

# Errorless Learning

This is an alternate version of the characteristics overview chart on the next page. It is provided for accessibility.

## Verbal skills

- Mixed
- Verbal

## Grade Level

- PK
- Elementary


## Cognitive Level

- Classic

## Areas Addressed

- (Pre)Academic/Cognitive/Academic
- Communication/Speech

## Errorless Learning

 Verbal Skills	Grade Levels	Cognitive Level	Areas Addressed
<input type="checkbox"/> Nonverbal	<input checked="" type="checkbox"/> PK	<input checked="" type="checkbox"/> Classic	<input checked="" type="checkbox"/> (Pre)Academic/ Cognitive/Academic
<input checked="" type="checkbox"/> Mixed	<input checked="" type="checkbox"/> Elementary	<input type="checkbox"/> High	<input type="checkbox"/> Adaptive Behavior/ Daily Living
<input checked="" type="checkbox"/> Verbal	<input type="checkbox"/> Middle/High	Functioning	<input type="checkbox"/> Behavior
			<input checked="" type="checkbox"/> Communication/Speech
			<input type="checkbox"/> Social/Emotional



### **Brief Introduction**

Children with autism (AU) share common characteristics in learning. For example, they adhere rigidly to routines and tend to over-select and over-generalize responses to failure or novel tasks. Therefore, errorless learning, which limits an incorrect response in a learning situation, is ideal for this group of students.



### **Description**

Errorless learning, a procedure introduced by Terrace (1963), is a type of discrimination learning that decreases or eliminates the opportunity for incorrect choice selection, therefore maximizing the possibility of a correct response. Simply put, errorless learning allows learning to occur with few or no negative stimuli. The theory behind errorless learning is that error responses have negative effects, especially for children with AU, given their rigid adherence to rules (Green, 1996; Smith, 2001; Smith, Iwata, Goh, & Shore, 1995).

Errorless learning offers the following benefits:

- Minimizes the number of errors
- Increases overall time available for instruction
- Reduces the likelihood that errors will be repeated in future trials
- Reduces frustration and the occurrence of inappropriate emotional behaviors by increasing opportunities for reinforcement

In errorless learning, children only learn the correct skill. That is, the teacher teaches in such a manner that students do not make any mistakes. As a result, they do not learn an incorrect skill that will have to be corrected or re-taught.



## Steps

Guidelines for using errorless learning are as follows:

1. Identify and teach the child the desired behavior.
2. Identify prompts that will ensure success.
3. Have the child begin to perform the response.
4. Provide prompts to make sure the child performs the desired behavior correctly.
5. If behavior/response is incorrect, increase prompt to make the child successful.
6. Repeat the trial several times until the child appears to be able to demonstrate the desired behavior correctly and independently.
7. Following a specified number of non-prompted behavior, conduct a trial to assess the child's correct or incorrect learned behavior.
8. Finish the lesson on a successful trial with appropriate reinforcement.
9. Fade or decrease prompting as soon as indicated by data collection.



## Brief Example

Ms. Cooper utilized errorless learning techniques in teaching John, a 3-year-old boy with AU, to recognize his body parts. She asked John to touch the body part that she named. At first, Ms. Cooper provided a full prompt by taking John's hand and touching the correct body part. She gave John a small cookie as a reinforcer whenever he finished the task.

After three trials, Ms. Cooper faded the prompt by merely lifting John's hand toward the correct body part. When John successfully performed the task, he received a small cookie. When John failed to perform the task, Ms. Cooper prompted him through the task and provided a reinforcer. Gradually, Ms. Cooper faded prompts. After several trials, John could successfully perform the task with no prompts.



## Summary

Errorless learning is a set of teaching techniques designed to reduce incorrect responses as the child gains mastery of a novel task. It has been contrasted with trial and error learning in which the child attempts a task and then benefits from feedback. This strategy is an effective way in which to teach a variety of skills to individuals with AU.



## Research Table

# of Studies	Ages (years)	Sample Size	Area(s) Addressed	Outcome
1	4-7	3	Word acquisition	+



## Studies Cited in the Research Table

- Goldsmith, T. R., LeBlanc, L. A., & Sautter, R. A. (2007). Teaching intraverbal behavior to children with autism. *Research in Autism Spectrum Disorders, 1*, 1-13.  
In this study, three children with AU were successfully taught to name items associated with preselected categories (e.g., "What are some colors?") with limited generalization to a fourth, non-targeted category. Limited maintenance of skills was found.



## References

- Goldsmith, T. R., LeBlanc, L. A., & Sautter, R. A. (2007). Teaching intraverbal behavior to children with autism. *Research in Autism Spectrum Disorders, 1*, 1-13.
- Green, G. (1996). Behavioral intervention for autism. In C. Maurice, G. Green, & S. C. Luce (Eds.), *Behavioral interventions for young children with autism* (pp. 29-42). Austin, TX: Pro-Ed.
- Smith, T. (2001). Discrete trial training in the treatment of autism. *Focus on Autism and Other Developmental Disabilities, 16*, 86-92.
- Smith, R. G., Iwata, B. A., Goh, H., & Shore, B. A. (1995). Analysis of establishing operations for self-injury maintained by escape. *Journal of Applied Behavior Analysis, 28*, 515-535.
- Terrace, H. S. (1963). Discrimination learning with and without "error." *Journal of the Experimental Analysis of Behavior, 6*, 1-27.



## Resources and Materials

- Errorless Learning: [www.autismusaba.de/abastrategies.html#ErrorlessLearning](http://www.autismusaba.de/abastrategies.html#ErrorlessLearning)  
This site links the user to the errorless learning section of various ABA strategies; it includes practical applications.
- LEARNet Problem-Solving System and Resource: [www.projectlearn.net.org/tutorials/errorless\\_learning.html](http://www.projectlearn.net.org/tutorials/errorless_learning.html)  
This URL links the user to the errorless learning tutorial of the Brain Injury Association of New York. It includes a video illustration and several practical application tips.
- McCartney, L.L.A., & LeBlace, J. M. (1998). Errorless learning in educational environment: Using criterion-related cues to reduce errors. In D. M. Baer & E. M. Pinkton (Eds.), *Environment and Behavior* (pp. 80-96). Boulder, CO: Westview Press
- Mueller, M. M., Palkovic, C. M., & Maynard, C. S. (2007). Errorless learning: Review and practical application for teaching children with pervasive developmental disorders. *Psychology in the Schools, 44*, 691-700.  
These materials provide information on how to use errorless learning.