoming changes for the 2nd edition as well as the latest findings related to VBD protocols. Bring your questions!
(2 CEUs)

About the Foundation for the Advancement of a Strategic Science of Teaching (FASST; scienceofteaching.org)

FASST is a non-profit 501(c)(3) organization whose mission it is to contribute to the well-being of society by promoting teaching, professional education, collaboration, research, and competency driven applications of the science of behavior analysis to solve problems in the home, school, community, and workplace through application in settings that include public, charter and private schools; clinics; learning centers; and in the context of tutoring. FASST strives to create, promote, and otherwise enhance domestic and global dissemination of scientifically sound and otherwise reliable information on behavioral services and science, and to promote collaboration that advances this goal.

Core objectives of FASST are to promote collaboration among those engaged in behavior analysis, to support development and expansion of a learner- driven science of teaching for all children, to improve ongoing and future applications of behavior analysis directly and through the education of those providing and receiving behavior analytic services, and to raise awareness of and otherwise link the public and behavior analyst with evidence-based and otherwise scientifically sound behavior analytic resources.

In 2018, the CABAS® Advisory Board unanimously voted to partner with FASST to continue to expand and develop CABAS® initiatives and to ensure CABAS® endured in perpetuity.

Event 2

5:00-7:00pm: POSTER SESSION

Chair: Jessica Singer-Dudek, PhD, LBA, BCBA-D, SBA, AssocRS

7:00-9:00pm: DINNER (included)

POSTERS

1. **The Effects of Listener Emersion Protocol on the Rate of Learning for Preschool Children with Development Delays**
Georgette Morgan, CAMILLE FONSECA, and Jordanna Maier
The Fred S. Keller School

2. **The Implementation of a Writer Immersion Treatment Package and the Effect on Students' Functional Writing**
SARAH BILLIOT, MAX Charter School, Grant Gautreaux and Jennifer Weber, Nicholls State University and MAX Charter School

3. **The Effects of an Accelerated Auditory Matching Protocol for Early Intervention Students**
TIANYUE SUN, Yifei Sun, Cesira Farrell, Song Choi, and Sofia Oliveira Soares
Columbia University Teachers College and the Fred S. Keller School

4. **A Systematic Review of Assessments of and Interventions to Establish Incidental Naming**
CARLI HEIMAN, Aparna Naresh, Joseph Peysin, and Daniel Fienup
Columbia University Teachers College

5. **Bidirectional Derived Relations with Tactile Stimuli**
JOSÉ-JULIO CARNERERO, Universidad Internacional de La Rioja, Spain
Laura Rodríguez, Private Practice, Spain and Anna B. Müller-Queiroz, BÁ Educa and Centro Paradigma, Brazil

6. **The Effects of Observational Learning in the Emergence of Stimulus Equivalence (II): Direct Teaching versus Probes Trials**
KENYA R. VELÁZQUEZ, Private Practice, Spain and José-Julio Carnerero, University of Córdoba, Spain

7. Investigating the Effects of the Echoic on the Emergence of Naming
KATE HEWETT, Veronica Baroni, and Emma Hawkins, Jigsaw School

8. **Introducing 'The Interest Table'- A Comparison of Antecedent Stimuli on Peer Interactions in Children with a Diagnosis of Autism**
HAYLEY LOCKE, Jigsaw CABAS® School, Queens University Belfast and Brian Fennell, Queens University Belfast

9. **The Effects of Sensory Integration Therapy, Behavior Analytic Strategies, and Exercise on Stereotypy in Children with Autism Spectrum Disorder**
HANNAH WALKER and Robin Nuzzolo
Columbia University Teachers College and the Fred S. Keller School

10. **A Strategic Science Application to Quality and Rate of Effective Interactions among Mentors and Mentees**
DOLLEEN-DAY KEOHANE, Nicholls State University, Jayven Encarnacion, Touchstone, Jenny Cronier, Tulane Center for Autism and Related Disorders, Tricia Clement, Nicholls State University and Touchstone

11. The Effects of an Auditory Match-to-Sample iPad App on Echoic Clarity and Listener Literacy
NADIA SYED, Shiyi Wang, and Tanya Bajwa, Teachers College, Columbia University

Saturday, March 5th

8:00-9:00am: **Breakfast (included) and Conference Registration**

Event 3
9:00-9:50am: **INVITED ADDRESS**
1 CEU
Chair and CE Instructor: R. Douglas Greer, PhD, SBA, SRS

Dr. PER HOLTH

Professor Per Holth received his license to practice psychology in 1983, and his Ph.D. in 2000, with a dissertation on the generality of stimulus equivalence. His clinical work has been in services for people with autism and developmental disabilities, in psychiatric units, and in the military services. His research activities span basic research, on stimulus equivalence and joint attention, as well as applied work and management of large research projects. Per Holth has taught classes in behavior analysis and learning principles at the University of Oslo and Oslo and at OsloMet—Oslo Metropolitan University since 1982 and joined the faculty of OsloMet and the Program for learning in complex systems, as an associate professor in 2004 and as full professor in 2006. He teaches classes in all behavior-analytic education programs at OsloMet. He has written for peer-reviewed publications on basic research, applied work, and philosophy of science, served on several editorial boards, and he was one of the founding Editors and a member of the editorial troika of the *European Journal of Behavior Analysis* for 15 years, and he was on the board of directors of the B.F. Skinner Foundation from 2012 to 2019. He has been a program co-coordinator of the TPC area and for the Development area of ABAI, and he has been the international representative at the ABAI Council from 2017 to 2020. He is an associate editor of *Perspectives on Behavior Science*, and his current research interests have drifted in the direction of basic experimental work with animals and humans, specifically concerning (1) sources of behavioral variability, (2) blocking and the establishment of conditioned reinforcers, (3) delay of reinforcement, (4) continuous repertoires, (5) the establishment of naming, and (6) variables affecting confirmation bias. He also maintains an interest in theoretical, conceptual, and philosophical issues, including verbal behavior, radical behaviorism, and different types of explanations.

Title: Sources of Novel Behavior: Toward a Taxonomy

Abstract: The issue of the sources of novel performances is important for both theoretical and practical reasons. For practical purposes, sources of novel behavior are of basic importance because teaching always aims to establish more than what is directly taught. The lack of generality of directly taught skills is among the more serious concerns in the work with developmentally disabled persons, and behavior modification texts typically include sections on “making generalization effective,” or “programming generalization.” Theoretically, the mechanism of selection by consequences tacit in the

concept of contingencies of reinforcement implies that a response must occur at least once before its consequences can affect the frequency of subsequent instances. Thus, accounting for ontogenetic behavioral changes in terms of contingencies of reinforcement depends upon the specification of liable sources of first occurrences of nascent behavioral units. Many behavior-analytic terms are directly concerned with novel behavior, and some go significantly beyond what is covered by the technical concepts of stimulus and response generalization.

Event 4
9:50-11:05am
SYMPOSIUM 1: Strength of Reinforcement Stimulus Control for Incidental Bidirectional Naming (Inc-BiN) and Establishment of Inc-BiN via Curricular Design
Chair and CEU Instructor, Jennifer Longano, BCBA-D, LBA, SBA, AsstRS
(1.5 CEUs)

Symposium Abstract

For almost two decades, the CABAS/TCCU lab has researched the source of how children come to learn most of their language as *both listener and speaker* from exposure (i.e., observing others name things) where caretakers *do not engage in reinforcement operations.* The stimulus control that makes this possible is an environmentally learned verbal developmental cusp and overarching operant that we identified as incidental Bidirectional Naming. Several interventions have established this verbal developmental cusp when it was missing, suggesting children with different instructional histories require different interventions. However, the root source appears to be a combination of learned and embedded reinforcers for component correspondences between responding to words and other sensory stimuli as a listener then as a speaker. Expansion of the learned reinforcers lead to the multiple levels and complexities that make up the different combinatorial Inc-BiN relations, merging VBDT findings with RFT and other derived relations research. Once a given strength of stimulus control for Inc-BiN is demonstrated, repeated exposures to Naming Experiences alone and no interventions results in advances in levels, complexities, and stronger stimulus control within levels and complexities. Stronger stimulus control allows fewer exposures for learning names from observing. Moreover, assessments that compare brief and prolonged exposures provide measure for identifying the strength of the stimulus control for Inc-Bin (i.e., number of exposures needed) as described in one of the papers in our symposium. Strong stimulus control for Inc-BiN has been found to result in children learning more from antecedent instruction and is a key component for academic success including increasing reading comprehension as a function of increasing stimulus control for Inc-BiN for nonfamiliar and symbolic name relations. Research presented today describes how: (a) this strength of stimulus control is related to curricular mastery in general education and special education, (b) 24- to 36-month-olds who demonstrated or with whom researchers established strong Inc-BiN stimulus control) learn new tacts twice as fast under Naming Experiences alone (no Learn units) than the intensive tact procedure. This suggests a, or the, mechanism for learning language, what Chomsky called the “missing stimulus control” in Skinner’s theory of verbal behavior. The mechanism consists of learned reinforcers that are embedded in the stimuli associated with names of things that, in turn, act further to expand the complexities and levels of naming from additional exposure alone. Finally, research identifies ways to establish Inc-BiN through curricular design wedded to pedagogy.

Paper 1: **When Learning the Names of Things Become as Important or More Important than Reinforcement Delivered by Others**
Authors: CESIRA FARRELL, R. Douglas Greer, and Stephanie Nelson

After determining participants' strength of stimulus control for incidental Bidirectional Naming (Inc-BiN), we used an alternating treatments design to compare the learning of tacts under Naming Experiences conditions and learn unit tact conditions. Participants ranged in age from 28-35 months. Once participants with whom we established Inc-BiN or who demonstrated Inc-BiN, learned 100 tacts under each of the conditions, we conducted "maintenance probes." In the next phase, participants were taught another 100 tacts under alternating conditions, however, there were twice as many opportunities to respond to tacts under the naming experience-condition, following which, another maintenance probe was conducted. Thus far, we have had 1 participant, who initially demonstrated Incidental unidirectional Naming, (Inc-UniN) and 4 participants who initially demonstrated Inc-BiN, who have completed all experimental phases. Findings thus far show: a) participants with incidental bi-directional naming acquire tacts 2 to 3 times faster under the naming-experience condition, b) participants' acquisition under each condition corresponds to the strength of reinforcement stimulus control they later demonstrate under maintenance probes, and c) participants' acquisition rates under both conditions increased significantly from the acquisition of the first 100 tacts to the next 100 tacts. This study is ongoing as we continue to investigate shifts in reinforcement stimulus control from experimenter delivered reinforcement to what we currently believe is conditioned reinforcement for correspondence for name/object relations.

Paper 2: **Stimulus Control for Incidental Bidirectional Naming Predicts Learning Mastery**
R. Douglas Greer, YIFEI SUN, and Jennifer Weber

Existing research repeatedly established a functional relation between the acquisition of Incidental Bidirectional Naming (Inc-BiN) and accelerated rates of learning. When an individual demonstrates Inc-BiN, they acquire novel operants through exposure (i.e., listening and looking observing responses) without contacting direct consequences delivered by others. Recent studies found that the presence of Inc-BiN predicts not only the rate but also the quality and complexity of operants. We investigated how the strength of stimulus control for Inc-BiN predicts students' short-term and long-term mastery of objectives (measured as the numbers of correct responses to immediate and delayed unconsequated probes after mastering new learning objectives under learn unit conditions) and test scores. We first examined the correlation between the strength of stimulus control for Inc-BiN and learning outcomes for 146 students across different grade levels. The second study utilized a repeated probe procedure to measure the strength of stimulus control for Inc-BiN in terms of the number of exposures required for individuals to demonstrate Inc-BiN. We investigated if the new measure predicts students' immediate and delayed responses after the mastery of academic objectives. Results indicated a significant correlation between the strength of stimulus control for Inc-BiN measured both as number of exposures to demonstrate Inc-BiN and the number of correct responses to school curriculums.

Paper 3: **Comparison Between Types of Instructional Demonstration Learn Units on the Acquisition of Math Operants**
YIFEI SUN

Researchers found that students who demonstrated Incidental Bidirectional Naming (Inc-BiN) acquired novel operants through exposure whereas students who did not demonstrate Inc-BiN required direct contact with the contingencies to learn. In the current study, we used an adapted alternating treatment design to compare how fast the participants demonstrating different strengths of stimulus control for Inc-BiN acquired novel math operants given different types of instructional demonstration learn units (IDLUs). The participants of the study were 10 fifth grade students who demonstrated various strength of stimulus control for Bidirectional Naming. Four participants demonstrated Inc-BiN, three participants demonstrated Incidental Unidirectional Naming (Inc-UniN), and three participants demonstrated insufficient stimulus control for Naming (NiN). The dependent variable of the study was the rate of acquisition of novel math operants measured as the cumulative number of objectives met after every five learn units. The independent variables of the study were the two IDLU conditions: (1) demonstration only IDLUs and (2) IDLUs with speaker echoic opportunities. We found that participants who demonstrated Inc-BiN acquired new math operants at a comparable, or faster rate when presented with demonstration-only IDLUs whereas, participants who demonstrated Inc-UniN or NiN acquired novel math operants faster when presented with IDLUs with speaker echoic opportunities.

Paper 4: **Effects of a Curriculum-Based Intervention on the Increments of Stimulus Control for Incidental Bidirectional Naming and Student Learning**
FRANCIS JIHYE HWANG-NESBIT, R. Douglas Greer, and Jennifer Weber

In two experiments, we tested the effects of a curriculum-based intervention on preschool students' degree of stimulus control for Incidental Bidirectional naming (Inc-BiN) across familiar and unfamiliar word-picture relation levels of complexity. In Experiment I, we used a multiple probe design to test the effects of the curriculum-based intervention on the degree of BiN for familiar word-picture relations. All four participants in the first experiment demonstrated an increase in the degree of Inc- BiN for familiar picture-word relation, with three participants meeting the incidental BiN criterion level of 80% across three response topographies. In Experiment II, we compared the curriculum-based intervention and repeated novel naming experience (RNNE) on preschool students' degree of Inc-BiN and learning. The dependent variables were 1) degree of stimulus control for BiN across familiar and unfamiliar word-picture relations 2) learn units to criterion across math and reading 3) percentage of correct responses to unconsequated post-math and reading instruction probes. We investigated whether the method of acquisition of Inc-BiN, a curriculum based or RNNE, has differential effects on the dependent variables. Three out of four participants who received the curriculum-based intervention acquired Inc-BiN for picture-word relations following a novel experience, while one out of four participants under the RNNE condition acquired BiN. The results of the study suggest that a curriculum-based instruction can simultaneously induce BiN while teaching academic objectives to preschool students. Experiment II also implicates the effects of a technology-mediated intervention on developing academic and verbal behavior development cusps even in young children.

Discussion
R. DOUGLAS GREER

11:05-11:20am
BREAK

Event 5
11:20am-12:10pm
SYMPOSIUM 2: Expanding Social Learning and Verbal Behaviour through Play
Chair and CEU Instructor, Grant Gautreaux, PhD, LBA, BCBA-D, SBA, AsstRS
(1 CEU)

Paper 1: **The Play Unit? Response Variability and Verbal Operants in Play Following Learn Unit Instruction**
HAYLEY LOCKE, Kate Hewett and Veronica Baroni

It is common for children with a diagnosis of autism and a learning disability to exhibit limited pretend play skills due to delays in their social repertoire combined with the tendency to emit stereotypical and repetitive sequences. Neurotypical children learn to play and develop related verbal operants by watching and engaging with others. Children diagnosed with autism may have limited observational learning skills and if attending specialist settings may not access appropriate peer models. The current study took place in a Comprehensive Application of Behavior Analysis to Schooling (CABAS®) setting with teaching primarily based on the learn unit; a three-term contingency used to teach skills across repertoires with generalisation and novel responding demonstrated as a result. A multiple probe design was used. Baseline observations suggested that although participants demonstrated some pretend play responses and related verbal operants, these were limited for all three participants. The study evaluated if the learn unit alone led to increased play responses and verbal operants or if a more intensive protocol was required. Implications of results are discussed with alternative approaches to further develop the impacts of the intervention highlighted.

Paper 2: **The Effects of a Self-Talk Immersion Protocol on Self-Talk During Fantasy Play, Social Verbal Behaviour and Social Learning in Children Diagnosed with Autism**
VERONICA BARONI, Hayley Locke, Kate Hewett and Grant Gautreaux

This paper investigates the effects of the Self Talk Immersion Protocol (STIP) on the emergence of self-talk sequelics and conversational units during fantasy play across four children with a diagnosis of autism and a learning disability. Effects of the STIP on social verbal behaviour (audience control and conversational units between peers) and social learning cusps are also evaluated. A multiple probe design was implemented demonstrating emergence of self-talk during fantasy play for three out of four participants. The implementation of the STIP and subsequent emergence of self-talk did not lead to increased social verbal operants or the social learning cusp developing for any participants. Results of the study further support the use of the STIP as an intervention to induce self-talk behaviour for children with a diagnosis of autism and a

learning disability. Vocal stereotypy as a possible barrier to appropriate verbal behaviour development is discussed and tactics to address this are suggested. Further protocols to extend these preliminary findings are outlined.

Paper 3: **Investigating the Effects of a Social Listener Reinforcement Protocol on Social Verbal Behavior, Social Learning, and Appropriate Play**
KATE HEWETT, Carla Vaughan, Hayley Locke and Veronica Baroni

This paper examined the effects of an adapted Social Listener Reinforcement (SLR) protocol on appropriate play and social interactions between peers during unstructured play sessions. Four participants with a diagnosis of autism and a learning disability took part in the study and were paired into two dyads. Dyad 1 was selected due to their inappropriate imitative behaviours of each other and dyad 2 was selected in order to support and develop their friendship. Both dyads were immersed in an intensive rotated adaption of the SLR. A multiple probe design was implemented to establish the effects of the procedure on observational learning, observational performance and conditioned reinforcement for observing as well as appropriate interactions, verbal operants and prosocial behaviours during free play. Results demonstrated a positive increase in social learning behaviours and play skills.

12:10-1:30pm
LUNCH
(Included)

Event 6
1:30-2:20pm
SYMPOSIUM 3: Mastery Criteria and Stimuli Set versus Operant as a Unit of Analysis
Chair and CEU Instructor, JeanneMarie Speckman, PhD, LBA, BCBA-D, SBA, AsstRS
(1 CEU)

Paper 1: **Units of Analysis in Acquisition-Performance Criteria for "Mastery": A Systematic Replication**
KRISTINA K. WONG and Daniel M. Fienup

This study compared two units of analysis for assessing acquisition mastery during sight word instruction for three participants. The unit of analysis refers to the specific performances that criteria are applied to, either sets of stimuli or individual operants. In the Set Analysis condition, we applied the acquisition-performance criterion to the aggregated accuracy of a set of 4 target operants. In the Operant Analysis (OA) condition, we assessed the criterion for individual operants and replaced targets as they met the acquisition criterion. All participants acquired novel textual responses to sight words faster under the OA condition and response maintenance was similar between conditions. This study extended previous research by showing enhanced response maintenance in the OA condition by increasing the performance criterion from one replication of 100% accuracy to two. This study also suggests a unique contribution of OA to quickening learning.

Paper 2: **Analyzing Set Analysis, Operant Analysis, and Rates of Learning in Preschoolers with Developmental Disabilities**
LIN DU, JeanneMarie Speckman, and Daniel Fienup

Our study aimed to extend the existing research by applying set analysis (SA) and operant analysis (OA) conditions when determining mastery of tacts by preschoolers. The study used an adapted alternating treatment design to compare the efficiency of two conditions during tact instruction for eight preschool children. The participants were classified as preschoolers with disabilities and had differing levels of verbal behavior cusps. We preset mastery criterion at 100% for one session and measured the participants' number of mastered target operants. We also measured the number of learn units to criterion per tact and assessed the participants' maintenance of the tacts. Our results showed that most participants demonstrated an overall faster learning rate in the OA condition. However, the discrepancy between the two conditions did not show any statistical significance. The results are discussed in terms of instructional effectiveness and efficiency.

Paper 3: **Mastery Criteria for Accelerated Independent Learner (AIL) Model of Instruction Classrooms**
JI YOUNG KIM, Kristina Wong, Cassandra Draus, and Daniel Fienup

Behavior analysts set a mastery criterion to evaluate acquisition of skills. This study compared the effects of different levels of mastery criteria arrangement (Set Analysis and Operant Analysis) and stringency of Operant Analysis (3 and 5 sets per session) on the rate of mastery and response maintenance. Four second grade students with and without disabilities learned sight-words and experienced three training conditions – Set Analysis (SA), Operant Analysis with 5 sets (OA5), and Operant Analysis of 3 sets (OA3). In all conditions, the mastery criterion was 100% accuracy in one session. The preliminary results showed that the participants learned quickest and required the least number of trials to produce maintenance of an operant in the OA3 condition compared to the SA and OA5 conditions. Implications for Advanced Independent Learner (AIL) model of instruction classrooms are discussed.

Event 7
2:20-3:10pm
SYMPOSIUM 4: A Verbal Behavior Developmental Approach to Teaching Reading
Chair and CEU Instructor, Jennifer Weber, PhD, LBA, BCBA-D, SBA
(1 CEU)

Paper 1: **Increased Complexity in Bidirectional Naming Stimulus Control Enhances Reading in First Graders**
LAUREN BALDONADO and R. Douglas Greer

In 2 experiments, we studied the effects of the establishment of Incidental Bidirectional Naming (Inc. BiN) for unfamiliar stimuli on reading comprehension for first-grade students. In Experiment 1, we measured the associations, differences, and predictive value between multiple measures of reading comprehension and Inc. BiN stimulus control in 22 first-grade students. Inc. BiN stimulus control was measured with familiar and unfamiliar stimuli and partitioned into groups according to degrees of Unidirectional

Naming (UniN) and Inc. BiN. Measures of reading comprehension included the i-Ready® K-12 Adaptive Reading Diagnostic and Woodcock-Johnson® Tests of Achievement (WJIV®). Results indicated significant correlations between degrees of UniN for unfamiliar stimuli and reading comprehension. In Experiment 2, we studied the effects of the establishment of Inc. BiN for unfamiliar stimuli on multiple measures of reading comprehension in a single case, multiple probe design across dyads. We selected 3 dyads of first graders who textually responded at or above grade-level and demonstrated the absence of Inc. BiN stimulus control for unfamiliar stimuli. There were 3 reading comprehension measures: (1) explicit reading comprehension probe after reading a fiction and nonfiction passage, (2) read-do probe consisting of unfamiliar stimuli, and (3) WJIV® subtests. Participants acquired Inc. BiN stimulus control for unfamiliar stimuli through a Multiple Exemplar Instruction (MEI) intervention across listener and speaker responses. After participants demonstrated Inc. BiN stimulus control by emitting at least 80% accuracy across listener and speaker response topographies across two consecutive novel stimuli sets, we assessed reading comprehension performance. Results from experimenter-derived passage comprehension probes demonstrated increases across all 6 participants. Although read-do results were inconsistent, 5 participants demonstrated increases following the acquisition of Inc. BiN stimulus control. WJIV® results demonstrated the greatest increases in Passage Comprehension performance, while marginal and educationally significant increases were still observed across Reading Vocabulary and Reading Recall subtests.

Paper 2: **The Role of Conditioned Seeing on Reading Outcomes for Students in Kindergarten through Second Grade**
GABRIELA PEDRERO-DAVILA and R. Douglas Greer

Conditioned seeing is described by Skinner as seeing or hearing stimuli that have been previously paired but are not present in the physical environment. Previous literature suggests that conditioned seeing is related to incidental bidirectional naming (Inc-BiN) and reading comprehension in third to fifth grade students. In Experiment 1, we investigated the role of conditioned seeing on measures of reading achievement and Inc-BiN in 49 participants in kindergarten through second grade. Novel visual stimuli were presented with spoken words during a naming experience and participants' level of conditioned seeing was measured by delayed drawing responses in the absence of the target stimuli. Correlation analyses showed that participants' total numbers of accurate conditioned seeing responses was significantly correlated with all measures of reading achievement, increments of Inc-BiN, and participants' performance percentile across reading achievement tests. Experiment 1 established the need to further investigate conditioned seeing and its effects on reading comprehension and Inc-BiN for students in kindergarten through second grade, thus in Experiment 2, we are investigating the effects of conditioned seeing on Inc-BiN, conditioned reinforcement for print, and reading comprehension in 6 kindergarten students with and without disabilities. Experiment 2 is ongoing, and the most recent findings will be reported.

3:10-3:30
BREAK

Event 8
3:30-4:20pm
Symposium 5: Recent Advances in a Strategic Science of Teaching
Chair and CEU Instructor, Lin Du, PhD, LBA, BCBA-D, SBA, AssocRS
(1 CEU)

Paper 1: **The Effects of Sensory and Behavior Analytic Strategies on Self-Stimulatory Behaviors of Preschoolers with Autism**
ROBIN NUZZOLO, R Douglas Greer, and JeanneMarie Speckman

The use of a sensory diet, including sensory strategies for children with autism spectrum disorders, is common practice as part of their educational programming. The purpose of the current study was to not only extend the existing research which has shown mixed results in the effectiveness of sensory strategies in decreasing the self-stimulatory behavior of preschoolers with autism, but to compare its effectiveness to a behavior analytic strategy of conditioning toys as reinforcers for these children.

Paper 2: **The Accelerated Independent Learner Classroom: Using the Science of Behavior to Address the New Educational Crisis**
Jennifer Weber, GRANT GAUTREAUX, Derek Shanman, and Dolleen Keohane

If applying tactics emanating from the science of behavior to help mitigate the spread of Covid-19 was effective, then we should rely on that same science to help students catch up any lost educational opportunities. Systematically implementing the science of behavior to teacher training, school climate, classroom set-up, instructional delivery and measurement may position our belabored educational system to have a standing chance for success. We propose the use of a modification of Comprehensive Application of Behavior Analysis to Schooling (CABAS) model to achieve that. We posit that through the implementation of targeted teacher training based on behavior science, ongoing follow-up and support, establishing a decision analysis protocol, ensuring measurement and accountability for both staff and students we can achieve this goal. We report the systematic application of these components for one charter school in a hard-hit Covid-19 geographic region over the course of a school year and the relevant educational outcomes for all stakeholders.

Event 9
4:20-5:00pm
Closing remarks, announcements, upcoming events, Q and A

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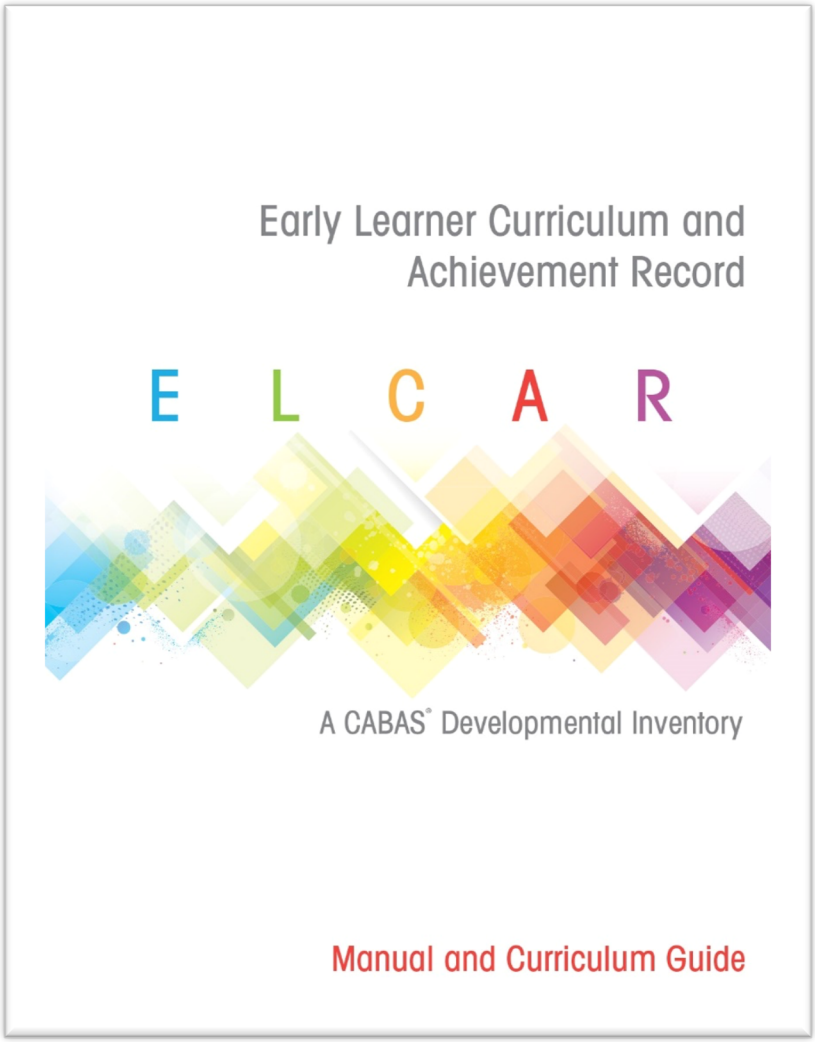
The Early Learner Curriculum and Achievement Record (ELCAR, Greer, Speckman, Dudek, Cahill, Weber, Du, & Longano, 2020) is published by the Foundation for a Strategic Science of Teaching (FASST)



The ELCAR, formerly known as the C-PIRK, has been organized around the theory of verbal behavior development. The ELCAR components consist of Screenings, an Achievement Record, and a Verbal Behavior Development Assessment. Curricular repertoires and necessary verbal cusps are included to help maximize learner and teacher efficiency. The ELCAR package also includes training videos.