

INCIDENTAL TEACHING

CHARACTERISTICS OVERVIEW CHART

Verbal Skills	Grade Levels	Cognitive Level	Areas Addressed
<input checked="" 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 checked="" type="checkbox"/> Adaptive Behavior/Daily Living
<input checked="" type="checkbox"/> Verbal	<input type="checkbox"/> Middle/High	Functioning	<input checked="" type="checkbox"/> Behavior
			<input checked="" type="checkbox"/> Communication/Speech
			<input checked="" type="checkbox"/> Social/Emotional

BRIEF INTRODUCTION

Individuals with autism (AU) are often thought of as difficult to motivate and, as a result, emphasis has been placed on identifying their interests as potential reinforcers. One applied behavior analysis (ABA) intervention, incidental teaching, incorporates students' interests into instruction.

DESCRIPTION

Incidental teaching involves providing instruction within ongoing typical activities based on student interest and motivation (McGee, Daly, & Jacobs, 1994). It uses strategies based on ABA (e.g., reinforcement, errorless learning) to present learning objectives within typical preschool activities rather than in a clinical setting. Incidental teaching, first recognized by Hart and Risely (1978, 1980), was developed to increase language and social responses by maximizing the power of reinforcement and encouraging generalization. Although this strategy was originally designed primarily for preschool-aged children, research has demonstrated the effectiveness of using it with individuals of all ages and disabilities.

Incidental teaching is unique in its focus on following the child's lead regarding interests within naturally occurring daily activities. It emphasizes intentionally organizing the learning environment around preplanned learning objectives that incorporate students' preferences and educational plan using "teachable moments" that are initiated by the student.

STEPS

Typically, in incidental teaching, teachers first arrange the environment (e.g., place the student's preferred toys and activities within sight, but not within reach, to encourage the student to initiate). After the student demonstrates an interest in items or activities (initiation of the teaching session), the teacher encourages the student to elaborate on his initiation by asking questions or providing prompts. The student subsequently obtains the item upon making an appropriate response.

One program, the Emory Program, uses the following Wait-Ask-Say-Show-Do steps as part of incidental teaching:

- Wait for child to self-initiate
- Ask the generic question, "What do you need to do?"
- Say what is expected
- Show (gesture) to indicate expectation
- Prompt to complete interaction (McGee, Daly, & Jacobs, 1994).

Adults working with students with autism are instructed to use only the steps needed in the interaction. The direction "wait" is important as is scaffolding adult intrusion to determine the child's skills.

BRIEF EXAMPLE

When Mr. Juzo opened the toy cabinet, Zack tried to grab a toy car from one of the shelves. Mr. Juzo put his hand over Zack's on top of the toy and waited expectantly. Zack did not respond. Mr. Juzo asked, "What do you want?" Zack said, "Car." Mr. Juzo responded, "That's right, car," and allowed Zack to take the car to the play area.

SUMMARY

There are a number of advantages to incidental teaching. First, teaching within the context of typical activities has been found to promote skill generalization (McGee, Morrier, & Daly, 1999). Second, social initiations are an integral part of incidental teaching. Third, the child-directed approach and natural reinforcement involved make learning meaningful and enjoyable. Fourth, it can be easily incorporated into typical daily routines by teachers and parents. Finally, it provides data reflective of actual daily functioning, which is essential for data-based decision-making.

RESEARCH TABLE

Number of Studies	Ages (year)	Sample Size	Area(s) Addressed	Outcome
13	3-9	67	Social skills, communication, behavior, community-based skills	+

STUDIES CITED IN RESEARCH TABLE

1. McGee, G. G., & Daly, T. (2007). Incidental teaching of age-appropriate social phrases to children with autism. *Research and Practice for Persons with Severe Disabilities*, 32, 112-123. Three students with autism, ages 4 to 5, participated in a study designed to determine whether incidental teaching procedures could be used successfully to teach age-appropriate social phrases. Students learned to use these phrases with peers and generalized them to other situations.
2. Kroeger, K. A., & Nelson, W. M. (2006). A language programme to increase the verbal production of a child dually diagnosed with Down Syndrome and autism. *Journal of Intellectual Disability Research*, 50, 101-108.
This single-subject experiment examined a program designed to increase the language production and verbal behavior of a 9-year-old boy who had been receiving a 15-hours-per-week home-based ABA program. Results indicated that language production noticeably increased for

each target area after introduction of the language program and maintained at a nine-month follow-up session. Thus, a combined treatment approach incorporating direct instruction, natural environment teaching, and incidental teaching was effective in increasing and maintaining responsive and spontaneous speech in a child with Down Syndrome diagnosed with AU.

3. Charlop-Christy, M. H., & Carpenter, M. H. (2000). Modified incidental teaching sessions: A procedure for parents to increase spontaneous speech in their children with autism. *Journal of Positive Behavior Interventions, 2*, 98-112.
The study compared the efficacy of modified incidental teaching sessions with traditional instruction. Parents of three children with autism were trained to deliver modified incidental teaching, traditional discrete trial, and incidental teaching in their home. Acquisition and generalization of the behavior were measured. Results indicated that modified incidental teaching sessions led to acquisition for all children. By comparison, only one child acquired the behavior with traditional incidental teaching, and two children acquired the behavior with discrete trial. Generalization was documented in the modified incidental teaching sessions, whereas no generalization was found in the incidental teaching and discrete trial conditions.
4. McGee, G. G., Morrier, M. J., & Daly, T. (1999). An incidental teaching approach to early intervention for toddlers with autism. *Journal of the Association for Persons with Severe Handicaps, 24*, 133-146.
Twenty-eight children with autism participated in the study, which measured children's language and social behavior. Results showed that 36% of the children verbalized at program entry compared to 82% verbalizing meaningful words at program exit. Only one of the children failed to demonstrate increased or acceptable levels of peer proximity.
5. Farmer-Dougan, V. (1994). Increasing requests by adults with developmental disabilities using incidental teaching by peers. *Journal of Applied Behavior Analysis, 27*, 533-544.
The study investigated peer-delivered incidental teaching for social skills (appropriate requesting, prompting, and responding of residents during lunch-preparation sessions) using three pairs of group home residents. A total of six individuals with mental retardation or AU took part in the study. Three participants served as peer tutors while the other three served as peer learners. Results indicated an increase in the number of incidental teaching episodes during dinner, and the number remained high when lunch-making training sessions were withdrawn. In addition, during the incidental teaching phase, an increase in appropriate requests and overall verbalizations occurred for the peer learners. Finally, the number of appropriate requests and overall verbalizations also remained higher than in baseline when training was withdrawn.
6. McGee, G. G., Almeida, M. C., Sulzer-Azaroff, B., & Feldman, R. S. (1992). Promoting reciprocal interactions via peer incidental teaching. *Journal of Applied Behavior Analysis. Special Issue: The Education Crisis: Issues, Perspectives, Solutions, 25*, 117-126.
The study evaluated peer incidental teaching as a strategy for increasing reciprocal peer interactions by children with autism. Of the six preschoolers involved in the study, three trained as peer tutors for the other three. The results showed replicated positive effects of the

intervention. In addition, teacher and peer ratings supported the social validity of the positive findings.

7. Miranda-Linné, F., & Melin, L. (1992). Acquisition, generalization, and spontaneous use of color adjectives: A comparison of incidental teaching and traditional discrete-trial procedures for children with autism. *Research in Developmental Disabilities, 13*, 191-210.
The study used incidental teaching and traditional discrete-trial procedures to teach two boys with autism the expressive use of two color adjectives to describe preferred toys and food items. Results showed that traditional discrete trial teaching was more efficient and produced faster acquisition and, initially, greater generalization. However, by follow-up, the incidental teaching methods resulted in equal retention, greater generalization, and equal or greater spontaneous usage. Together, these findings indicate that although it takes longer for children with autism to learn using incidental teaching procedures, their learning may be more permanent once they have acquired a skill.
8. MacDuff, G. S., Krantz, P. J., MacDuff, M. A., & McClannahan, L. E. (1988). Providing incidental teaching for autistic children: A rapid training procedure for therapists. *Education & Treatment of Children, 11*, 205-217.
The study assessed the effects of a five-day training procedure in helping trainees learn to engage in incidental teaching in a community-based, family-style group home that served five children with autism. Two therapists participated. The training package consisted of a definition of incidental teaching, written examples of incidental teaching episodes, and blank incidental teaching formats that were completed by trainees. Results showed that this cost-effective and time-efficient training procedure not only enabled therapists to engage in incidental teaching with children who were severely language delayed, but also promoted generalization of their skills.
9. Haring, T. G., Neetz, J. A., Lovinger, L. Peck, C. et al. (1987). Effects of four modified incidental teaching procedures to create opportunities for communication. *Journal of the Association for Persons with Severe Handicaps, 12*, 218-226.
The study evaluated the effectiveness of teaching three teachers to use four incidental teaching techniques. Results indicated that (a) teachers increased the number of opportunities for students to use their existing communication skills, (b) students demonstrated relatively high frequencies of responding to the techniques, (c) students were interested in the objects or events used to structure the episodes, and (d) teachers varied in their degree of reliance on preplanning.
10. McGee, G. G., Krantz, P. J., & McClannahan, L. E. (1986). An extension of incidental teaching procedures to reading instruction for autistic children. *Journal of Applied Behavior Analysis, 19*, 147-157.
The study examined the acquisition of functional sight-word reading skills of children with AU in an extension of incidental teaching procedures to reading instruction. Positive outcomes were documented.

11. McGee, G. G., Krantz, P. J., & McClannahan, L. E. (1985). The facilitative effects of incidental teaching on preposition use by autistic children. *Journal of Applied Behavior Analysis, 18*, 17-31.
The study compared the effects of incidental teaching to traditional training procedures. Three boys with autism were taught expressive use of prepositions to describe the location of preferred edibles and toys. Results indicated that incidental teaching promoted greater generalization and more spontaneous use of prepositions.
12. McGee, G. G., Krantz, P. H., Mason, D., & McClannahan, L. E. (1983). A modified incidental-teaching procedure for autistic youth: Acquisition and generalization of receptive object labels. *Journal of Applied Behavior Analysis, 16*, 329-338.
The study used a modified incidental teaching procedure to increase the receptive language skills of a girl and a boy with autism. Receptive labeling skills were taught for four sets of objects typically used in school lunch preparation. Results showed that the percentage of correct, unprompted object identifications displayed by both children increased when the incidental-teaching package was sequentially introduced. In addition, generalization of the newly acquired language skills was documented. Altogether, the findings suggested that the linguistic skills of children with autism who have severe developmental delay can be accelerated by incidental instruction provided in the course of shaping other home-living skills.
13. Schepis, M. M. et al. (1982). A program for increasing manual signing by autistic and profoundly retarded youth within the daily environment. *Journal of Applied Behavior Analysis, 15*, 363-379.
The study investigated a modified incidental teaching strategy program that included rearranging the physical environment to prompt signing, altering routine staff-resident interactions to prompt, manually guiding and/or reinforcing signing, and conducting mini-training sessions. Results indicated significant increases in signing for all participants. The increases were maintained during follow-up. Social validity of the program was also documented.

REFERENCES

- Charlop-Christy, M. H., & Carpenter, M. H. (2000). Modified incidental teaching sessions: A procedure for parents to increase spontaneous speech in their children with autism. *Journal of Positive Behavior Interventions, 2*, 98-112.
- Farmer-Dougan, V. (1994). Increasing requests by adults with developmental disabilities using incidental teaching by peers. *Journal of Applied Behavior Analysis, 27*, 533-544.
- Haring, T. G., Neetz, J. A., Lovinger, L. Peck, C. et al. (1987). Effects of four modified incidental teaching procedures to create opportunities for communication. *Journal of the Association for Persons with Severe Handicaps, 12*, 218-226.

- Hart, B. M., & Risley, T. R. (1978). Promoting productive language through incidental teaching. *Education and Urban Society, 10*, 407-429.
- Hart, B. M., & Risley, T. R. (1980). In vivo language intervention: Unanticipated general effects. *Journal of Applied Behavior Analysis, 13*, 407-432.
- Kroeger, K. A., & Nelson, W. M. (2006). A language programme to increase the verbal production of a child dually diagnosed with Down Syndrome and autism. *Journal of Intellectual Disability Research, 50*, 101-108.
- MacDuff, G. S., Krantz, P. J., MacDuff, M. A., & McClannahan, L. E. (1988). Providing incidental teaching for autistic children: A rapid training procedure for therapists. *Education & Treatment of Children, 11*, 205-217.
- McGee, G. G., Almeida, M. C., Sulzer-Azaroff, B., & Feldman, R. S. (1992). Promoting reciprocal interactions via peer incidental teaching. *Journal of Applied Behavior Analysis. Special Issue: The Education Crisis: Issues, Perspectives, Solutions, 25*, 117-126.
- McGee, G. G., Daly, T., & Jacobs, H. A. (1994). The Walden Preschool. In S. L. Harris & J. S. Handleman (Eds.), *Preschool education programs for children with autism* (pp. 126-162). Austin, TX: Pro-Ed.
- McGee, G. G., & Daly, T. (2007). Incidental teaching of age-appropriate social phrases to children with autism. *Research and Practice for Persons with Severe Disabilities, 32*, 112-123.
- McGee, G. G., Krantz, P. J., Mason, D., & McClannahan, L. E. (1983). A modified incidental-teaching procedure for autistic youth: Acquisition and generalization of receptive object labels. *Journal of Applied Behavior Analysis, 16*, 329-338.
- McGee, G. G., Krantz, P. J., & McClannahan, L. E. (1985). The facilitative effects of incidental teaching on preposition use by autistic children. *Journal of Applied Behavior Analysis, 18*, 17-31.
- McGee, G. G., Krantz, P. J., & McClannahan, L. E. (1986). An extension of incidental teaching procedures to reading instruction for autistic children. *Journal of Applied Behavior Analysis, 19*, 147-157.
- McGee, G. G., Morrier, M. J., & Daly, T. (1999). An incidental teaching approach to early intervention for toddlers with autism. *Journal of the Association for Persons with Severe Handicaps, 24*, 133-146.
- Miranda-Linné, F., & Melin, L. (1992). Acquisition, generalization, and spontaneous use of color adjectives: A comparison of incidental teaching and traditional discrete-trial procedures for children with autism. *Research in Developmental Disabilities, 13*, 191-210.

Schepis, M. M. et al. (1982). A program for increasing manual signing by autistic and profoundly retarded youth within the daily environment. *Journal of Applied Behavior Analysis*, 15, 363-379.

RESOURCES AND MATERIALS

- Association for Science in Autism Treatment:
<http://www.asaonline.org/intervention/procedures/incidental.htm>
This link gives the user a brief description of and recommendation for the use of incidental teaching.
- The Autism Web Course. Incidental Teaching Module:
http://cdd.unm.edu/swan/autism_course/modules/academic/incidental/index.htm
This learning module, directed to educational professionals, provides multimedia information on incidental teaching.

GENERAL RESOURCES

- Autism Internet Modules (AIM) www.autisminternetmodules.org. The Autism Internet Modules were developed with one aim in mind: to make comprehensive, up-to-date, and usable information on autism accessible and applicable to educators, other professionals, and families who support individuals with autism spectrum disorders (ASD). Written by experts from across the U.S., all online modules are free, and are designed to promote understanding of, respect for, and equality of persons with ASD.
- The Autism Web Course: http://cdd.unm.edu/swan/autism_course/about/index.htm. This web course was developed out of materials from the Interactive Collaborative Autism Network (ICAN). The Autism Programs at the University of New Mexico has updated and added information to this web course.
 - Characteristics
 - Assessment
 - Academic Interventions
 - Behavioral Interventions
 - Communication Interventions
 - Environmental Interventions
 - Social Interventions
 - Family Support Suggestions
- Indiana Resource Center for Autism (IRCA) <http://www.iidc.indiana.edu/irca/fmain1.html>. The Indiana Resource Center for Autism staff's efforts are focused on providing communities, organizations, agencies, and families with the knowledge and skills to support children and adults in typical early intervention, school, community, work, and home settings.
 - IRCA Articles: <http://www.iidc.indiana.edu/index.php?pageId=273>

- Texas Statewide Leadership for Autism www.txautism.net. The Texas Statewide Leadership for Autism in conjunction with the network of Texas Education Service center with a grant from the Texas Education Agency has developed a series of free online courses in autism. Please check the training page, www.txautism.net/training.html, for update lists of courses, course numbers and registration information. Current courses include the following:
 - Asperger Syndrome 101
 - Augmentative and Alternative Communication and the Autism Spectrum
 - Autism for the General Education Teacher
 - Autism 101: Top Ten Pieces to the Puzzle
 - Classroom Organization: The Power of Structure for Individuals with ASD
 - Communication: The Power of Communication for Individuals with ASD
 - Futures Planning for Students with Autism Spectrum Disorder
 - Navigating the Social Maze: Supports and Interventions for Individuals with ASD
 - Solving the Behavior Puzzle: Making Connections for Individuals with ASD