Applied Behavior Analysis in Early Childhood Education

AN INTRODUCTION TO EVIDENCE-BASED INTERVENTIONS AND TEACHING STRATEGIES

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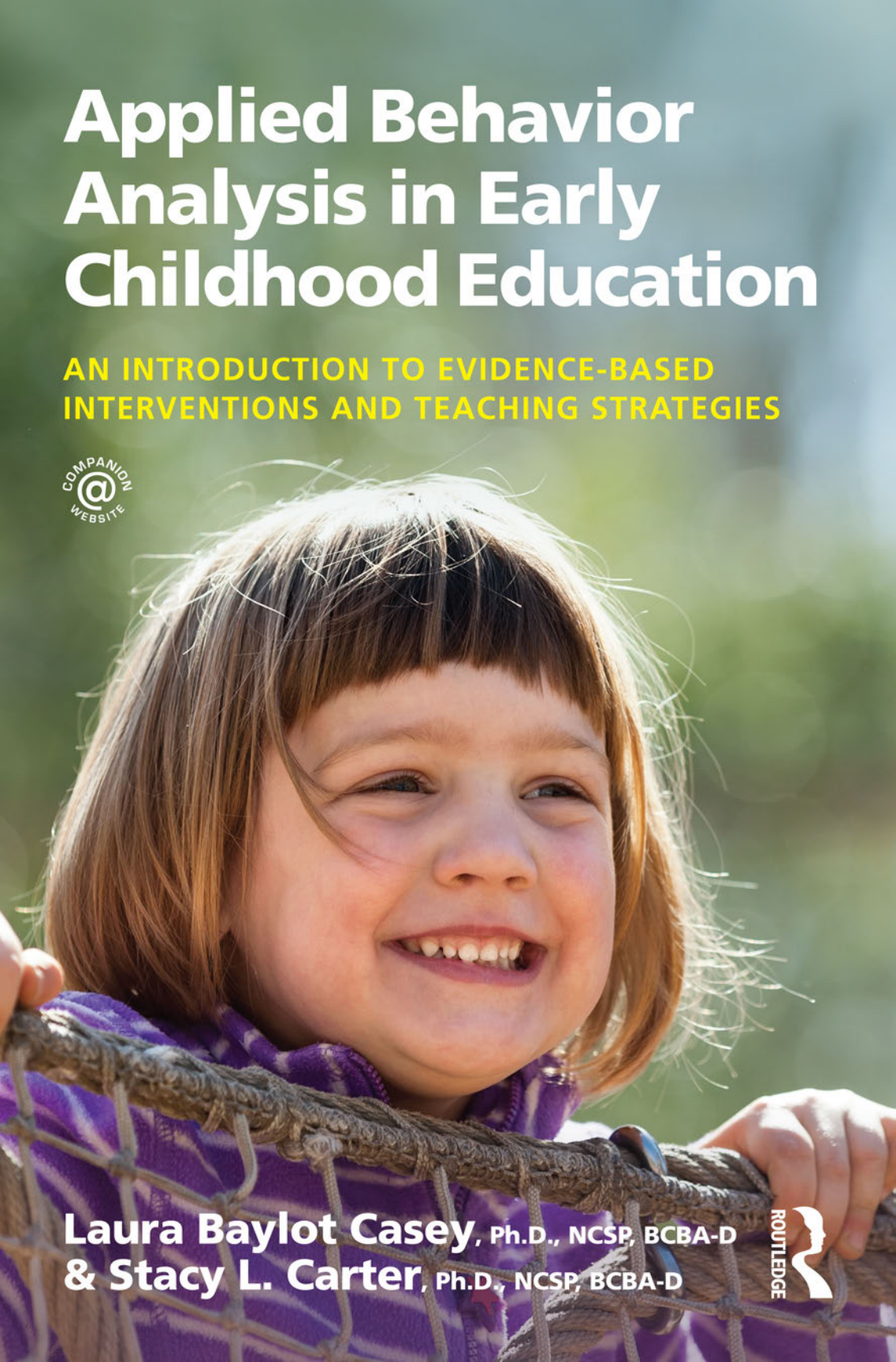

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ROUTLEDGE

Applied Behavior Analysis in Early Childhood Education

Applied Behavior Analysis in Early Childhood Education provides a basic introduction to applied behavior analysis and the highly beneficial role that it can play in early childhood education for both typically developing children and those with special needs. The objective is to provide future and current early childhood professionals with the tools that they need to positively impact the lives of young children. Specifically, the book will describe and provide useful examples related to the following:

- Implementing effective techniques for changing behavior;
- Strategies for everyday challenges both in the classroom and at home;
- Strategies for addressing less frequent issues;
- Suggestions for how to consult and correspond with parents and caretakers.

Applied Behavior Analysis in Early Childhood Education is written for professionals preparing for—or those already in—careers in child development, behavior analysis, early childhood education, developmental therapy, counseling, special education, and other helping professions. A Companion Website featuring additional information and resources for students and instructors can be accessed at www.routledge.com/cw/casey.

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An Introduction to Evidence-based Interventions and Teaching Strategies

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Routledge
Taylor & Francis Group
NEW YORK AND LONDON

First published 2016
by Routledge
711 Third Avenue, New York, NY 10017

and by Routledge
2 Park Square, Milton Park, Abingdon, Oxon OX14 4RN

Routledge is an imprint of the Taylor & Francis Group, an informa business

Library of Congress Cataloging-in-Publication Data
Names: Casey, Laura Baylot, 1976– author. | Carter, Stacy L., author.
Title: Applied behavior analysis in early childhood : an introduction to evidence-based interventions and teaching strategies / Laura Baylot Casey & Stacy Carter.
Description: New York, NY : Routledge, 2016. | Includes bibliographical references and index.
Identifiers: LCCN 2015028266| ISBN 978113802511O (hardback) | ISBN 9781138025127 (pbk.) | ISBN 9781315775371 (ebook)
Subjects: LCSH: Behavioral assessment. | Behavior modification. | Early childhood education. | Teachers—In-service training.
Classification: LCC LB1060.2 .C37 2016 | DDC 372.21—dc23
LC record available at http://lccn.loc.gov/2015028266

ISBN: 978-1-138-02511-0 (hbk)
ISBN: 978-1-138-02512-7 (pbk)
ISBN: 978-1-315-77537-1 (ebk)

Typeset in Galliard
by Florence Production Ltd, Stoodleigh, Devon, UK

To Cort, my husband, Batie, Cort III, and Connell, my children,
for their unwavering support and understanding; and to my parents,
Margaret & Bobby, for encouragement over the years.
—Laura Baylot Casey

To my parents for their constant support and to my sons,
Ezra and Zavin, for making me appreciate each day.
—Stacy L. Carter

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Preface

The idea for the book grew out of the need for a textbook that specifically highlights the use of applied behavior analytic approaches in combination with more traditional approaches to teaching young children. In order to make this text one that would appeal to teachers in early childhood, caretakers, and specialists in the field, content was selected from the national leaders and accrediting bodies across fields. The organizations include the National Association for the Education of Young Children (NAEYC), the Division for Early Childhood (DEC) within the Council for Exceptional Children (CEC), the Council for Exceptional Children (CEC), and the Behavior Analysis Certification Board (BACB). Throughout each chapter these organizations are referenced, as appropriate, alongside case studies.

Chapter 1 is an introduction to applied behavior analysis (ABA). This chapter provides the foundation on which the remaining chapters are based. While the remaining chapters are constructed around the principles of ABA, some of the evidence-based treatments combine components of ABA together with other strategies to show that ABA can merge well across fields and across disciplines. Chapters 2 through 10 address a unique concept related to educating young children, covering a range of topics such as academic needs, behavioral needs, physical needs, and social well-being. New teachers frequently have difficulties with their interactions with families and others who assist in their classrooms. Chapters 11 and 12 are designed to offer some specific approaches and tools to use when working with parents and teaching assistants. The breadth of topics, as well as the depth, emphasizes the intricacies of educating the youngest learners in the formative years.

In closing, this textbook is designed to be informative while encouraging critical thought. As a result, each chapter has topics to learn, case studies to illustrate the complexities of young children, and discussion questions to facilitate analytical thinking. At the end of the text are tables that tie the chapters to the specific positions of each of the national organizations mentioned above. These tables are intended to be a resource for connecting the topics taught within a course to the specific recommendations from

these organizations, and may be useful for accreditation purposes. This text will prove to be a must-have for early childhood classes preparing future teachers, behavior analysts, care providers, and other helping professions to directly work with the youngest pupils.

Acknowledgments

We appreciate the guidance offered by the position statements and recommendations established by each of the following organizations: National Association for the Education of Young Children, the Division for Early Childhood (DEC) within the Council for Exceptional Children (CEC), the CEC, and the Behavior Analysis Certification Board (BACB). We also would like to thank Alex Masulis and Daniel Schwartz for their support of the topic and encouragement throughout the writing process. A special thank you to Mississippi State University for providing us both with excellent training at the doctoral level and thank you to the University of Memphis and Texas Tech for your support of behavior analysis training programs.

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Chapter 1

Introduction to Applied Behavior Analysis

Understanding the Role of the Environment

Overview

This chapter provides the reader with background on traditional early childhood approaches to education and then introduces them to a more behavior analytic approach. Both the traditional and the behavior analytic method will be highlighted, and then the rationale behind incorporating behavioral techniques into early childhood learning will be presented. The reader will be provided with examples to assist with comprehension as they are walked through the explanations/rationales for shifting away from an internal locus of control and begin to recognize the role the environment plays in both learning and behavior.

Material and Techniques to Learn

- Understand the unique characteristics of applied behavior analysis (ABA)
- Compare a more traditional constructivist approach to that of ABA
- Clarify the definition of reinforcement
- Recognize the importance of maximizing reinforcement
- Understand the shift from internal to external causes of behavior

Case Scenario

Jaimee just recently graduated with her bachelor's degree in Early Childhood Education from a well-respected state university. She is excited that she was offered a position as a lead teacher in a preschool classroom that is affiliated with the university where she received her degree. The preschool is considered state-of-the-art in providing educational opportunities for the children and for serving as a place where research is frequently incorporated into the classroom experiences. The preschool follows a constructivist approach to learning which Jaimee is happy about since her university training consisted primarily of learning about the constructivist approach and her major professors all adhered to this approach to learning. When Jaimee begins her school year, she learns that she will have two

students who are considered to have developmental delays in her classroom. She does not feel that this will be a problem and believes that the added diversity in her classroom will be beneficial for all the children. When the children arrive in her classroom she finds that one of the children with developmental delays will not interact with the toys, with the other children, or with the adults in the room. In addition, he continually cries and repeatedly hits himself in the face. The other child with developmental delays does not seem to respond to any of the instructions provided by the adults and frequently runs around the classroom throwing toys and hitting and biting other children. The biting is especially dangerous and several of the children get bitten by the child very quickly. Jaimee thinks back to how her training has prepared her to handle these types of situations and recalls that she needs to develop a relationship with each of these students and encourage them to think about how their behavior impacts other students. In this way the students can begin to develop more socially appropriate behaviors and values. She begins this by spending extra time with these children and discussing with them how their behavior is hurtful to others or to themselves. In addition, she continually talks with them about how it is important to be nice to all their friends in the classroom and to also take good care of themselves. She immediately realizes that the children do not appear to show very much interest in being around her and that nothing appears to be changing as the children continue to cause chaos in the classroom. She begins to wonder how long it may take for these children to develop some self-regulation and moral autonomy and questions whether this can be accomplished before the end of the school year.

Questions to Consider

- What is Jaimee's struggle?
- What type of instructional approach do the children in Jaimee's classroom need?
- What could Jaimee do to deal with her situation?

Introduction

Nurturing and educating young children is one of the most important responsibilities within every society. Young children are highly dependent upon the adults around them to provide for them, care for them, and help them gain an understanding of the world that is new to them. Adults who take on this responsibility must learn to give their time, demonstrate their caring, and share their knowledge with young children. Adults can provide for and teach young children in numerous different ways, just as young children can benefit and learn in many different ways. What is most important for young children is that they have access to a supportive environment where they are safe and offered beneficial stimulation from the people and objects around them.

What Influences Instruction in Early Childhood?

Current practices in education provide several different methods for teaching young children, which can be provided within a supportive environment. The teaching methods that adults choose to use when teaching young children can be influenced by a number of different factors. Parents may choose to teach their young children using strategies that are similar to the strategies their own parents used to teach them. In addition, parents may choose to use teaching strategies based on talking with friends, family, religious officials, or professionals such as pediatricians, nurses, or educators. Parents may also be influenced by popular media such as parenting books/magazines, television shows, or online resources.

Educators may be influenced to use certain teaching strategies in the same way that parents may be influenced. However, educators may also be influenced by the type of training they have received. Educators exposed primarily to a certain teaching style may incorporate these same strategies into their teaching. For example, if a pre-service teacher attends a program that emphasizes a constructivist approach to education, these educators are highly likely to incorporate this constructivist approach into their teaching. The choice is based on comfort level among teaching procedures and also familiarity through their training. Educators can also be influenced by their experiences using a procedure successfully or by the research data that support a particular procedure. In addition, educators can be influenced on which teaching procedures to use by the orientation of the school where they teach or by the preferences of the administration. If a school subscribes to a certain type of teaching methodology, such as a Montessori school, then the teacher will be expected to utilize these techniques when teaching. All of these influences are important to be aware of when working with young children in order to ensure that the children receive the most appropriate education.

What Type of Instruction Do Young Children Need?

One factor that is frequently not addressed is matching the specific needs of the individual child to the teaching strategy/philosophy that is used and embraced. Instead, a particular teaching style is frequently considered to be sufficient for meeting the needs of all children, and for a majority of children this may be true. But some children may not respond to a particular teaching methodology and other teaching approaches may be necessary. Consider a normal distribution where the majority of young children fall into the center of the distribution. The center children would be those who could potentially succeed with any number of different teaching strategies. The outliers on both ends of the distribution would be those children who would not succeed as they should with almost any type of teaching strategy (see Figure 1.1). These students would need to have a teaching strategy that was matched to

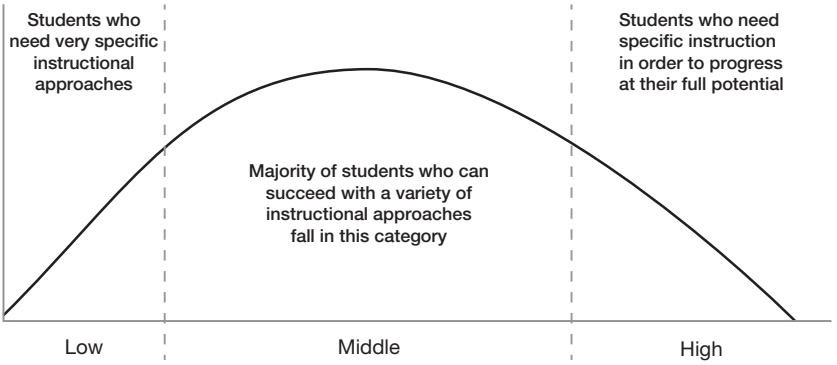

Figure 1.1 Normal Distribution of Student Instructional Needs

them in order for them to achieve as they should. For example, a young child with limited skills might be at the low end of the normal distribution and would possibly need a teaching strategy that provided him or her with specific instruction that the majority of other children would not necessarily need. These children may not acquire information as quickly as other children or may have limited experiences that have not allowed them to develop as quickly as their peers. Similarly, the children at the high end of the normal distribution may be those who have advanced skills or who can acquire skills much more quickly than their peers. These children could see progress if they are taught using just about any type of teaching strategy. However, if the teaching strategy was matched to their specific skill sets and pushed them to advance at their own pace, they could succeed at a rate that is more appropriately matched to their abilities.

Recommended Practice in Early Childhood Education

The Division for Early Childhood of the Council for Exceptional Children, a sub-division devoted to advocating and working on behalf of children with special needs, birth through age eight, and their families, has repeatedly recommended the utilization of individualized strategies to meet the needs of young children. They urge the use of instruction that provides the appropriate frequency, intensity, and duration necessary to allow children to meet their individual goals. Similarly, the National Association for the Education of Young Children (Copple & Bredekamp, 2009) encourages early childhood programs to include a variety of experiences and teaching strategies that are intentionally developed for each child in order to offer an appropriate education for young children. Their position statement includes the following statement:

> Learning and development are most likely to occur when new experiences build on what a child already knows and is able to do and when those learning experiences also entail the child stretching a reasonable amount in acquiring new skills, abilities, or knowledge. After the child reaches that new level of mastery in skill or understanding, the teacher reflects on what goals should come next; and the cycle continues, advancing children's learning in a developmentally appropriate way. Clearly, such effective teaching does not happen by chance.
>
> (p. 10)

Addressing Diverse Instructional Needs in Early Childhood Education

Given the increasing diversity within educational settings and the multitude of different needs among children in early childhood programs, it seems apparent that educators would need a vast array of instructional strategies to utilize and incorporate into their day. If an educator has only been trained in one type of instructional approach, they may not be able to offer their students the most appropriate instruction to help them succeed. In such cases, the educator may need to seek out training to obtain the skills they need or they may need to procure the services of a consultant who specializes in the type of instruction that they want to incorporate into their program.

Exclusivity of Practices

Unfortunately, much of what occurs in the field of education involves exclusivity of approaches to learning rather than attempts to merge different approaches to education. Walsh and Petty (2007) conducted a content analysis of six early childhood approaches published within the *Early Childhood Education Journal* and found that the Head Start program was the most frequently occurring. Some textbooks in early childhood formally reject any incorporation of the use of ABA in favor of constructivist approaches (Fields, Merritt, & Fields, 2013). This type of rejection usually involves differences in philosophical approaches to education and the belief that ABA approaches to education do not allow for the development of quality attachments between teachers and students. This is supported by some research that found that teachers who utilized more teacher-directed learning activities, more often associated with behavior analysis, were seen as less affectionate and less warm with their students than teachers who utilized more student-centered approaches (Hyson, Hirsh-Pasek, & Rescorla, 1990; Stipek, Daniels, Galluzo & Milburn, 1992; Stipek, Feiler, Daniels, & Milburn, 1995). Research outside the behavior analysis field has also indicated that ABA approaches are associated with students' decreased ability to self-regulate, students' inability to make choices, and with increased anger and

depression among students (Kohn, 2005; Landy, 2009; Sigsgaard, 2005). While ABA approaches have been utilized frequently with special education populations, they have not been fostered to increase the acceptance among general educators or tailored toward incorporation within general education classrooms (Axelrod, 1992; Fantuzzo & Atkins, 1992; McDonnell, Thorson, McQuivey, & Kiefer-O'Donnell, 1997).

While these reports are all disturbing, the authors of this text support the assertion that ABA approaches can be used in a manner that does not generate these unwanted outcomes, but instead promotes strong bonding between students and teachers. The procedures within ABA have been repeatedly found to be effective toward teaching new skills and for decreasing inappropriate social behaviors. Given the effectiveness of these procedures, it seems irresponsible to completely reject them and not incorporate them into a teacher's daily routine when they can provide beneficial learning opportunities for students. With appropriate tailoring of these procedures, ABA approaches can be an important component of any teacher's repertoire of skills. In addition, most new teachers report that the biggest problem they encounter within their classrooms involves discipline. ABA approaches can be the most effective method for establishing a classroom that is safe, comfortable, and that meets the learning and disciplinary needs of all children.

Less Versus More Direct Methods of Instruction

The most popular teaching procedures used in early childhood typically involve strategies that are less direct and encourage more independent engagement among young children. The teaching approaches within an ABA framework usually involve a more direct approach to teaching specific skills and may account for the notion that the teacher is less warm or approachable. While these teaching styles differ, they do not necessarily need to be exclusive of each other. One of the primary purposes of this text is to describe the value of incorporating ABA procedures within early childhood programs alongside other less direct teaching procedures. In other words, young children should be exposed to a variety of learning experiences that include both direct and indirect teaching strategies.

Wolery and Wilbers (1994) described a continuum of teaching strategies that began with entirely indirect methods, moved to moderately direct methods, and then to highly direct methods of teaching. Indirect methods of teaching involve allowing a child to explore the environment independently and results in learning opportunities that are selected by the child. These instructional approaches are sometimes referred to as child-centered, learner-centered, or student-centered instruction. This instructional approach is frequently described as non-invasive; based on free will of the child, promoting self-esteem, and not relying on external motivation such as rewards or punishment.

Moderately direct approaches to instruction are often referred to as embedded instruction, incidental teaching, or naturalistic instruction. This type of instructional approach frequently involves planning learning opportunities based on a student's interest without modifying the typical daily routine. The teacher provides guidance and feedback to a student during naturally occurring daily activities in order to help them attain specific learning objectives developed for them individually or for a group of children.

Direct instructional approaches are sometimes referred to as teacher-directed instruction, instructor-led approaches, explicit teaching, or active teaching. This instructional approach is characterized by instructional activities that are selected by the teacher rather than by the student. The teacher directs the learning activity by frequently modeling appropriate responses for a student and then guiding the student to exhibit the same response with teacher feedback. An instructional session may involve numerous repetitions to provide the student with several opportunities to practice a specific behavior. This instructional approach may be used with larger groups of students but is frequently used with small groups or in one-on-one instructional sessions.

The prevailing approach to learning in preschool classrooms for young children is for the teacher to arrange a classroom that promotes opportunities for the children to explore and construct their own knowledge through trial and error. Referred to as "discovery learning," children are encouraged to explore their environment and make their own discoveries. Through this exploration they encounter problems that they must solve. They could then reflect back upon their responses to the problems and use this information to shape their responses to similar problems in the future. Through this trial-and-error approach the child can begin to build a logical framework for solving problems and understanding the world around them. This approach is grounded in a constructivist theory of learning developed by philosophers, researchers, and theorists such as John Dewey, Maria Montessori, Jean Piaget, Lev Vygotsky, and others. Some of these approaches include Head Start, Montessori, High/Scope, Waldorf, Reggio Emilia, and Bank Street (Walsh & Petty, 2007). With these approaches the teacher is a guide to help the child encounter novel experiences and information and thus begin to develop methods for responding to and resolving challenges while formulating new knowledge within them.

The Need for More Direct Instruction

Consider the following scenario:

Kaylin is a four-year-old boy who attends a preschool program with about 15 other students approximately his age. Kaylin is very large for his size, is very active within his classroom, loves to wear his cowboy boots almost every day, and

really enjoys playing with a variety of toys in the classroom, although he loses interest in a toy quickly. Kaylin indicates he is very happy in his classroom, likes his teacher and teaching assistants, and has a lot of friends in his classroom. His teacher constantly refers to all the children in the classroom as friends, although many of the children tend to avoid interacting with Kaylin. The socialization that Kaylin displays is somewhat minimal toward the other children in the classroom, but he likes the attention he receives from adults in the classroom. When Kaylin wants a specific toy, he will frequently approach other children and take the toy from them. If a child resists giving him the toy he will usually kick the other child in the shins with his cowboy boots until the child gives up the toy. Because he becomes tired of toys quickly, he frequently looks for new toys and thus takes them from other children quite often. Whenever his teacher sees this occur, Kaylin is pulled aside and told how this is not acceptable behavior, that he is hurting his friends, and that he needs to ask a friend if he can play with them or ask how much longer they need the toy. While the teacher has been consistent in discussing the issue with Kaylin, he continues to kick his classmates to get toys. As a result, several parents have complained that their children are coming home with bruises on their shins and the teacher has assigned a teaching assistant to stay close to Kaylin and intervene if he attempts to kick a classmate. Kaylin enjoys the extra attention he receives from the teaching assistant, but continues to kick his classmates whenever the assistant is not nearby.

- How important is the problem described to the overall functioning of the classroom?
- What is Kaylin learning?
- How would you describe the experience of Kaylin's classmates when interacting with him?
- What else could be done from the teacher's standpoint?

In the example described, Kaylin has learned that he can get the toy he wants by kicking his classmates and he enjoys the extra adult attention that he is given for engaging in this behavior. The teacher is attempting to convey within Kaylin a sense of what she considers morally correct and hopes that he will choose to behave in an appropriate manner. The other children in the classroom appear to have learned from their experiences and thus attempt to avoid Kaylin when possible. The teacher in this example appears to be utilizing a less direct approach to providing instruction in the classroom and allowing the children to have new experiences while providing them with guidance. This type of approach is satisfactory for a large majority of students, but may not meet the needs of all the students in the classroom, especially as it relates to classroom management. For some children, a more direct approach to instruction is needed to provide them with an educational experience that is beneficial.

A recent report from the National Center for Special Education Research, Institute for Education Sciences (Diamond, Justice, Siegler, & Snyder, 2013) noted that many early childhood programs still relied on child-directed theoretical perspectives to determine their instructional approaches, and stated the following:

> Although professional organizations in early childhood currently acknowledge the importance of intentionality in instruction and of children's engagement in both child-initiated and teacher-directed activities for promoting learning, many children still attend classrooms that are organized to promote learning through play activities that each child chooses. Yet, this type of classroom organization is associated with smaller learning gains over the school year when compared to classrooms that include teacher-directed learning.
>
> (p. 8)

The benefits of a teacher-directed instructional approach can be seen in at least three different ways. First, students need to be offered clear examples. Situations that occur in the natural environment may in many cases not be clear to children. This is often seen among children when they are asked "Who started the fight?" and both children respond that it was the other child who started the fight. The children in such cases may be responding honestly as they may have seen aggression displayed by the other child and may not have recognized aggressive behavior in themselves. Second, children need to be allowed to come into contact with consequences that may not be occurring naturally in the environment. In the example of Kaylin, he was bigger than the other children in his classroom and so when he was aggressive toward them they would retreat and try to avoid him. In some cases a child may initiate aggression toward another child and the other child may respond with aggression. In some instances, this may cause the child to stop initiating aggression or at least stop being aggressive toward that particular child. Third, direct instruction is needed to quickly provide students with multiple opportunities to experience learning situations considered important. If a child needs to learn a certain skill to keep themselves or others safe, and the opportunity to learn the skill does not present itself, then some artificial opportunities may need to be developed to help the child gain the skill. Similarly, if the opportunity to learn the skill does not occur frequently enough, there may be a need to recreate some additional opportunities for this learning to occur. All three of these are ways in which a direct instructional approach can be a beneficial component to a comprehensive and varied education for young children.

A More Direct Approach to Instruction

Various instructional experiences are recommended for young children to obtain the education that benefits them the most. Some methods of instruction are more student-initiated, such as discovery learning, and move along a continuum toward a more teacher-directed instructional method such as ABA. A combination of these instructional approaches can be accomplished when comprehensive training is provided and philosophical biases are set aside. For a child such as Kaylin, it would seem that a more direct approach toward instruction would be beneficial. Kaylin's teacher might need to provide some practice sessions to teach Kaylin how to ask to play with a toy that a classmate is using. These practice sessions could involve a discussion and actual practice of consequences related to appropriate and inappropriate asking for a toy. Such an approach could provide Kaylin with clear examples, offer related consequences that he may not be contacting frequently in the natural environment, and allow him to quickly access multiple opportunities to learn the skill in a controlled situation where other children do not get hurt.

Advantages of Direct Instruction

In some cases, young children may need direct instructional approaches to succeed and, additionally, some students may prefer to have more direct instructional approaches. Heal, Hanley, and Layer (2009) examined the efficacy and preferences for instruction among three increasingly more teacher-directed instructional approaches used for young children. They compared a low-level teacher-directed instructional approach (discovery-based instruction), a medium-level instructional approach (embedded instruction), and a high-level instructional approach (direct instruction) for teaching name relations to young children. Heal et al. found that using a direct instructional approach produced the most correct responses and allowed the children to master the skill the quickest. In addition, the majority of the students preferred the direct instructional approach to learning the skill. They also noted that the embedded instructional approach could have been aversive to some of the children because it involved interrupting the activity to provide instruction. In a similar study, Heal and Hanley (2011) found that the embedded instructional approach was considered to be the least preferred instructional approach for a preschool student being taught name relations. These studies and others demonstrate the value of including direct instructional approaches within early learning environments.

The Process of Learning

Young children, through their experiences, begin to develop strategies that allow them to achieve success in their environment. In some cases a child

may find that a certain response provides new sensations and provides them with pleasure. For example, a teacher who supplies children with a sand table or a water table with toys such as scoops and cups may be providing the children with an experience to engage with materials in a novel manner. The children may scoop up the water or sand and pour it into the cups, they may submerge their hands or the toys in the water or sand, or they may splash themselves or others with the water or sand. Some of these experiences may be pleasant and others may not be pleasant. Splashing someone else may result in the other child becoming upset or crying and might even include a reprimand from a teacher or instruction on how to play more appropriately. These types of activities allow the children to gain knowledge and experience about the world through self-exploration and through trial and error about how things function. They can then use this information in a way that will benefit them in the future. This type of exploratory learning has some very good components and a teacher who provides a multitude of novel activities for children can support their growth in many ways with minimal interference.

Recognizing Building Blocks to Learning

Much of the learning that occurs in young children can be complex for them and may appear even more complex among the adults who observe their behaviors. Young children develop very rapidly and have new experiences every day that shape the way that they see and interact with the world. Their naiveté of their environment provides genuine opportunities for learning to take place and parents and teachers can definitely enhance this experience for the children by ensuring they have a variety of experiences. While there are many forms of learning that children experience on any given day, the descriptions of these that are most frequently offered are very sophisticated. For example, a preschool teacher was heard saying "Luke is learning how to share." This type of statement may seem very reasonable, but in reality the act of sharing involves a very complicated set of skills that many adults have difficulty understanding and displaying. What the teacher may have seen Luke do was to give one of his toy cars to a friend who said he wanted one of the cars. Luke may have given a toy car to a friend but he may not have contemplated whether this was an opportunity to share or whether it was a good idea to give the car to his friend. Instead, he may have been tired of playing with the car and no longer wanted it to play with, or he may have had some past experiences with this friend that involved the friend taking something away from him by force and thus wanted to avoid another similar confrontation. In this case, Luke was simply responding in a way that worked best for him, while sharing, in most cases, would be described as showing some level of concern for another person.

Adults need to consider that learning among young children may occur in small steps or may occur in what is referred to as *successive approximations.*

Each little step that they master along the way successively approximates or gradually brings them closer to the larger target objective. A young child successively approximates walking by first learning to sit, then by learning to crawl, then by learning to stand up before actually taking a first step.

Each of these small learning experiences may serve as building blocks upon which more complex skills begin developing. More complex skills that may be seen among older children and adults usually begin by first learning the *prerequisite skills*. For example, an older child may be expected to work on a task for an extended period of time. In order to get to the point where they can accomplish this successfully, they must first learn to respond to someone asking them to come to a specified area, focus on the instructions that they are being given, sit in a certain location for a short period of time, etc. Learning each of these prerequisite skills will help them accomplish the larger, more complex task that is expected.

Basic Principles of Applied Behavior Analysis

While traditional approaches to early childhood education place a great deal of emphasis on allowing children to develop their own approaches to learning, ABA places more emphasis on teachers actively engaging students, directing and prompting student behavior, and offering clarification of the student's actions. ABA is often used interchangeably with the term *behavior modification* as it relies on the principles of both operant and classical conditioning to later behavior. ABA can be defined as a science in which behaviors are analyzed and interventions are applied systematically to improve socially significant behavior (Cooper, Heron, & Heward, 2007). With this approach the child can gain a clear understanding of which problem-solving approaches result in the best payoff. In behavior analytic terms, this concept is described as providing the child with the skills necessary to maximize their reinforcement. Reinforcement, defined in behavior analytic terms, is an event, action, or item that occurs or is present following the behavior that increases the probability of the behavior occurring again, and can be a very powerful tool for an educator or for a parent (Flora, 2004). In other words, a preferred consequence followed the child's behavior and the child now associates engaging in that behavior with the desired consequence. As a result, the behavior increases, thus positive reinforcement has occurred. If the child engages in behavior and the removal of an undesired activity occurs and the behavior increases in the future, then negative reinforcement has taken place. The term "reinforcement" defines the increase in the behavior. The descriptors "positive and negative" denote whether or not something was added (e.g., praise or high-five) or removed (e.g., math sheet taken away). As early childhood educators, a primary goal is to identify individual preferences and to attempt to increase the teachable moments that result in continued success

for the child. From a behavioral framework this goal is accomplished through assessing preferences and then maximizing the reinforcement. Maximizing reinforcement can be beneficial for most individuals and is a skill that young children can learn early and then use to their advantage throughout their lives.

B. F. Skinner was a major proponent and researcher in the field of behavior analysis, and wanted to use behavior analysis to improve people's lives. He wrote that the environment could be arranged in such a way that people could more clearly see how to gain access to what they wanted in their lives and avoid the things that made them unhappy (Skinner, 1953). This fundamental principle promotes maximizing reinforcement while avoiding unpleasant consequences. As an example, a person who wants a new television could work and save their money to buy the television or they could attempt to steal the television. Earning the money and purchasing the television may require some time and effort, but does not expose one to the unpleasant risks or consequences associated with stealing the television, such as being arrested, jail time, fines, etc. Similarly, a young child who wants a toy being used by another child could ask to play with the toy or find a similar toy to play with, or they could simply take the toy from the other child and risk retaliation from the other child or a reprimand from a watchful adult. In addition, even if a child successfully continues to forcefully take toys away from other children without immediate unpleasant consequences, the child may find that other children eventually do not want to play with them.

Rationalizations for Behavior

ABA allows for an examination of how the environment interacts with the young child to influence their behavior. This type of examination allows a parent or educator to modify the environment so that a young child can be more successful. ABA can make the interaction between the young child and the environment more understandable and offer explanations for why a young child is behaving in a certain way, without having to resort to speculations or subjective viewpoints. Frequently, when a child behaves in an unacceptable manner and the usual methods of correction do not immediately work, the child's behavior can be explained in numerous ways. These explanations can be categorized into at least three different areas that include (1) innate deficiencies on the part of the child; (2) deficiencies on the part of the parent/family/home; or (3) deficiencies on the part of the immediate environment (see Figure 1.2). In addition, these explanations can be combined in various combinations when attempting to explain inappropriate behavior.

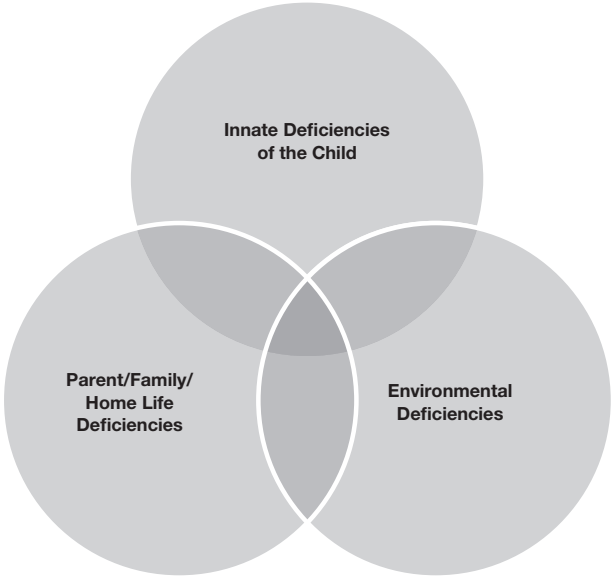

Figure 1.2 Categorizing Explanations of Inappropriate Behavior

Innate Deficiency Rationalizations

Explanations based on potential innate deficiencies of the child could include statements such as: "he has a short attention span," "he is immature," "she is stubborn," "she just won't listen," "he has attention deficit hyperactivity disorder (ADHD)," "she has a cognitive impairment," "that child is just bad," etc. These explanations in many cases do not provide any assistance in resolving the problem. In some instances, the explanation can be circular and illogical, as in a teacher or parent who says that a child is inattentive or hyperactive because he has a diagnosis of ADHD. The basis for a diagnosis of ADHD is that a child displays inattentiveness and hyperactivity, which does not explain why but rather categorizes the behaviors into a group that is considered significant (American Psychological Association, 2013). In other words, a diagnosis such as ADHD does not cause a child to behave in any manner; rather, when a child behaves in a certain manner someone may categorize the behavior by placing a diagnosis on the child. A child who has a legitimate attention problem could possibly benefit from medication, but a parent or teacher cannot make such a determination without assistance from a physician. Many medications can also have detrimental side-effects or may not be appropriate for many children. Explanations focused on innate deficiencies of the child have limitations that are frequently very difficult to verify or remediate. Table 1.1 provides a brief summary of explanations of behavior based on innate deficiencies of the child.

Table 1.1 Explanations of Inappropriate Behavior Based on Innate Deficiencies of a Child

Frequent statements	*Limitations*	*Benefits*
• He can't sit still • She is just stubborn • He has a short attention span • She just won't listen • He has ADHD • She has a cognitive impairment • He has prefrontal lobe damage	• Places all responsibility for the behavior on the child • Does not offer anything toward developing an intervention • Frequently involves circular reasoning	• Provides parents/ teachers with an explanation that relieves them of any responsibility

Dysfunctional Family Rationalization

Explanations based on deficiencies of the parents, family, or home life also have numerous limitations regarding the ability to develop strategies to help the child. Some of the explanatory comments on child behavior that can frequently be heard in reference to parent, family, or home life deficiencies include: "his parents don't discipline him," "her parents are divorced," "his home life is horrible," "her brothers all act the same way," "her mother is never home," "that family does not care about their children," "his father is in jail," etc. All of these types of statements could be used to explain why a young child behaves in an unacceptable manner. The problem with these types of statements is that they do not lend themselves toward any type of immediate resolution of the problem being displayed by the child. The issues that exist within a family are not necessarily easy to resolve, such as a parent who is in jail, or a sibling who behaves inappropriately, or a dysfunctional family. Parents or families can be offered assistance to improve their situation, such as counseling, parent training courses, family life education, etc. This assistance usually takes a substantial amount of time to make changes and may not directly address the problem behavior being displayed by a child. In addition, these types of explanations of child behavior frequently place blame on parents or families who are legitimately trying to do everything they can to help their children.

A classic example of placing blame on parents for a child's behavior comes from the description of the "refrigerator mother." During the 1950s and 1960s an explanation about child behavior was promoted that indicated that mothers who failed to provide nurturing, caring relationships with their children produced children who displayed characteristics of autism. Psychoanalyst Bruno Bettelheim (1967) proposed that young children diagnosed with

Table 1.2 Explanations of Inappropriate Behavior Based on Deficiencies of Parents/Family/Home Life

Frequent statements	*Limitations*	*Benefits*
• His home life is horrible • Her parents don't provide any discipline • His father is in jail • Her mother is an alcoholic • Her parents are divorced • All his brothers act the same way • She gets no attention at home	• Do not offer any immediate intervention for the behavior • Frequently involve circumstance that cannot be controlled or changed • Places blame on parents • Parents may resist interventions focused on themselves or the family	• May result in parent training being offered • May result in family counseling being offered • Provides teachers with an explanation that relieves them of any responsibility

autism frequently did not receive adequate affection from their mothers and concluded that the mothers were responsible for the child displaying autistic characteristics. This explanation often was severely detrimental to the mothers, who in many cases were trying desperately to connect with and develop affectionate relationships with their children. The explanation was later seen as unsupported by empirical evidence, although it did result in a great deal of grief among the mothers who believed they were responsible for causing this condition in their children. As seen through this example, focusing on parent, family, and home life explanations for a child's behavior can in some cases be detrimental to families and may not lead toward interventions that can be easily implemented.

Environmental Deficiency Rationalization

Explanations that focus on the immediate environment have limitations, but may lead toward the development of interventions that can directly address the behavior displayed by a child, can be quickly implemented, and can often result in immediate changes in the child's behavior. Some of the explanatory statements frequently made in reference to immediate environmental deficiencies include: "he only acts out when he is near that other child," "she will only respond to one teacher," "he gets cranky when he is sleepy," "she won't do anything when she is hungry," "he doesn't know how to express himself," "he has problems with transitions," etc. While these statements appear to indicate problems inherent in the child, they actually refer to conditions that persist within the immediate environment and sometimes can

be easily modified. For example, a child who behaves inappropriately when he or she is sleepy or hungry could be offered a snack earlier in the day or given an opportunity to rest earlier in the day. A child who "acts out" when near another specific child, could be positioned away from the other child and provided increased supervision when playing near the other child. A child who cannot express himself or herself could be provided with an alternative means for communicating such as gesturing or using a picture board. These examples are simplified methods for modifying the environment and fall under the purview of solutions that a teacher could implement in a classroom or that a parent could utilize at home.

Environmental explanations can result in the development of interventions that directly impact a student's behavior rather than utilizing indirect attempts to change behavior such as parent training, counseling, medical interventions, etc. Providing parent training classes may only indirectly impact a child's behavior after a parent first modifies their interactions with their child; counseling may focus on feelings or attitudes about a situation that may only result in change once the attitude or perception of the situation is changed. Similarly, medical interventions may first target biochemical reactions that do not directly focus on a specific behavior, but rather focus on an overall change in generalized mood or activity level. By focusing on the environment, the subsequent modifications that are developed can focus directly on the specific behavior in the actual setting where the behavior is occurring, without blaming the child or the family.

In addition, environmentally based interventions can in some cases be easily and quickly implemented without extensive data collection. A word of caution is to change only one thing at a time. When trying too many

Table 1.3 Explanations of Inappropriate Behavior That Focus on the Environment

Frequent statements	*Limitations*	*Benefits*
• He has problems with transitions • She won't do anything when she is hungry • He gets cranky when he is sleepy • He can't be around that other child • She will only behave for that one teacher • He doesn't know how to express himself	• May at times be difficult to determine what aspect of environment to change • Interventions may require more time and effort from parents or teachers	• May contribute toward intervention that directly addresses the behavior • May result in immediate intervention development • May be easy to implement • May produce immediate changes in behavior

alterations it is difficult to discern which modification resulted in the decrease in the inappropriate behavior. One prime example of environmentally based intervention that can be quickly implemented without the need for too much data collection is separating two children based on the observation that the child who misbehaves only acts out when sitting near a specific child during circle time. If by moving one child to another location the behavior improves, then arrangements can be made to prevent the behavior from occurring in the future. Another example is a child who misbehaves when hungry. In this situation, the child can readily be given a snack earlier in the day to avoid becoming hungry. Both of these examples eliminate the inappropriate behavior that has previously been exhibited by making changes to the environment. Subsequently, these modifications can result in rapid changes to the problem behavior.

Summary

The field of early childhood education has been dominated by a constructivist approach to providing education. This is evident within numerous early childhood teacher training programs and textbooks which have in many cases led to an exclusion of ABA procedures. Several recommendations have been made that indicate that direct instructional techniques, such as those frequently utilized within an ABA approach, have detrimental effects upon children. But, a great deal of evidence also exists demonstrating the value of these techniques for promoting student learning within early childhood settings. In addition, this textbook will explain how ABA techniques can be used in a way that allows teachers to develop quality relationships with their students. The exclusion of ABA in training programs and practice has produced early childhood teachers who are unfamiliar with ABA techniques that could be valuable toward developing a well-rounded classroom that incorporates a variety of instructional approaches. A classroom should make instructional approaches available that meet the individual needs of all the students. Therefore, a variety of instructional strategies are needed. In addition, focusing on an internal locus of control or placing emphasis on the familial structure may be counterproductive to reducing and eradicating a child's maladaptive behaviors. Within an ABA approach, focus is placed on the environment and steps are taken to look beyond situations the teacher cannot control, such as mom's ability to discipline, dad's lack of attentiveness, or the child's innate unruly behavior. The ball is back in the teacher's court and changes can be made. Environmental modifications are often quick, easy to implement, and result in positive changes when done systematically. The subsequent chapters of this textbook will explain in detail how ABA procedures can be an important part of any early childhood learning situation.

Discussion Questions

- Discuss the similarities and difference between a constructivist approach and a behavioral approach to teaching young children. What are considered to be the benefits of each of these approaches? Describe how these approaches can be combined to emphasize the best practices of each approach.
- Observe a classroom for young children and watch for how the teachers interact with the children. How often do the teachers engage in directly teaching skills to the students? Are the activities more teacher-driven or are they based more on student preferences?
- Attend a meeting for a young child who is exhibiting behavior problems, or interview a teacher about a child who exhibits challenging behaviors. Note the rationale that is given for why the child engages in the challenging behavior. How often are innate deficiencies described? Dysfunctional family deficiencies? Environmental deficiencies? What types of interventions are in place to address the type of deficiencies mentioned?

Chapter 2

Creating Supportive Environments

Overview

This chapter provides the essentials for setting up an environment that encourages appropriate behavior and reduces the potential for challenging behaviors. Strategies that focus on arranging the environment to promote learning and avoid difficulties are described. Some of these strategies include incorporating student preferences and arranging the daily schedule to match the needs of students. In addition, methods are described for how to optimize daily activities to specifically introduce opportunities for children to practice new skills and learn new behaviors.

Material and Techniques to Learn

- Establishing a setting for directed learning to take place
- Determining student preferences
- Using incidental teaching strategies
- Incorporating activity schedules
- Utilizing stimulus control techniques

Case Scenario

Joey and Markie are five-year-old boys who have just started attending preschool in different parts of the same town. Joey's classroom is decorated with letters of the alphabet, large numbers and pictures labeled with single words to identify areas of the classroom, such as "Reading Area" and "Puzzle Area." Markie's classroom has minimal decorations and the areas of the classroom are not labeled, instead almost any activity may occur in any part of the classroom. Joey begins his day by being offered a snack while listening to music, and then transitions into a lesson on recognizing the days of the week, identifying the weather outside, and discussing individual plans for which area of the classroom and activity he and others in the class would like to go to after the lesson. Markie begins his day with a free-play activity where students choose to play with whatever toys or

materials they find throughout the classroom. He then transitions to a group activity where the teacher reads and discusses a book to the entire group. After finishing the book, he transitions back to free-play activities or sometimes the class will go outside and play in the playground, depending on the weather. Joey's daily schedule is highly structured and his classroom has a great deal of organization associated with where specific activities take place. Markie's daily routine is highly variable and there is very minimal organization related to where certain activities take place.

Questions to Consider

- Consider both Joey's and Markie's classroom and think about the advantages and disadvantages of having a highly organized classroom and structured daily schedule versus having less organization in the classroom and structure throughout the daily routine.
- How might a teacher teach skills throughout the day that are individualized and specific to either Joey or Markie, given the differences in their classrooms? Would one classroom be more or less conducive to teaching individualized skills that specific students need?
- Consider the home situation that Joey and Markie might be coming from. The case scenario does not provide details regarding their home environment, but if they are coming from a home environment that is very chaotic or dysfunctional, would one of the classroom environments be more beneficial or suitable for them? Why?

Introduction

One of the most important aspects of a classroom environment is the appeal that it can provide to young children. Children come to preschool classrooms from widely diverse backgrounds and home situations. Some of these children have homes that are plentiful, with stimulating toys, books, and other items for them to manipulate. These children have opportunities to experience a great deal and learn from these materials in their homes. Other children may come from home environments that do not offer a great deal of stimulation in the form of items for them to manipulate. These children may have to find or make items to use for play. In addition, some children will have been exposed to numerous different environments and several different caretakers, and/or traveled to numerous locations while others may have very limited experiences with environments, locations, or caretakers. Given this consideration, the preschool classroom can provide a safe atmosphere and a wonderful opportunity for children to be exposed to novel environments and gain experiences they may not otherwise be able to access.

The aspect of classroom appeal can easily be seen in preschool classrooms when a change in the classroom environment has just occurred. When a

preschool classroom is rearranged, new toys are put out, and different artwork is hung around the room, the children take notice and upon entering typically become very excited to explore the new surroundings. This novelty effect can be very useful to teachers for reinvigorating children and creating new opportunities for learning to take place. A child who is presented with new, exciting, and enjoyable experiences within their preschool classroom will be much more likely to find school a pleasant experience and be more open to teachers, instructional approaches, and the learning opportunities that are presented to them.

There are several ways that a classroom can be evaluated to determine how appropriate it is for young children. The variables discussed in this chapter focus on more generalized factors that can be influential toward supporting almost all young children. While these factors are not necessarily individualized for specific students, they can easily be modified to incorporate the specialized needs of individual students. The factors are, rather, a beginning point for consideration in the overall development of a classroom that is designed to avoid potential problems and increase the overall availability of support that students typically need and prefer. These factors are broken down into three categories that include the classroom environment, the academic expectations, and the instructional approaches (see Table 2.1). The classroom environment includes the setting where the children spend most of their time and involves the physical arrangement of the classroom structures, furniture, materials, decorations, etc. The academic expectations are the factors related to what children are required to do within the classroom. Academic expectations involve the difficulty of the actual tasks provided to children, the order in which the tasks are presented, the relevance

Table 2.1 General Factors to Consider When Developing a Classroom for Young Children

Classroom environment	*Academic expectations*	*Instructional approaches*
• Design and size of the classroom • Decorations • Furniture • Structures • Arrangement of areas • Designation/labeling of areas for specific types of activities • Lighting • Temperature	• Difficulty of tasks • Order of task presentation • Relevance of tasks • Student input on tasks (choice) • Incorporation of student preferences	• Individualized instruction • Small-group instruction • Classwide instruction • Opportunities for student engagement • Time spent on specific content (teaching pre-requisite skills, developing classroom rules, etc.)

of the tasks to the children, and the amount of input that the children have regarding the tasks. Instructional approaches are the methods that teachers use to support and guide children. These involve setting up opportunities for students to engage in learning activities, the use of individualized, small group, or classwide instruction, and the amount of time and effort spent on certain types of instruction.

Arranging the Classroom Environment

One of the beginning points considered by early childhood teachers is the arrangement of the classroom environment. There are numerous variations in the way a classroom can be arranged. Research in applied behavior analysis (ABA) has offered some insights into making these types of arrangements. One type of arrangement to consider is the use of partitions to divide a classroom into areas designed for a specific purpose, such as eating, play, or napping. Another option is to use an open classroom design that eliminates partitions between specific areas in the classroom. Twardosz, Cataldo, and Risley (1974) conducted a series of experiments to examine the benefits of using either a partitioned classroom or an open classroom. They found that the open classroom design had benefits over the partitioned classroom, such as making it easier to observe children and supervise staff members' activities. In addition, the open classroom design did not interfere with children during nap times. Pre-academic activities could also be completed just as easily in an open classroom as they could be within a partitioned classroom. These findings provide a basis for making decisions about how to arrange partitions or barriers within a classroom.

When deciding on the arrangement of preschool classrooms teachers should consider the type of activities that will need to take place in the classroom. A preschool classroom should offer space for a variety of different activities. The classroom can be divided into different areas that can be used for specific purposes. A classroom should have areas designated for quiet, low-energy activities and areas for more energetic activities. Teachers should consider where they might work individually with a single student or small group of students with minimal disruptions. They also need to consider an area that could be used to group the entire class together when they need to communicate to the entire class at one time.

Additionally, classrooms should have areas that can clearly be recognized as appropriate for specific types of activities. For example, a classroom might have places for circle time activities, free-play areas, reading areas, table-top activity areas, etc. The materials available in the areas should correspond to the type of activity that is expected for a particular area. For example, a reading area should contain books, soft seating, cushions, etc. where both children and adults can sit and enjoy books together. A circle-time area can have designated places for children to sit and might include a spot for each

child identified by the child's name and/or a symbol that a child recognizes as theirs. Having classroom areas that are well defined allows children to predict what will occur in specific areas. It is important for young children to easily recognize the differences between the designated areas so that they can begin to engage in activities considered appropriate for specific areas of the classroom. Providing young children with a variety of different areas to utilize within a classroom begins to introduce opportunities for creating choices for the children related to the academic expectations of the classroom.

Developing Opportunities for Choice

While it is not necessarily the expectation that children will engage in challenging behavior, it is valuable to be proactive and incorporate conditions that tend to prevent potential problems occurring. Developing a proactive classroom is something that a teacher can embed into the layout of the classroom, the design of classroom expectations, the development of the daily activity schedules, and the preparation of instructional approaches. Teachers need to consider the difficulty of tasks that students are expected to perform and make certain that the tasks are appropriately matched to the skill level of the student. The teacher first needs to know the skill level of the child and then match the task difficulty appropriately. A good guide for matching task difficulty to student ability involves tracking the skills that a student has mastered, knowing the skills that are beginning to emerge for a child, and being aware of skills that are not being displayed at all by a child. Students can then be given tasks that include skills they have mastered to complete independently as a means of maintaining the skills. For tasks that involve a child's emerging skills, the child needs to be provided with an adequate amount of guidance, support, and supervision to make sure they can be readily assisted in order to promote success. Skills that the child does not display can be introduced to the child using individualized instruction with modeling, prompting, and feedback.

In addition to ensuring that students are given the appropriate level of support for completing tasks, teachers need to arrange the daily schedule so that children are not repeatedly presented with difficult or frustrating tasks. A supportive schedule arrangement should interweave more difficult tasks between easier tasks. For example, a schedule for young children might involve a free-play time period (easy task), followed by a period of time involving letter recognition (difficult task), followed by snack time (easy task), followed by a period of time for number recognition (difficult task), followed by free-play time (easy task), etc. In addition, teachers should consider that they do not know the type of situation a child may have experienced immediately prior to coming into a classroom and thus provide the child with an easy task to serve as a transition into the classroom. Similarly, children should be scheduled to have an easy and preferably enjoyable activity

immediately prior to leaving the classroom for the day. This type of schedule can help to reduce resistance toward going to a classroom and enhance good feelings about the classroom upon leaving for the day.

Providing young children with opportunities to choose what activities to engage in can be a valuable forerunner toward promoting appropriate child engagement and avoiding difficulties. Research has shown that the addition of choice of different types of activities can be an effective tool for reducing challenging behavior and for increasing a child's willingness to engage in an academic activity (Dunlap et al., 1994; Powell & Nelson, 1997). While it may be advantageous to allow children some choice in the type of activity they would like to engage in, for children who are more resistant to engaging in certain activities a slightly different type of choice may be more effective. Fenerty and Tiger (2010) evaluated whether preschoolers preferred to choose the activity to engage in or if they preferred to choose the reward they would receive after engaging in an activity. They found a potential for preschoolers in their study to prefer a choice in the reward that they received after completing a task rather than a choice of the activity. Similarly, Tiger, Hanley, and Hernandez (2006) demonstrated that increasing the number of reward choices improved preschool children's preference for having choice of rewards. In addition, the preschoolers were shown to willingly engage in more work when the choice of rewards was plentiful. While these studies only involved small numbers of preschoolers, they do offer teachers a different option for including choice into their classrooms, especially for children who may be highly resistant to completing certain activities. For example, a child who is very resistant to picking up their toys could be told that when they pick up the toys they can choose to read a book, listen to music, or have a snack. Providing several options as a potential reward could increase the value of being offered a choice. In order to know what type of reward choices to provide, a teacher must first get to know the students in the classroom and determine what they like and do not like.

Incorporating Student Preferences

Gaining an understanding of what young children like may be a helpful tool for teachers in at least two ways. When a teacher is aware of what their students like they can use these as a means of motivating students to engage in activities. For example, a teacher who knows that a student likes trucks can supply the classroom with books about trucks, drawings of trucks to color, toy trucks to play, and can design lessons about the different types of trucks, etc. This is sometimes referred to as embedding preferences into activities to make the activities more interesting and enjoyable.

Another way that teachers may use student preferences is to make access to preferred items contingent on a student performing some type of academic task. This use of preferences is intended to increase the likelihood that a

student will be willing to engage in the task again in the future. This use of preferences is known as positive reinforcement and is the basis for encouraging young children to engage in activities that they may not otherwise want to do. For example, a child who is reluctant to wash her hands may be convinced to do so if she is told that she must wash her hands before she can have a cupcake. Only someone who knows the child and what she likes would be able to set up this arrangement. This can often be seen when someone who does not know what a child likes makes a suggestion such as "wash your hands and you can have a cupcake" and is quickly told by the child that he or she does not like cupcakes. It is important to get to know young children's likes and dislikes and use these to support academic tasks.

In general, there are some things that almost all young children enjoy, such as a smile, a pat on the back, a cold drink, etc. In order to get to know more specifically what a child or a group of children like, there is value in conducting an assessment of different things to determine what is preferred more and what is preferred less. This type of assessment is frequently referred to as a preference assessment and can be completed in several different ways. See Figure 2.1 for a list of different types of preference assessments.

One type of very easily conducted preference assessment involves just asking a child what he or she likes. A teacher can put together a list of items that may be of interest to a child and which could be used within a classroom setting. They can then just go down the list and ask the child if they like the items on the list. The items could also be arranged in categories such as items that can be eaten, items that can be played with, items that can be looked at, etc. In addition, the child can be asked what items they like best and to order the items from most to least enjoyable for them. A slight modification to this procedure can be accomplished by instead of asking the child, a teacher or a parent can be asked about what they have noticed as being highly preferred or less preferred by the child. This can be helpful to use as a second source of information, in addition to asking the child, or it may be necessary when a child is unable to respond to questions about their preferences.

Asking children, teachers, or parents about the preferences of young children is frequently referred to as *indirect preference assessment*. While asking teachers, parents, or children directly about what they prefer can be useful, it is not a substitute for actually observing how a child interacts with items or activities. One of the fundamental aspects of applied behavior analysis is reliance on direct observation of behavior rather than on second-hand information obtained through verbal reports. Using observations to determine the preferences of young children is frequently referred to as *direct preference assessment*. One very easy method for completing an observational preference assessment is to watch a young child when they have access to a large variety of toys or activities and see which toys or activities they spend the most time with. This can be accomplished by noting the time

Indirect Preference Assessment (does not involve direct observation)	
Individual	**Group**
1. Asking children, parents, teachers, etc. about what a child likes 2. Using a list of potential items or activities and asking children, parents, teachers, etc. to indicate which items and activities on the list are preferred by a child 3. Asking children, parents, teachers, etc. to rank items and activities in order from most preferred to least preferred	1. Asking a group to list what they like 2. Asking a group of people to identify what they like from a list 3. Asking a group of people to rank order their preferences from a list of potential preferences
Direct Preference Assessment (involves direct observation)	
Individual	**Group**
1. Observe a child and see what items or activities they interact with 2. Observe a child and document how long they spend interacting with different items or activities 3. Place a number of different items in front of a child and see which item they interact with first, second, etc. Once they interact with an item, remove it from the selection options. A rigorous version of this is referred to as a *multiple stimulus without replacement preference assessment* 4. Pair items together and present to a child and see which item they choose. Referred to as a *pair-stimulus preference assessment*	1. Observe a group of children and see what is most frequently interacted with 2. Observe a group and document what items or activities are interacted with most frequently and for the longest duration 3. Observe a group of children multiple times and document where they are in the classroom and what items and activities they are interacting with

Figure 2.1 Description of Some Preference Assessment Strategies for Young Children

when a child begins to play with a certain toy or activity and also the time when the child finishes playing with the same toy or activity. This can provide a time calculation of how long the child was engaged with a toy or activity and can then be compared to the same type of information gathered for different toys or activities. For example, a teacher wants to know what toys or activities one of her students, Requita, prefers. The teacher provides Requita with access to a large number of toys and access to a teaching assistant who is nearby. The teacher observes which toy Requita picks up first and the time. The observation continues, and the time is documented, until Requita puts the toy down. If Requita picks up a different toy, or interacts with the teaching assistant, the beginning and ending times are noted. The observation could last for a total of about 30 minutes. Then the teacher can evaluate how long Requita spent with each toy or activity with the teaching assistant. The longer amount of time Requita is observed to

engage with a toy or activity, the more highly preferred the toy or activity can be presumed to be for her, since no one is telling her which toy or activity to play with. This type of observational preference assessment can be used to arrange toys or activities into categories such as "more preferred" and "less preferred."

Recording the amount of time that a child interacts with various items or activities in a classroom can be useful for developing a program for that particular child. It is very important that classrooms for young children offer an enjoyable experience by providing numerous highly preferred items and activities for not just a single child, but all the children in the classroom. In order to incorporate more highly preferred items and activities for all children in a classroom, a more efficient method for conducting these assessments is needed. Hanley, Cammilleri, Tiger, and Ingvarsson (2007) offered an efficient observation system for collecting data on the preferences of a large group of children. Their observation system involved first dividing a classroom into different sections that offered different activities, and then repeatedly observing the number of children who were engaged in each of the different sections. They were able to determine the individual preferences from among nine different activity options for approximately 18 preschool children simultaneously. The observation they used consisted of looking at each child every 90 seconds and documenting which section the child was in and if the child was engaged in the activity. By using this observation system, a teacher could get information on the preferences for a whole class of students and arrange the classroom to include more highly preferred activities in order to create a more enjoyable experience for all the children.

When items or activities can be sorted into different categories of preference, such as "more preferred" or "less preferred," they can be arranged to encourage a child to engage in activities that are necessary but not highly desirable for the child. David Premack (1959) first noted that a high-probability behavior could be used to reinforce a low-probability behavior. This is also sometimes referred to as "Grandma's Rule." For example, Grandma knows that Cindy likes ice cream, but is sometimes resistant to eating vegetables, so Grandma tells Cindy that she can have some ice cream once she finishes her vegetables. This arrangement encourages a less probable behavior (eating vegetables) by using a highly probable behavior (eating ice cream). Once teachers or parents know the preferences of a child and can categorize the preference into "highly preferred" and "less preferred" then arrangements can begin to be made that encourage necessary but less preferred items or activities to be completed before access is provided to more highly preferred items or activities. One very common practice of this principle in classrooms for young children is that they wash their hands before coming to have a snack. Washing hands is frequently a less preferred activity while having a snack is usually a more highly preferred activity.

Another way of identifying the preferences of young children is to directly assess what they prefer by providing them with an opportunity to choose from among different items or activities. Cote, Thompson, Hanley, and McKerchar (2007) evaluated the preferences of young children by first asking their teachers to list and rank from most to least preferred 10 items or activities that the children seemed to enjoy. The researchers then used these 10 items in a direct assessment with each child by first allowing the child to experience each of the items or activities for a brief period of time. The researchers then paired each of the items/activities together and presented the pairs to allow the child to choose only one. Once all the pairings were presented to the child it was possible to see which item/activity was chosen most frequently, which item/activity was chosen the second most frequently, etc. This type of preference assessment is referred to as a paired-stimulus preference assessment and was developed by Fisher et al. (1992). Figure 2.2 provides instructions and a blank form for completing a paired-stimulus preference assessment. Figure 2.3 provides an example of a completed paired-stimulus preference assessment for a young child.

While it may be advantageous to determine the specific preferences of individual children, it can also be time consuming. In addition, some children may not require consistent access to highly preferred stimuli, but rather can perform well, and potentially better, when their access to highly preferred items or activities is provided on a more variable schedule. Layer, Hanley, Heal, and Tiger (2008) described a method for assessing the preferences of a group of children and then providing them with variable access to their preferences. Their method involved having a group of children select a preferred food item represented by a colored card before the children's selected cards were placed in a box. Then a card was randomly chosen from the box and the preferred food item was provided to all of the children. In this case not all received what they selected, but all children provided input into the chosen food item. Essentially, the procedure described by Layer et al. could be used to allow a group of children to offer input into what they would prefer. A teacher of young children could easily utilize or modify this procedure to allow a classroom of students to provide input on various aspects of the classroom. For example, students could vote for what snack they would prefer by placing a card corresponding to a particular snack in a box. Then a card could be randomly drawn from the box of all votes to determine the snack for the day, or maybe the number of votes could be counted and the snack with the most votes could determine the snack for the day.

Determining child preferences for items and activities can promote a classroom environment that is deemed more enjoyable and acceptable for young children. The same type of preference evaluation can also be incorporated into the type of instructional approaches that are used to teach

Paired-Stimulus Preference Assessment Form

Student: _____ Teacher: _____ Date: _____

List of 6 Items/Activities (Stimuli)

Number	Item
1	
2	
3	
4	
5	
6	

Instructions:

1. Randomly list all items/activities in the numbered boxes above. These are the stimuli which will be used in the assessment in very small portions. Use the number next to item/activity (stimulus) as a reference for each item/activity (stimulus).
2. Use the matrix below to arrange the presentation of stimuli.
3. Actual items should be used when presenting to the child. Activities may be presented by using a note card with a photo, drawing, and/or written word to identify the activity. For example, a high-five could have a photo of two people giving a high-five, or a music activity could have a drawing of a musical note.
4. Use the matrix to present two stimuli to the child at the same time. For example, the first presentation (trial) indicates that Stimulus #1 and Stimulus #2 will be presented together, with Stimulus #1 on the left and Stimulus #2 on the right.
5. Once the stimuli are presented, wait approximately five seconds for the child to select one of the stimuli. If the child does not make a selection, you can offer a prompt such as "Take one."
6. Once a child takes a stimulus allow them to consume the stimulus or experience it for approximately 30 seconds, then mark their selection on the matrix by circling the stimulus number in the corresponding box.
7. If a child attempts to take both stimuli, the attempt should be blocked by immediately removing the unchosen stimulus or physically blocking attempts to take both stimuli simultaneously and saying "Only take one."
8. If the child makes no response after a satisfactory presentation time, mark No Response (NR) in the corresponding box on the matrix.
9. Once a trial is complete, move to the next trial listed on the matrix.
10. After completing all trials on the matrix, count the number of times each stimulus was selected and complete the summary section to create a hierarchy of stimulus preference.

Figure 2.2 Instructions and Blank Form for Completing a Paired-Stimulus Preference Assessment

Trial	Left	Right	Trial	Left	Right	Trial	Left	Right
#1	1	2	**#6**	6	4	**#11**	5	3
#2	3	4	**#7**	4	1	**#12**	4	2
#3	5	6	**#8**	2	3	**#13**	1	6
#4	3	1	**#9**	1	5	**#14**	4	5
#5	2	5	**#10**	6	2	**#15**	3	6

Summary:

Document number of times each stimulus was selected

Item #1 selected ___

Item #2 selected ___

Item #3 selected ___

Item #4 selected ___

Item #5 selected ___

Item #6 selected ___

Notes:

Figure 2.2 continued

Paired-Stimulus Preference Assessment Form

Student: Eugene Teacher: Mr. Liles Date: xx/xx/xx

List of 6 Items/Activities (Stimuli)

Number	Item
1	Fish crackers
2	Toy truck
3	Music
4	Juice
5	Patty-cake
6	Puzzle

Instructions:

1. Randomly list all items/activities in the numbered boxes above. These are the stimuli which will be used in the assessment in very small portions. Use the number next to item/activity (stimulus) as a reference for each item/activity (stimulus).
2. Use the matrix below to arrange the presentation of stimuli.
3. Actual items should be used when presenting to the child. Activities may be presented by using a note card with a photo, drawing, and/or written word to identify the activity. For example, a high-five could have a photo of two people giving a high-five, or a music activity could have a drawing of a musical note.
4. Use the matrix to present two stimuli to the child at the same time. For example, the first presentation (trial) indicates that Stimulus #1 and Stimulus #2 will be presented together, with Stimulus #1 on the left and Stimulus #2 on the right.
5. Once the stimuli are presented, wait approximately five seconds for the child to select one of the stimuli. If the child does not make a selection, you can offer a prompt such as "Take one."
6. Once a child takes a stimulus allow them to consume the stimulus or experience it for approximately 30 seconds, then mark their selection on the matrix by circling the stimulus number in the corresponding box.
7. If a child attempts to take both stimuli, the attempt should be blocked by immediately removing the unchosen stimulus or physically blocking attempts to take both stimuli simultaneously and saying "Only take one."
8. If the child makes no response after a satisfactory presentation time, mark No Response (NR) in the corresponding box on the matrix.
9. Once a trial is complete, move to the next trial listed on the matrix.
10. After completing all trials on the matrix, count the number of times each stimulus was selected and complete the summary section to create a hierarchy of stimulus preference.

Figure 2.3 Example of a Completed Paired-Stimulus Preference Assessment for a Young Child

Trial	Left	Right	Trial	Left	Right	Trial	Left	Right
#1	(1)	2	**#6**	6	(4)	**#11**	(5)	3
#2	3	(4)	**#7**	4	(1)	**#12**	(4)	2
#3	(5)	6	**#8**	2	(3)	**#13**	(1)	6
#4	3	(1)	**#9**	(1)	5	**#14**	4	(5)
#5	2	(5)	**#10**	(6)	2	**#15**	(3)	6

Summary:

Document number of times each stimulus was selected

Item #1 selected _5_

Item #2 selected _0_

Item #3 selected _2_

Item #4 selected _3_

Item #5 selected _4_

Item #6 selected _1_

Notes:

Fish crackers were chosen most frequently followed by playing patty-cake, juice, and music. The puzzle was only chosen one time and the toy truck was never chosen.

Figure 2.3 continued

young children. The instructional preferences of young children is an important aspect to consider, with respect given to approaches that have been demonstrated to be effective. The factors related to choosing and designing instruction for young children will now be discussed.

Considerations for Choosing Instructional Approaches

The type of methods that teachers choose to use for young children need to include at least a few considerations to ensure that all children receive an appropriate education. When choosing an instructional approach, teachers should consider the research evidence that exists to support the effectiveness of the approach. This is very important because, while an instructional approach may be popularly used, easy to implement, and enjoyable, it must produce the desired outcomes in order for young children to acquire needed skills. Once an approach has been shown to be effective, a teacher can evaluate the relative ease of implementing the approach and the appropriateness for a specific group of children or individual child. Another consideration which is similar to the preference assessments previously discussed is to regard the items and activities available for young children in a classroom. Young children can also be evaluated as to their preferences for different types of instructional approaches.

Heal, Hanley, and Layer (2009) evaluated the effectiveness of child preferences for teaching approaches that varied between being more child-initiated and those that were more teacher-initiated. They found that teaching approaches that were highly student-initiated or teacher-initiated were less effective and less preferred by children. The most effective and preferred teaching approach was that which provided moderate levels of teacher-initiated instruction. Their findings support the recommendations from several national associations that suggest a variety of teaching strategies are needed to provide young children with the most appropriate educational experiences (Copple & Bredekamp, 2009; Diamond, Justice, Siegler, & Snyder, 2013).

Another consideration when designing instructional approaches is the appeal of the instructional materials. Teachers frequently embed features into instructional materials that are considered to be very appealing to young children, such as multiple colors, drawings, glitter, etc. These features are intended to motivate students to complete the activities. Heal and Hanley (2007) compared the use of such embedded motivators in materials to rewards that were provided upon successful completion of an activity. They found that preschool children in their study preferred to have rewards delivered following completion of an activity over having motivators embedded in the instructional materials. This study has some implications for teachers who may spend large amounts of time and money developing,

finding, and purchasing instructional materials that are considered to be highly appealing to the senses. It may be more advantageous for teachers of young children to focus more on the types of rewards they can provide students upon completion of activities rather than gathering appealing instructional materials.

Another consideration for teachers of young children when developing instructional approaches is to consider how frequently children are given opportunities to respond in the classroom and how often they receive praise from the teacher. Moore-Partin, Robertson, Maggin, Oliver, and Wehby (2010) discussed how there is substantial research to support the use of frequent teacher praise and opportunities for students to provide responses as a method for preventing and reducing the occurrence of problem behaviors in the classroom. They also described procedures that teachers could use to increase the use of these methods. They suggested that teachers use self-monitoring procedures such as recording their instruction and graphing the frequency with which they provided praise and opportunities for children to respond. By engaging in these self-monitoring techniques, teachers could determine how often they used these methods and subsequently begin incorporating more praise and opportunities for children to respond. These types of self-monitoring techniques can encourage teachers to create environments that are rich for young children to obtain feedback and allow them to interact with the environment. For example, if a child in a classroom of 15 other children is only provided with one opportunity to respond during a circle time activity, there is a great deal of time for the child to become bored with the activity and begin to engage in off-task behaviors. A teacher who creates more opportunities for all the children to respond during the circle time activity can reduce the potential for boredom and also generate more chances for praise to be delivered to students. Making the environment more interactive, with the availability of praise plentiful, can be beneficial for both teachers and young children.

Teaching Pre-requisite Skills for Success

Young children are constantly surveying their environments and learning new information. The type of information they take in varies and can lead them to behave in ways that are not considered acceptable by others or in certain situations. An important focus of instruction is to teach young children fundamental skills that they need to be successful in their associations with others and within certain types of environments. These fundamental skills are also important in learning academics and are frequently referred to as pre-requisite skills.

In learning academics such as reading it is generally accepted that learning to read words is a pre-requisite skill for learning to read sentences. Similarly, in social situations, learning a person's name and getting to know them is

generally a pre-requisite to hugging them. These types of pre-requisite skills allow for more advanced types of learning to take place more easily. Spending time providing young children with instruction on the expectations of a classroom can help them to become comfortable more quickly and begin to focus on learning more advanced skills.

The problems that many children face with learning advanced academic skills have an underlying basis in their failure to have adequately learned the necessary pre-requisite skills to acquire the more advanced skill. It is important for instructional time to be sufficient to ensure that these fundamental pre-requisite skills are learned satisfactorily. A child should first become fluent with pre-requisite skills before being asked to perform more advanced skills.

One specific pre-requisite skill that can be valuable for young children to learn is to provide an appropriate response when their name is called by a teacher or parent. Research has demonstrated that compliance with requests can be increased when young children are taught to stop what they are doing and make eye contact with an adult who calls their name (Beaulieu, Hanley, & Roberson, 2012; Hanley, Fahmie, & Heal, 2014; Hanley, Heal, Tiger, & Ingvarsson, 2007; Hamlet, Axelrod, & Kuerschner, 1984). In addition, Hanley et al. (2007, 2014) demonstrated how a package of preschool life skills could be taught to an entire class of preschoolers. The life skills package contained four categories that focused on (1) responding appropriately to instructions; (2) using communication effectively; (3) dealing appropriately with delays; and (4) using skills to promote friendship. These skills were taught in a classwide format to the preschoolers using verbal instructions, modeling, role play, and performance feedback. Both of these studies demonstrated that the children were able to successfully learn the skills and, overall, the programs resulted in substantial decreases in problem behaviors. These studies provide an excellent format for teachers of young children to follow for developing a classroom that proactively provides young children with the social skills they need to be successful in preschool and beyond.

Incidental Teaching

Applied behavior analysis involves a great number of teaching strategies, some of which are highly structured and others which involve less rigorous structure. One such method that does not require a great deal of structure on the part of the teacher is called *incidental teaching* (Hart & Risley, 1975). An actively involved teacher will know the approximate skill levels of his or her students and continually look for ways the students can utilize and expand upon their skills. One of the reasons that incidental teaching requires less rigorous structuring by the teacher is that the student must initiate interactions with the teacher. Incidental teaching involves identifying skills that young children need to learn and creating opportunities for the child to display these skills. These opportunities to demonstrate their skills are

frequently referred to as *teachable moments*. Teachers must organize the environment in a way that provides a great deal of teachable moments. For example, in many preschool classrooms, when children receive snacks, they are given a very small amount of the snack. For instance, if fish crackers are served the child may only be given one or two very small fish crackers and a very minimal amount of juice in their cup. This may be done intentionally so that the child will need to ask for more of the snack or the drink since what they were initially given will presumably not be satisfactory. The children then have to make a request from the teacher in order to receive more crackers or juice. Some teachers use this as an opportunity to teach the children sign language in combination with verbalizations. The children may be shown how to sign "more," or "cookie," or "juice" while saying the word. The way the teacher arranged the snack time by offering very small portions can result in multiple teachable moments where the child finds himself or herself without any crackers or juice and must make a request from the teacher in order to get more.

With incidental teaching the teacher can offer assistance to the child in order to ensure they are successful in their attempts to demonstrate specific skills. This type of assistance is frequently referred to as a prompt or as guidance to help the child perform a skill. The use of prompts or guidance in a systematic way is referred to as *graduated guidance*. Figure 2.4 provides a simple method for incorporating a prompting sequence such as graduated guidance with incidental teaching procedures. When using graduated guidance the teacher will first offer a very inconspicuous prompt to see if this will encourage the child to respond, after which more obvious prompts are provided to encourage a response from the child. Inconspicuous prompts might involve moving closer to the child, showing the child a desirable item, or making a generalized comment about what the child could do. More obvious prompts could include stating specifically what the child needs to do, modeling the appropriate response, or using physical prompting to help the child perform the skill.

Using graduated guidance with a teachable moment can occur quite naturally within a classroom routine. Using the snack time small portion example, a teacher may see that a child is without any crackers and is not requesting more. At this point the teacher may move closer to the child and make the box of crackers very visible to the child so that the child can see that more crackers are readily available. If the child does not make a request from simply having the crackers close by and readily available, the teacher can offer a generalized verbal prompt such as "If you want more crackers, please tell me." If the child does not make a request within a short time after the generalized request, the teacher might offer a more specific prompt such as "Say 'Cracker' and I will give you more crackers." If the child is unable to make the request following this type of prompt the teacher might demonstrate or model the sign for "cracker" or "cookie." If this modeling

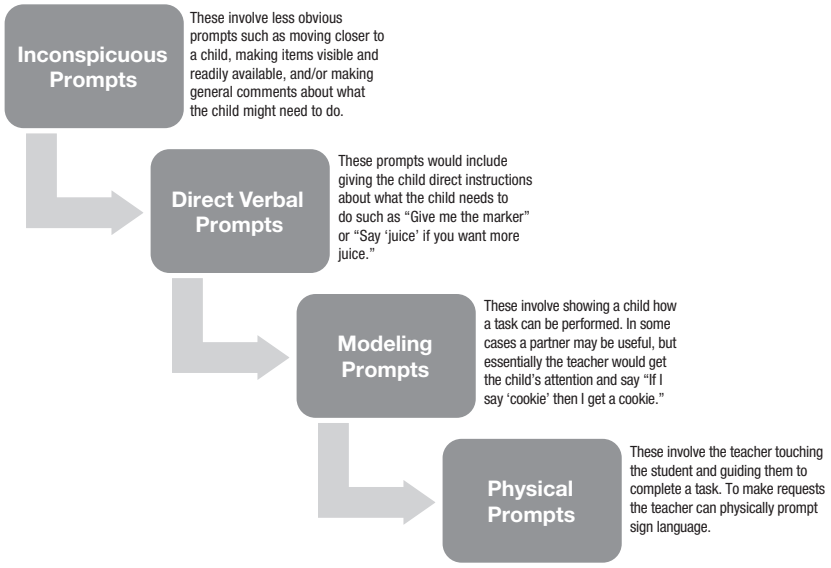

Figure 2.4 Process for Incorporating Graduated Guidance

prompt does not result in a request the teacher could then progress to a physical prompt where they physically help the child to sign "cracker" or "cookie" and then immediately provide them with the cracker. One of the main things to remember when using this type of procedure is that when a child initiates the response they should be provided with the reward so that they will be more likely to utilize the response again in the future (reinforcement). The aim would be for the child to display the skill independently, but depending upon the child and their abilities, it may be easier to begin by reinforcing prompted or assisted attempts at displaying the skill.

Teachers need to be aware of the skills that young children are in need of developing. Most teachers can see the strengths and weaknesses that a child has within the classroom setting. They may also rely upon reports that identify the areas where a child is developing and where further assistance is needed. By becoming highly familiar with the routines and skills that young children possess, a teacher can arrange situations so that many teachable moments can occur. Some of these teachable moments occur naturally throughout the day, while others require some planning and manipulations within the environment. One strategy for creating teachable moments is sometimes referred to as *sabotaging an activity*. This involves finding ways to make the young child encounter a challenge with the typical routine activity that requires the young child to find a way to resolve the problem. For example, a child who is known to be reluctant to ask for help from a

teacher can be presented a teachable moment by taking away a tool needed to complete an activity. The child may be given a coloring book but not given any crayons to use with the book. This presents the child with a problem that requires them to find some crayons on their own or ask for assistance from the teacher. If the crayons are placed upon a high shelf, then the child will need to ask for help. The teacher can observe the child as they encounter and seek to resolve the problem and utilize some graduated guidance techniques to ensure the child resolves the issue appropriately. The teacher may need to move closer to the child and see if the child seeks their help. If this does not work then the teacher might make a generalized statement about the problem, such as "It looks like you are missing the crayons." If the child still does not respond, the teacher can give the child a directive such as "Ask me for the crayons" or "Take me to the crayons." The main components of this process are that the teacher creates a teachable moment and then offers just enough guidance to help the child exhibit an appropriate response in order to successfully overcome the challenge presented.

A preschool teacher could develop an organized system for incorporating teachable moments in their daily routine for each student. Figure 2.5 offers a chart which, when completed, could be used by a teacher to make arrangements within activities or within the classroom to create teachable moments for individual students based on their specific skill development needs. Figure 2.6 provides an example of a completed chart to illustrate some specific child needs and the associated arrangements necessary to create a teachable moment for them. The chart allows for the teacher to design the teachable moments directly to the student skills to be taught and can be used to collect data on how the incidental teaching progressed. The data collected can then be used to evaluate the progress a child is making on their skill development and determine when to focus on new skills.

Summary

This chapter has focused on strategies for developing a classroom for young children that is enjoyable, supportive, and incorporates some general techniques of ABA. A classroom for young children should, first and foremost, be a place that is safe and comfortable for them and offers the appropriate level of instruction to ensure success. Classrooms for young children need to offer an environment that is arranged in a manner that allows for multiple types of activities to take place and allows children to clearly distinguish the purpose of specific areas of the classroom and the related expectations for each. Academic expectations should offer an appropriate match of task difficulty and support provided, while ensuring that more difficult tasks are rotated with easier tasks throughout the day. The preferences of young children can also be important for teachers and parents to know and utilize when developing daily activities and the type of instruction that they are

Date	Child	Skill to Teach	Daily Activities	Incidental Teaching Opportunity	Prompt Level	Notes

Prompt Levels: (No) No prompt needed (I) Inconspicuous prompt (DV) Direct verbal prompt
(M) Modeling prompt (P) Physical prompt

Figure 2.5 Chart for Scheduling Incidental Teaching

Date	Child	Skill to Teach	Daily Activities	Incidental Teaching Opportunity	Prompt Level	Notes
00/00/0000	Julio	Asking for assistance	Music time	Give all children except Julio a musical instrument	I	Julio raised his hand after the teacher said "Does everyone have an instrument?"
00/00/0000	Marcia	Turn taking	Table top activities	Place Marcia with Amber to cut out figure. Only give them one pair of scissors to share	M	Some difficulty deciding who would go first
00/00/0000	Felix	Signing "More"	Snack time	Give very small snack portion	M	Good response after reminding him of the sign for "More"
00/00/0000	Sharon	Sitting during circle time	Circle time	Move her circle sitting position to new location	No	She sat appropriately in new location without any prompt

Prompt Levels: (No) No prompt needed (I) Inconspicuous prompt (DV) Direct verbal prompt
(M) Modeling prompt (P) Physical prompt

Figure 2.6 Completed Chart Used for Scheduling Incidental Teaching

provided. Instructional approaches should include adequate provision of praise to students for their appropriate behavior and several opportunities to demonstrate their skills, and should incorporate preferences into the rewards children are offered. Instructional time should be spent teaching young children pre-requisite skills that can help them succeed in their current and future situations. Overall, there are several strategies that can be used to make a classroom proactive toward avoiding potential problems and creating an environment where all children can benefit.

Discussion Questions

- Describe the ideal pre-K classroom. How should it look? What are the essential characteristics that it should contain? How should the daily routine be organized?
- Discuss how a classroom may be organized to support a young child who comes to the classroom from a highly dysfunctional home setting. How might the first activities that a child experiences be very important to such a child? What specific activities might benefit such a child? How should the daily routine progress in such a way that all the students feel welcomed upon arrival and feel they had a good day when they leave?
- Make a list of some of the typical items, activities, and healthy edibles that are often preferred among young children. How might these preferences change as the children age? Discuss how student preferences could be used to promote learning within a classroom.
- What are some pre-requisite skills that young children need to have when in a classroom for the first time? How are these skills different depending on age? Discuss how these pre-requisite skills change over time. How might pre-requisite skills be arranged into different categories? Develop a hierarchy that represents which pre-requisite skills are most-to-least important for promoting student success.

Chapter 3

Supporting Communication in the Early Years

Overview

Supporting communication will provide an overview of practical theories related to communication and describe some specific methods that educators and parents can use to promote communication with young children. Typical language development will be discussed followed by a section on the importance of early intervention when delays are suspected. Screening tools, assessments, and curriculums designed to increase speech will be highlighted, along with examples of strategies that can be useful in developing communication skills. The methods discussed to increase speech and appropriate social interactions will be selected from a behavioral perspective. Furthermore, technological devices and applications designed to elicit speech will be provided.

Material and Techniques to Learn

- Communication theories
- Typical development:
  - receptive
  - expressive
  - social
- Early intervention
- Screeners/assessments/curriculum
- Behavioral interventions
- Technology

Case Scenario

Laurie is a preschool educator in a local Head Start, where a diverse population is considered the norm. Laurie has two years' experience in this classroom of four-year-olds and has worked with multiple children for whom English was not their first language; she relies on her skills in this area to make each year a success.

However, this year, Evan is presenting a challenge to her tried and true methods. Evan is a four-year-old boy whose parents just moved to the area. His parents are young and Evan is their first child. Prior to entering Head Start, he had no formal school or day care. Laurie is at a loss as Evan is not responding to her traditional exploratory methods, not making eye contact, and seemingly appears to have a hearing disability. Laurie refers Evan for a hearing evaluation and the results show that his hearing is within normal limits. She talks with his parents and they report that they believe there is nothing unusual with him and that he is "just being a boy." They say that Evan just prefers to not look people in the eye and believe that he will talk when he is ready.

Questions to Consider

- What should Laurie do next?
- Is there reason to suspect that Evan may be having some developmental delays or is this something he will grow out of?
- What strategies should Laurie try in the classroom before she refers him to another specialist?

Introduction

Communication is a complex topic with many conflicting, overlapping, and even some parallel theories surrounding it. Depending on the nature of the conversation around the topic of communication, many disagreements may arise as to how children develop language, use language to become fluent speakers, and learn to engage in appropriate non-verbal communication. Not only is there disagreement around language development and social cues that support language, there is also debate about what constitutes best practices for initiating audible spoken words in young children when developmentally appropriate words are not being uttered on a typical schedule. Because language influences overall development and impacts many domains from social and peer interactions to academic success, early detection of language problems is vital. However, to determine when there is a reason to be concerned about how a child is communicating, it is important to know typical progression and signs that could indicate the need for a thorough assessment. Potentially a communication intervention is needed. As a result, the following paragraphs will introduce theories, review a typical schedule of language acquisition, suggest screening instruments/scales and end with behavioral suggestions for assessing, teaching, and guiding classroom language-based instruction.

Overview of Language Theories

Language theories can be broken down by philosophical orientations. Common philosophies include but are not limited to the Nativist approach,

Piagetian and Vygotskian theories leading to the current Constructivist approach, and the Behaviorist approach (Morrow, 2012). One approach is the Nativist account of language development, suggesting that the development of language is a biological predisposition of being human, and is most famously exemplified by Chomsky's *Generative or Universal Grammar* (Chomsky, 1965; 2006). In this account language is thought to be an innate, universal aspect of the human species. Humans only need a minimally effective language environment and language will be discovered naturally. No learning, practice, modeling, or reinforcement is needed for language to occur and/or progress. If one posits the view of the Nativists, a child is intrinsically motivated to speak and language would occur in isolation, even without a social context. Espousing this philosophical viewpoint, an individual with a language disorder would be thought to have an organic abnormality that inhibits the development and progression of language. Therefore, the interactions and efforts put forth by a teacher may not be meaningful or change the probability of developing language. In addition, and unfortunately for these children, whatever language they do acquire, or intervention they do receive, is constrained by their level of brain abnormality, and there is little, if anything, one can do to change the trajectory. A strict reliance on this perspective would tie the hands of early educators and provide limited resources for them to use in the classroom.

The non-Nativist considers the development of language to take place within the typical developmental process. This account stems from the work of Piaget and Vygotsky and relies heavily on adult interaction, assistance, and support. The non-Nativist perspective considers language and cognition to be interactive as language development affects cognitive development and vice versa (Bloom, Tinker, & Scholnick, 2001). For these theorists, language is a window into the mind. The child is not a passive beneficiary of genetics but, in fact, plays an active role in his or her own development as language is acquired as part of a social and, perhaps more importantly, emotional life (Bloom et al., 2001). The more contemporary non-Nativist approach is referred to as Constructivist theory. If one posits the view of the non-Nativists, or the Constructivist approach, the limited prognosis for a child at risk for developing a language disorder is not permanent. However, the research generated thus far has provided little if any guidance to those interested in changing the trajectory for such a child. Instead, a teacher is viewed as more of a facilitator and the learning falls back on the child's intrinsic level of interest in obtaining the information. In other words, this perspective gives equal value to the facilitator and learner (Holt & Willard-Holt, 2000), which is potentially problematic for a learner with special needs.

A third approach of language development that is more closely aligned with a non-Nativist account has been proposed by behavioral psychologist B. F. Skinner in his book *Verbal Behavior* (1957). In this book, Skinner

describes language as being mediated by a listener and coined his own terms to describe language based on the purpose or intent of the words. He refers to these verbal behaviors as verbal operants. The verbal operants include: mands, tacts, echoics, and intraverbals. A mand can be described as making a request for something that is not readily available. A young child cannot reach the cookie jar on the top shelf, but they can learn to access the cookie by waiting until their parent walks by and then using a mand by saying "cookie," which results in the parent handing them a cookie. A tact is a way to label an item that is visible and available. A young child might use a tact while holding a ball and then saying "ball." An echoic is basically the use of imitation. A young child who trips and falls down might have an adult who says "Oh, no, you fell down." The child might use an echoic by saying "fell down." An intraverbal is basically a response to another person's comment that does not involve imitation. An adult might ask a young child "What would you like to drink?" and the young child might respond with an intraverbal by saying "Juice!" Further examples can be found in Table 3.1.

Table 3.1 Description of the Basic Verbal Operants

Verbal operant	*Definitions*	*Example*
Mand	Asking or requesting using some method of formal communication, e.g., talking, sign language, PECS, writing, etc., for items, activities, information, or other "desired" items.	A child saying "Mom, can I have a piece of candy?" Or just saying "Candy" in the presence of candy, if motivation for the candy exists.
Tact	Labeling items, activities, adjectives, adverbs, etc. when that stimulus is present.	A child saying "Look a fire truck!" after a fire truck drives by. Or, after seeing a picture of a fire truck, the child saying "Fire truck!"
Intraverbal	A verbal response (vocal/sign language/PEC/etc.) to someone else's verbal behavior that does not have point-to-point correspondence.	A child responding "Numbers, shapes, and letters!" to his mother's *mand for information*, "What did you learn at school today?"
Echoic	A vocal verbal response to someone else's verbal behavior that does have point-to-point correspondence.	A child saying/repeating "truck" after his mother says "truck."

In other words, Skinner emphasized the function of language and not the form. Specifically, the term, verbal behavior implied a social and reciprocal relationship between a speaker and listener, whereby the speaker gets access to reinforcement through the behavior of the listener. Initially the behavioral account of language development was met with much criticism (e.g., Chomsky, 1957). It still has limited support in the early childhood arena but does have much research surrounding its use with language development in children with developmental delays and disabilities that impact language from a social and pragmatic standpoint.

From a behavioral perspective, language is acquired through a learning process consisting of modeling, instruction, reinforcement, and consequences, which very much requires direct instruction and builds on one's learning history and interaction with the environment. For example, if Mark is hungry and says "cracker," someone might give him a cracker and he would begin to make the association that saying the word "cracker" results in someone giving him the item and also satisfies his hunger. If this pattern of asking for an item is met with receiving the item requested, Mark learns that asking results in receiving. While this is a slight overemphasis (there will always be exceptions to the rule, such as where Mark should not receive what is requested, and times when delayed gratification is best), the basic learning cycle remains the same. From a behavioral standpoint, this example would be an example of manding.

In summary, those with a behaviorist orientation agree that all behavior, including spoken language, serves a role and that past behavior determines future behavior; thus, leaving the door open for learning to take place at any time and not simply within a specified time window (a clear deviation from other perspectives).

Not only have behaviorists developed a theory of language learning, they have also provided much research in the area of using the principles of behavior analysis to teach language (social language included).

Progression of Language Development

Language is often divided into two different forms referred to as *receptive language* and *expressive language*. These different forms help to explain some of the complexities that are involved in language. Receptive language involves understanding what someone else communicates and expressive language is the act of communicating with another person. These are the most frequently used descriptions of language and are commonly included as part of language assessments. The development of language is truly a remarkable achievement and a very complex skill that is learned by young children.

Receptive language, the comprehension of spoken words or other communicative means, is often thought of as occurring prior to developing expressive language abilities, but this may be confounded by one's perception.

For example, the cry of a hungry newborn may be considered their first vocalization: a request for food that is typically answered. In an effort not to get into a debate about what truly occurs first—receptive or expressive—this section will divide expressive and receptive into two separate categories and then include social nuances as an additional, yet integrated, aspect of language. Keep in mind that a delay in this area may indicate the need for screening, further assessment, and/or referral. Because early intervention is key for later success, it is better to err on the side of screening and rule out any potential disability than to wait it out and hope it will go away—as in the scenario with Laurie, in which the parents of Evan felt that Evan was "just being a boy." They seemed to feel that his behavior was typical for his gender and something that he would grow out of eventually. In some cases children who display behavior similar to that of Evan may eventually begin to use language without any type of intervention. In other cases, these children may continue to become more delayed in their language skills. Considering the different outcomes, it seems that providing children who display some potential language delays with the support they need as soon as possible is the best option.

Expressive Language

In the early weeks, babies begin to make throaty vowel sounds and by six months babies should be combining a consonant with a vowel to form approximations of words (Eliot, 2010). By the second half of the first year, the first word should have appeared; by one year of age, the child should be stringing words together to make two-word phrases; by age two, questions are present and the vocabulary has greatly expanded (Bowen, 1998). Eliot (2010) describes this expansion as telegraphic speech because the child often omits functional words, but the context is there. By age four the speech should be fluent and understandable to adults, particularly those in frequent contact with the child.

Receptive Language

Receptive language often refers to a large category of behaviors that include comprehending spoken words and acting in a manner that indicates understanding, as well as using gestures to convey understanding. Gestures are a natural means of communication for most individuals and are acquired from an early age. When a child reaches for a cup to give to an adult following the statement "Give me the cup," one can assume that he or she processed the request. In children, one's ability to comprehend is often determined by how well the child is following directions. At birth, the baby should react to loud sounds; by approximately three months of age he or she should smile when hearing familiar voices; between the ages of one and two the child

should be able to follow simple commands, point to pictures and understand simple questions (Bowen, 1998). During the natural give and take of a communicative relationship between the listener, who is a younger child, and the speaker, often a caregiver, the speaker will model appropriate speech then gaze at the child for a response. In an effort to gain the infant's attention, the modeling may be done in a slowed down, higher pitched tone with exaggerated intonation and rhythm, while placing emphasis on key words. A caregiver may also use prompting to initiate speech and broaden vocabulary in a typically developing child. For example, if the child is beginning to drink out of a cup but has yet to say "cup," the caretaker may prompt the use of the new word by showing them a cup and asking them "Would you like a drink out of a cup? If so, say cup, please."

Social Nuances

In society, social norms exist, especially around communicating and engaging with others. Social nuances refer to these unspoken rules that are generally practiced by people when communicating, and help to make communication more understandable and more pleasant. Each culture has unique rules about personal space, the ebb and flow of conversation, looking at the speaker, and the role of the listener. Social mores are the general customs that are practiced by a particular group of people. Social mores common to North America include making eye contact with the speaker, listening to the speaker with the intent to respond to the topic and stay on topic, using appropriate transition words when changing topic, and keeping appropriate distance between listener and speaker. In addition, a more that is now considered to be one of the early signs of a delay is a child's inability to engage the listener in a conversation and shift and draw the listener's attention to a topic of the speaker's interest. This is called joint attention. Joint attention is defined as "the ability to shift attention between another person and an object or event" (Wong & Kasari, 2012). Meindl and Cannella-Malone (2011) state that

> Although definitions vary, joint attention generally refers to a set of behaviors that serve to enable two individuals to either vocally or non-vocally communicate about, or "jointly attend to," a third entity, object, or event. At its most basic level, joint attention typically involves eye-gaze shifting (i.e., alternating one's eye-gaze between a person and the object) and may also involve gesturing (e.g., pointing towards the item). (p. 1442)

For example, Falck-Ytter, Fernell, Hedvall, von Hofsten, and Gillberg (2012) not only included the ability to shift the attention, but also specifically identify "gaze shifts and pointing gestures." It is now thought because joint

attention aids in social and language development, it must be targeted in early intervention for later success (Falck-Ytter et al., 2012; Wong & Kasari, 2012; Jones & Carr, 2004). Suggestions for teaching joint attention in the classroom are found below under evidence-based strategies.

Early Intervention

Early intervention (EI) is the universal first line of defense in the treatment and remediation process for children with identifiable risk factors. According to the American Academy of Pediatrics (AAP), early identification is crucial to the well-being of children with developmental disabilities and their respective families (Johnson & Myers, 2007). The Council for Exceptional Children (CEC) Division for Early Childhood (DEC) recommends that EI services be interwoven into the child's natural environment, with family playing a key role throughout the early years. By definition, EI refers to all services designed to assist, treat, prevent, and diagnose as necessary for remediation for infants and toddlers with multiple types of disabilities (Harris & Weiss, 1998). By law, under the Individuals with Disabilities Education Act (IDEA), EI services consist of all related services designed to assist children, from birth to two years old, who are experiencing developmental delays in several areas, including communication development, social or emotional development, adaptive development, or have a diagnosed physical or mental condition that has a high probability of resulting in developmental delay (34 *Code of Federal Regulations* §303.16; U.S. Department of Education, Office of Special Education Programs, 2006). Specifically, the CEC DEC states that "young children who have, or are at risk for, developmental delays/disabilities often need more specialized practices that allow them to participate and engage meaningfully in their daily living routines and learning activities."

It is very important for parents and those working with young children to have familiarity with what typical child development looks like as children grow. While each child develops at their own pace, adults in their life should watch to see that they are on progress with typical developmental expectations. There are numerous developmental milestones that children must achieve as they grow. When these are not displayed by a child when they reach certain ages, there may be reason to have the child evaluated further. There are numerous resources for both parents and educators to use to track the progress of individual children, and many of these provide alternate expectations for children who are born prematurely. Many of these resources provide details about expected achievements for children in multiple categories, such as physical development, socialization, intellectual development, etc. These resources can be very useful, especially for providing specific information to specialists such as speech language pathologists, pediatricians, psychologists, etc. and may help them determine the need for more

comprehensive evaluations that may be needed within specific areas of development. Table 3.2 provides a very broad overview of some of the more obvious areas of child development in relation to age ranges where substantial growth should be occurring. This broad overview is intended to provide parents and educators with critical areas of development to focus on across various age ranges, and is not intended to replace a more detailed checklist or evaluation.

According to Harris and Weiss (1998), each component of the term early intensive behavioral intervention has meaning. "Early" always means before the child turns five years old, usually before four, or as young as possible. "Intensive" expresses the many hours of specific individualized treatment required. "Behavioral" refers to the use of applied behavior analysis (ABA) and "intervention" means treatment. This distinction is an important one as, all too often, EI services are less involved than the child and family really need to thrive. For example, Paul (2008) identifies three categories of interventions predominately used in early intervention aimed at eliciting speech: didactic, naturalistic, and developmental or pragmatic. Paul refers to didactic methods as being grounded in behavioral theory and utilizing technologies such as shaping, chaining, and prompting with repetitive drills relying on the antecedent–behavior–consequence chain. The naturalistic approach is also very behaviorally based, but has less structure and is less contrived. Lastly, Paul (2008) describes the developmental or pragmatic

Table 3.2 Broad Categories of Noticeably Rapid Child Growth by Age Range

Age range	*Categories of rapid growth*	*Characteristics to observe*
Newborn to 6 months	Physical development	Body structure and functioning (size, weight, body shape, vision, hearing, eating, digestion)
6 months to 1 year	Physical development	Gross motor movements (sitting, crawling, standing, reaching, walking)
1 year to 2 years	Language	Imitations, manding, tacting
2 years to 3 years	Language and socialization	Advanced language usage and interactions with others
3 years to 5 years	Social behavior and academic behavior	Advanced interactions with others (sharing, playing) and interest in academic skills (colors, numbers, words)

approaches. These approaches encourage non-verbal aspects of communication (signs and gestures) and are child-led.

In conclusion, early intensive behavioral intervention implies the need to be thorough, to outline a plan of action for the treatment, to act as early as possible, and to document gains and losses so that the intervention can be modified as needed. With proper EI the differences between children needing services and those not needing services can be minimized before they reach elementary school. If a delay is suspected, the early childhood educator should act sooner rather than later to provide the parents with the proper information in moving forward with the assessment process. Educating the parent will reduce fear and/or reluctance to receive help. The wait-and-hope approach is not one we want to espouse, and the need for parental involvement is well documented in the literature. Lastly, according to the DEC of the CEC (2014),

> when practitioners and families have the knowledge, skills, and dispositions to implement these practices as intended, children who have or are at risk for developmental delays/disabilities and their families are more likely to achieve positive outcomes, and families and practitioners are more likely to help children achieve their highest potential.
>
> (p. 2)

Suspecting a Delay

Language delays do not all look or sound the same, and because each child is unique and developing at different rates, anomalies may be difficult to detect. However, if deviation from the norm is noticed—if you notice an unpredictable or splintered pattern, or echolalia (a verbatim repetition of words)—it may warrant further evaluation. If a delay is suspected or a child is thought to be at risk for adverse educational outcomes, one of the first steps is to rule out medical issues, health issues, and other organic causes. Language and communication delays can be the result of an underlying health issue such as deafness, damage to vocal cords, or even poor vision. True medical delays require attention from a pediatrician. Delays may also result from an under-stimulating or barren environment (void of educational materials, adult conversation, and toys), as well as an over-stimulating environment (too much noise, too hectic, and overcrowded). Developmental delays, such as autism, and learning disabilities should also be evaluated and ruled out before beginning any speech/language-driven intervention to ensure that the appropriate intervention is in place. Once all health issues have been addressed and/or ruled out and a language delay is the issue at hand, assessments are needed to gauge how to appropriately move forward. This initial assessment will provide a baseline from which to begin intervention and direct you to the intervention or instructional method that will be best suited for the individual needs of his or her language concerns.

Assessments

In the DEC recommended practices (2014), assessment is defined as

> the process of gathering information to make decisions. Assessment informs intervention and, as a result, is a critical component of services for young children who have or are at risk for developmental delays/disabilities and their families. In early intervention and early childhood special education, assessment is conducted for the purposes of screening, determining eligibility for services, individualized planning, monitoring child progress, and measuring child outcomes.
>
> (p. 7)

Educators must be an active part of the assessment process so that the practitioners have the needed information to ensure a proper diagnosis. In an effort to assist the parents, it is vital that educators research the assessment process so that they can accurately inform and educate parents on the need to assess and the role of early intervention.

The assessment process often begins with screeners or checklists that are informal. These assessments are typically given when the presence of some symptomology appears. Informal assessments are often completed by parents, caregivers, relatives, teachers, and those that are engaged in the individual child's life, and are usually checklists or rating scales. Often direct observation from a clinician does not occur; rather, parents are interviewed and asked to rely on past observations, or parents complete the checklist anecdotally. These indirect assessments should be done prior to a formal assessment (standardized, norm referenced, or criterion referenced assessment tools primarily scored and interpreted by a healthcare professional with the intention of diagnosing a delay), as they will signify the need for further or more in-depth testing but do not diagnose or provide interventions.

At the first sign of delay or even at a well-child check-up, a parent may be asked to complete a questionnaire or rating scale. This initial screening may be provided to the parent by the pediatrician as part of a routine visit. The American Academy of Pediatrics (Johnson & Myers, 2007) recommends that developmental screening tests should be administered regularly at the 9-, 18-, and 24- or 30-month check-up, with developmental surveillance conducted at each appointment. Surveillance was defined as

> eliciting and attending to the parents' concerns about their child's development; documenting and maintaining a developmental history; making accurate observations of the child; identifying risk and protective factors; and maintaining an accurate record of documenting the process and findings.
>
> (p. 408)

One example of a developmental screener that may be utilized by a pediatrician is the *Ages and Stages Questionnaire* (ASQ). The ASQ-3 is a highly valuable and reliable developmental and social-emotional screening tool for children from one month to 5½ years of age. The ASQ-3 is a culturally sensitive assessment that looks at both strengths and needs of each child, assists with educating parents about appropriate developmental milestones, and uses parent knowledge about their child as a portion of the assessment (Squires, Bricker, & Potter, 2009). Screeners that may be used for a specific language delay include the *Early Language Milestone* (ELM) *Scale-2* and the *Language Development Survey* (LDS). The ELM (second edition) was published in 1993 as a revised edition of an earlier scale (Coplan, 1993). The scale is a brief screening tool developed to assess a child's language abilities from birth to 36 months. The ELM-2 assessment is a combination of parental reports, examiner observation, and direct testing. The ELM Scale-2 consists of 43 items arranged in three divisions: Auditory Expressive, Auditory Receptive, and Visual. The ELM scale is best used as a tool to detect whether children have developed typical expressive language skills by 24 months. The LDS is a survey designed for parents to complete either in the home or clinical setting. The survey is intended to test language and communication skills in two-year-old children. The LDS is comprised of a vocabulary checklist of approximately 300 words. When a survey is completed with a child demonstrating a vocabulary of 50 or fewer words, that child is classified as having a language delay. In addition to developmental screeners, there are behaviorally based assessments and curriculums. Behaviorally derived assessments include the *Verbal Behavior Milestones and Placement Program* (VBMAPP) and the *Assessment of Basic Learning and Language Skills—Revised* (ABLLS-R). The VBMAPP is a criterion-referenced assessment, tracking system, and curriculum guide designed for children with language delays, which is often utilized with children diagnosed with developmental delays or autism. The VBMAPP was written in 2008 and based on Skinner's 1957 analysis of verbal behavior. The VBMAPP is appropriate for anyone whose language skills are not commensurate with a typically developing four-year-old child. The assessment is divided into five components focusing on verbal behavior milestones, barriers to learning, an individual's ability to transition from one skill to another, task analysis and skills tracking, and placement and Individualized Education Program (IEP) goals. The VBMAPP's milestones assessment is organized into three levels based on developmental age, 0–18 months, 18–30 months, and 30–48 months. The VBMAPP is designed for practitioners and teachers to assess children and to guide therapies, strategies, and goals used during early intervention, particularly from an ABA perspective. In the early childhood classroom the utilization of the VBMAPP would only be appropriate if the teacher had a basic understanding of verbal behavior and verbal operants (refer to Table 3.1).

The ABLLS-R is an assessment, skills-tracking system, and curriculum guide to assist in the therapy or instruction of individuals diagnosed with an autism spectrum disorder, other developmental disabilities, or children demonstrating any type of language delay. The ABLLS-R focuses on language and early learner skills and assists in identifying the skills necessary to communicate during everyday experiences. The ABLLS-R reviews 544 skills that are categorized into 25 different areas, e.g., language, social skills, self-help, etc. The skills that are assessed in the ABLLS-R have been identified as skills that typically develop prior to entering kindergarten and that are necessary for success in school.

For an early childhood educator, the ABBLS-R and/or VBMAPP could be beneficial as assessments and curriculum guides for children faced with language delays and could be used by the teacher, paraprofessional in the classroom, or a behavior therapist if the child is working with one in the classroom. Both assessments can be utilized easily during the early childhood years and could be conducted primarily with toys and materials already in the classroom. Both can also guide the Individualized Family Service Plan (IFSP) and IEP goal-writing process and both have websites and apps to digitize and streamline data collection, monitoring, and tracking.

Evidence-based Interventions and Strategies

Picture Exchange Communication System

The Picture Exchange Communication System (PECS) is a system that was originally designed in 1985 to give children diagnosed with autism spectrum disorders or other developmental disabilities a formal method to communicate by using pictures. However, any child needing assistance communicating can use it. The use of PECS provides non-vocal children or children with poor communication skills with the ability to communicate using pictures. PECS is easy to use in most classrooms as the primary, pre-requisite skill of the student is the ability to indicate, in some fashion, what he or she wants and the primary, prerequisite skill for the instructor is to be able to accurately assess and identify a list of the student's preferred items (Bondy & Frost, 2011). Once the student is identified as being a good candidate and the teacher identifies preferred items to use as reinforcement, pictures are created. Pictures can be created digitally using common items in the classroom, from a computer using pre-created templates, or some combination of the two. It is preferable to laminate the pictures for daily use. The PECS pictures can be kept at the school and organized to meet the needs of the class. For example, the picture can become part of a communication book, a board, wallets, etc. The method of storing and using PECS is based on a needs and ease basis, but can also be created in multiple formats so that

the pictures can be transferred from one room to the next, making transitions a smoother process.

Bondy and Frost (2001; Frost & Bondy, 2002) outlined the steps to follow when implementing PECS. First, the child is taught to initiate communication by handing a picture of the desired item to the teacher, who then immediately provides the item. For example, a child may pick up a picture of a stuffed animal and hand it to the teacher and receive a stuffed animal from the teacher in return. This step can last as long as needed, but the goal should not be to stay in phase 1 for too long. As a classroom teacher, daily observations followed by data collection and recording on the success of PECS should guide your decision-making and determine when to move forward.

The next step consists of the child using the pictures to request preferred items with different people and in different places from the initial training. For example, a child may take a picture of a carton of milk to the cafeteria and give it to a cafeteria employee, who could then give the child a carton of milk in return. This second step provides for generalization across people and places and is an important step to the overall success of this communication training.

The third step is to teach the child to discriminate between pictures of preferred and non-preferred items, then discrimination and choice making for multiple preferred items. During the first two steps the student is only offered one icon to make the exchange; during the third step the student is taught to attend to multiple icons and make discrimination among them. For example, a child may be provided with pictures of a carton of milk, a crayon box, and a stuffed animal. The child would then choose one of the pictures to hand to an adult and receive the item that corresponds to the picture. This step is typically taught first by utilizing a highly preferred item and a highly non-preferred item (or sometimes a neutral item) and immediately delivering the item that corresponds to the chosen icon. Once discrimination between preferred and non-preferred items is mastered, the student is taught to discriminate between an array of preferred items.

The fourth step is to teach the child how to expand responses from single pictures to phrases and sentences while being "more specific about what they want" (Bondy & Frost, 2011, p. 70). This fourth step is important as it teaches a student to be able to go beyond just asking for a singular item or a category of items, by adding in adjectives describing the specific item they want. For example, from steps one through three the student may just ask for a crayon, but once they master step four he or she should be able to then request a purple crayon.

The fifth step teaches the student to respond to the question "What do you want?" The final step teaches the student to expand their responding from sentences about wants and needs to being able to label items and some

conversational skills. During the fifth and sixth steps the student is explicitly taught to be able to respond to questions such as "What do you want?," "What do you see?," etc.

Joint Attention

Teaching joint attention can be a first step in developing the ebb and flow of social communication. Because joint attention refers to the combined efforts of two people sharing a focus point or two people referring to the same object with a mutual gaze, it is often considered a pivotal skill in early communication. Joint attention can be divided into two primary categories: either responding to someone else's comment, gesture, or touch—"Look at the bird!"; or self-initiating a verbal comment or gesture to get another person to mutually look at the same object—"Mama, a big bug . . . look." Once these two initial steps are part of the child's repertoire, one would expect to see a progression toward looking back at the person to get their opinion on the item that attention was just drawn to. Joint attention is multifaceted and often occurs very naturally for children. However, sometimes it is a skill that needs to be taught. The current research shows that when joint attention is achieved, a higher level of social competencies will follow and communication (receptive and expressive) will be expanded upon.

Ultimately, there is not one correct way to teach joint attention in the classroom and the research in the area is still relatively scant but points toward keeping interventions simple and relying on a basic prompting procedure of physical and/or verbal guidance and reinforcement (Meindl, 2013). Thus, as the teacher, you have great flexibility in designing a protocol that is best suited for the individual student, your classroom, and your comfort level with prompting procedures. Regardless of the procedural issues, one of the first steps in deciding how to move forward would be to identify preferred objects, toys, and items for the child you will be teaching. This is a key factor in "baiting" the environment to ensure initial success due to heightened interest levels. You will also want to initially pair appropriate responses (looking simultaneously at an object with another person) with highly preferred items. These highly preferred items would then be used as contingent reinforcement for the child demonstrating the desired behaviors. Lastly, you may want to overexaggerate your interest level in the item until the child demonstrates responding to you successfully. The same holds true if you are teaching the child to initiate joint attention. In this case, you may want to be overly enthusiastic about the item you were asked to attend to. Once successful responding occurs over time, you will need to fade out some of the steps. First, be systematic in the fading procedures and do not jump from a physical prompt to a verbal if you feel that using a gesture in the

interim would be the better transition; gradually reduce your level of interest so that it is not a dramatic shift; and fade out secondary reinforcement (edibles, etc.) so that the reinforcement becomes social in nature too.

Enhanced Milieu Teaching

Enhanced milieu teaching (EMT) is an eclectic teaching procedure established to aid in the acquisition of communication skills grounded in behavior analysis. EMT is a naturalistic early language intervention technique using the child's interests and initiations as chances to demonstrate and prompt appropriate language during everyday contexts. It is a combination of several techniques: environmental arrangements, responsive interaction, specific language modeling as described above, and milieu teaching prompts. The goal of EMT is to combine developmentally typical responsive interaction strategies and behavioral strategies in order to increase the fluency as well as the complexity of an individual's language skills.

The behavioral strategies utilized by EMT are intended to be used in the child's natural environment, whether that is in the child's home or classroom. The first strategy is to arrange the environment in a manner that is conducive to increasing the likelihood that the child will communicate. There are two environmental arrangement approaches described with respect to EMT: big environmental arrangement and little environmental arrangement. A big environmental arrangement consists of making preferred activities and materials present in the environment, promoting child engagement, supporting positive behavior and incorporating daily routines. The little environmental arrangement consists solely of implementing strategies to promote asking for items and activities. The second behavioral strategy is *responsive interaction*. With responsive interaction the implementer is supposed to follow the child's lead, promote turn-taking, be sensitive to non-vocal responding, engage, imitate, and expand the child's play, model appropriate talking and language targets, and provide feedback for language behaviors. The final behavioral strategies are the milieu teaching procedures.

The four milieu teaching procedures are used to promote child engagement and asking for items and activities. The first of the four milieu teaching procedures is to elicit modeling, then to model manding (requesting), then to program in a specific time delay after intensive and intentional models, and lastly to utilize incidental teaching procedures that occur more naturally in the day-to-day of a preschool classroom or home environment.

Using Technology to Enhance Communication

According to Casey, Reeves, Connor, and Williamson (2012), while nostalgia for traditional play and reluctance to embrace technology in the early childhood classroom may exist, virtual technology has become indispensible to today's students and the use of technology may no longer be optional as we are forced to embrace the ever-changing modality in which students learn. Assistive technology is defined by the Individuals with Disabilities Educational Improvement Act of 2004 as "any item, piece of equipment, or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of a child with a disability" (US DOE, 2007; 1401 (1)(A)). To date, a variety of assistive, augmentative, and alternative communication (AAC) devices or technologies exist for individuals who are unable or unwilling to vocally communicate. According to the American Speech–Language–Hearing Association, "Augmentative and alternative communication includes all forms of communication (other than oral speech) that are used to express thoughts, needs, wants, and ideas. We all use AAC when we make facial expressions or gestures, use symbols or pictures, or write" (*Augmentative and Alternative Communication*, 2014). Under the umbrella of assistive technology there are basically three categories; no tech, low tech, and high tech. No tech would be gestures or signs; low tech would involve something external to the student but may not require electronics such as picture schedules; and high tech would imply that electronics are utilized. High-tech AAC, often referred to as voice output communication aids (VOCA), are a relatively new technology. VOCAs range from applications designed for iPads and other tablet devices to other electronic devices for which the sole purpose of these devices is an AAC.

However, prior to beginning an AAC program for a child, it is suggested that an assistive technology (AT) assessment be conducted (Casey & Williamson, 2012). The authors describe the assessment as being learner-focused and individualized to the student's skill sets, desired outcomes, and resources available to the student. A selection should be based on needs, including parent input and school input, and not based on the desire to obtain the latest device. Focus should always remain on the student's gains and low tech or no tech should be considered first as these are often inexpensive, are more generalizable to other settings, and are typically less likely to result in an overdependence on screens.

In summary, sign language, PECS, voice-producing devices (e.g., Go Talk To Go, Talkers, etc.), applications for iPads or tablet devices (e.g., Proloquo2Go) are all examples of AAC devices or technologies. To expound on this topic and provide an overview of some commercially available technologies, Table 3.3 outlines applications for use in the classroom; Table 3.4 is an overview of devices that can also be used to elicit speech.

Table 3.3 Examples of iPad/Tablet AAC Applications

Application name	*Device*	*Description*
Personal Assistant Communicator	iPhone/iPad/iPod	A multi-lingual AAC application for three languages: Spanish, English and French.
AACorn	iPad	AAC application that learns to predict what a child might want to say, designed for children and the iPad, meets a child at their needs and grows with them, and aids children acquiring new language.
iSpeak Grid	Apple and Android	AAC application that comes with 650 built-in icons as well as customizable icons. The icon buttons can be arranged with a single button available; the audible sounds corresponding to the icons are recorded through the device and therefore can be spoken in any language.
iSpeak Button	Apple and Android	AAC application that provides a single-button communication system. This system is good for low-functioning individuals or beginning communicators. The message can be re-recorded as many times as needed.
iVocalize	Apple and Android	AAC application that comes with 650 built-in icons and allows for an unlimited number of buttons/icons. The "Say Anything" feature allows for you to instantly record anything and use it without setting up a button.
Proloquo2Go	iPhone/iPad/iPod	AAC application that comes with 14,000 buttons/icons as well as the capability to customize your own buttons/icons. Proloquo2Go is only available in English, however it is available in a variety of accents.

Table 3.4 Examples of AAC Devices

Name	*Description*
DynaVox	DynaVox offers a variety of electronic devices that are intended for individuals who have communication/ language impairments. These devices range in complexity from having a few simple words to complex phrases.
SuperDuper Inc.	SuperDuper Inc. offers an assortment of communication devices, aids, and games that aim to enhance communication.
Picture Exchange Communication System (PECS)	PECS is a communication system in which tangible icons are used in a communication exchange to express an individual's wants and needs. (Refer to pages 55–57 for more information about PECS.)
GoTalk	GoTalk is a basic electronic communication device that has the capacity for 163 total messages, 32 message keys and five recording levels. The GoTalk offers a quick-record option, volume control, a built-in handle and key guard.

Summary

Supporting communication in early childhood is critical to the success of the individual child's academic and social future. At the very basic level communication is how teachers and parents relay information to the child and the process by which they gauge the child's level of comprehension. Communication comes in a variety of forms from sign language to gestures, to approximations of words, and ultimately audible, fluent language that is comprehensive in nature and results in obtaining desired actions from others. In an effort to understand the reciprocal nature of language, many theorists have posited ideas about the natural progressions, which are discussed above. However, when it comes to actually teaching and facilitating language development, the current research base is rooted in behavioral techniques that involve modeling, shaping approximation of words, prompting, and establishing an environment that is ripe for language. The strategies listed above are all primarily behaviorally based and the effectiveness of each individual treatment package discussed is based on the integrity with which they are implemented, followed through, and monitored over time.

Discussion Questions

- Describe how you would approach a parent whose child is clearly displaying some communication deficits, but the parent has openly stated that they believe it is just a phase that the child will grow out of. What options are available if the parent continues to deny that the child needs any assistance to overcome their communication deficits?
- Discuss how communication develops and the communication expectations for young children at different ages. What should teachers expect regarding communication of young children at different ages? What are some of the indicators that a child is having difficulties with communication?
- Review some of the assessment tools available for measuring communication among young children. What are some of the similarities and differences among these instruments? How are teachers and parents involved in the communication assessment process?

Chapter 4

Understanding Behavior at the Individual Level

Overview

This chapter will introduce the functions of behaviors, provide the reader with definitions of key concepts needed to change behavior, and overview the antecedents, behavior, and consequence continuum (i.e., the ABCs of behavior or three-term contingency) that is required for behavior change. At the end of the chapter, the reader will understand the ABCs of behavior and will know how to intervene at each level to effectively alter behavior. A list of interventions based on function will be provided, along with strategies for data collection, creating behavior intervention plans, and troubleshooting when things do not go as planned.

Material and Techniques to Learn

- Gain an appreciation of the underlying causes of behavior
- Be able to discuss the functions of behavior
- Identify the key components of a functional behavioral assessment
- Become familiar with appropriate interventions based on function
- Recognize the role of integrity in implementation of interventions
- Gain familiarity with ways to troubleshoot when interventions do not work as intended

Case Scenario

Leah is a typically developing child with appropriate language skills for her age. She is in a parents' day out program housed in a local community center. She attends the parents' day out program regularly with few absences. Leah has been coming to this same program since she was six months old. Currently, she is almost three years of age and is in the full-day program, which includes a scheduled rest period. Her teachers describe her behavior as being like clockwork and only occurring around naptime. As it approaches naptime, which directly follows using the bathroom and washing hands, the lead teacher makes a statement to

the class to prompt them that it is rest time. The statement usually includes a directive such as "Class, it is time to find your rest mat that Ms. Dixon has laid out on the floor. Please walk to your mat and get ready for a quick story before we rest our eyes." It is reported that Leah's refusal starts with a loud, screeching scream of "no nap!" then continues in a predictable fashion of throwing her hands in the air, stomping her feet, then throwing herself down on the floor. According to the teacher, she is screaming and wailing all the way to the carpet. Each day, the teachers anticipate this situation but secretly hope that today will be the day the behavior ceases. All of the hoping and finger-crossing has yet to work and each day following Leah's performance the teachers remove her from the classroom and walk her down to the main office. Once she is settled in the office, they inform her that she can return to the classroom just as soon as she fully regains composure. They go on to tell her that upon her return to the classroom she will be expected to lie down like the rest of the class. When the teachers return to the classroom, they enjoy their peace and quiet. They often use this now-quiet naptime as their chance to eat a snack, pack the kids' backpacks for dismissal, and/or prepare for the upcoming day. As a result, Leah often remains in the office with the headmaster and colors at the kid's table until the rest period is over. Once the other children have risen from their mats, the teachers return to the office to get Leah. Everyone feels like placing her in time-out in the main office is an appropriate solution because they are convinced that she needs the time to sort through her emotions and that it is not fair to the class if Leah disturbs their nap.

Questions to Consider

- What might be the problem with using time-out for Leah in this situation? Is Leah possibly getting what she wants?
- Is Leah really in time-out? What exactly is time-out?
- What are some strategies the teachers could use to decrease the likelihood of this behavior continuing to occur?
- What do you think may be the reason Leah is acting this way?
- What are a few concerns with the continuation of Leah going to the office every day?
- If you were asked to observe and this case scenario was the only information you were given, is there a predictable time of day to come?
- From this scenario, can you begin to see how this choice of discipline may be serving as a reward for the teachers?

Introduction

Examples of some common utterances from educators and caretakers in an early childhood setting include: "Why does this child act like that?"; "Why does a tantrum occur every day with Maggie?"; "What is Bobby thinking

by throwing his lunch box?"; and "Why can't they all just follow the rules?" Understanding why a child behaves in the manner they do is often very puzzling and can interfere with the day-to-day activities and overall flow of the classroom. As an early childhood educator, a well-behaved class is essential for organization, but the odds of all children following instructions the first time they are given, embracing each task, and transitioning tantrum-free are slim. Embedded in the struggle of attempting to figure out why a child misbehaves is the challenge to be objective in your search. If a teacher is blinded by subjectivity, the ability to effectively determine what is the underlying cause of the behavior becomes difficult as your lenses are tainted with preconceived notions, blame, or a focus on an internal locus of control. Chapter 1 addresses these concerns of subjectivity, the rationale behind shifting from an internal to an external focus, and the need to take the whole picture into account, including the environment and the surrounding events. This chapter will review elements from Chapter 1 then transition into a discussion of the functions of behavior, how to objectively determine the function of a particular behavior through a functional behavior assessment, how to evaluate the environment to look for cues, how to provide insight into interventions that may work based on the function, and help you to know when a more in-depth analysis is needed.

What is Behavior?

The first step in understanding why a child misbehaves is to define what behavior is. The definition of behavior that is used within this book focuses on a person's actions in the physical environment. Behavior can be defined as any movement, action, or function of a person that occurs and results in changes in the physical world. There are behaviors that occur inside a person such as heartbeat, digestion, and thinking, but these are not easily observed by a teacher or caregiver and are not the focus of discussion in this book. Behavior results in change that impacts the person engaging in the behavior as well as those around them. By agreeing on this definition, the focal point of the teacher or caretaker naturally shifts from internal to overt events that can be observed.

The most frequently used explanations of why a person behaves a certain way are subjective and based on how a person feels or what they are thinking. For example, people frequently say "he does that because he is angry" or "she acts that way because she is sad." While these explanations are easy to formulate, they do not necessarily offer anything to help change unwanted behavior and often lead to attempts to change feelings rather than behaviors. People exist within an environment that has a substantial impact upon them. If a person says they are angry or sad, it is usually a result of some circumstance within the environment. In other words, anger or sadness are not feelings that spontaneously arise from within a person, instead they are usually

responses that arise as a result of changes in the environment. From a behavior analytic perspective, behavior serves a function for the individual because the behavior functions upon and changes the environment. Determining the function of a behavior will point to the most efficient and effective intervention, thus leading to an individualized behavior plan. According to Alberto and Troutman (2006), there are an orderly series of steps needed to design a successful behavior plan. The list of steps (and sub-steps) progress from identifying the problem behavior, conducting a screening process with indirect measures, assessing the function through direct observation in the natural environment, conducting a more systematic analysis (if needed), then designing a formalized behavior plan based on the identified function. Each of the steps leading to a behavior intervention plan will be addressed after an initial discussion on the functions and the ABCs of behavior analysis.

Functions of Behavior

All behavior occurs for a reason. Everyone responds to situations they encounter in different ways, but regardless of the varied responses from one individual to the next or within individuals, the response is serving a purpose or purposes for the person. According to Cooper, Heron, and Heward (2007), the functions of behavior fall into two primary categories: positive reinforcement and negative reinforcement. Positive reinforcement can be thought of as engaging in a behavior to get access to something. Negative reinforcement is the opposite and occurs when an individual engages in behavior to get out of something or avoid something. Both of these primary categories are defined by the impact the behavior has on the person emitting the behavior and can be further explained in terms of being socially mediated or non-socially mediated. Socially mediated reinforcement refers to the role that another individual plays in the situation which results in the person gaining access to something or someone (positive) or escaping or avoiding some activity or person (negative). Non-socially mediated refers to automatic reinforcement which does not require the presence of someone else and the behavior provides its own reinforcement, such as scratching an itch.

Another way to conceptualize the functions of behavior is to think of them in terms of the following categories: (1) attention, (2) escape/avoidance, (3) tangible, and (4) automatic or sensory (Shapiro, 2004). In a school setting, a child may act out because he is seeking praise from a teacher (attention), may want to hold a teddy bear or play on an iPad (access to tangible), may not want to practice writing upper case letters (escape), may not want to return to the classroom from recess (avoidance), or is seeking to relieve himself of a headache (automatic). Often, the manner in which a child goes about obtaining something or someone or avoiding a task is very different to the manner in which an adult would attempt to get their needs met. In other words, the overt behavior may be manifested differently or

have a different topography (e.g., look different), but the common thread from childhood to adulthood is that all behavior is a means to obtain something or get out of doing something; thus serving a function for the individual engaging in the behavior within the context of the surrounding events.

While the function of a behavior may not be readily apparent based on the topography, once the situation is evaluated objectively, the reason for the behavior is often more clear and the teacher can attempt an intervention based on the initial hypothesis. If the function is not readily clear or the teacher finds it difficult to be objective, then a systematic assessment, or functional behavior assessment (FBA), will need to be conducted to assess the complete chain of events. A prime example of how the behavior does not exist in isolation, impacts the environment, and how the behavior serves a function is our current usage of a cell phone.

Consider this case:

Erin's cell phone rings, she looks at it, checks the number, and then she either answers, responds with a text that she is unavailable, or allows it to go straight to voice mail. Her behavior is based on past experiences with responding to calls from the person who is attempting to reach her. If the conversations in the past were pleasant, Erin would be more likely to respond by answering the phone and engaging in a conversation. By answering the phone, Erin would be gaining access to social attention. If the person typically calls and rants, or is often the bearer of bad news, Erin is less likely to pick up the phone. By not picking up the phone, Erin is avoiding a potentially unpleasant conversation and not having to deal with the consequences (e.g., listen to her friend complain).

This situation makes it easier to see how the past dictates future behavior, how behavior is controlled by events that precede and follow it, and how all behavior is serving a purpose for the individual. Taking this example with Erin a step further, her behavior (answering the phone, responding with a text, or not answering) will also, in turn, affect the individual caller's behavior. If her behavior of responding with a text continues over time, the individual will most likely stop calling and instead begin texting. The caller's change in behavior then becomes a result of Erin's behavior as the texting was reinforced but the answering of the phone call was not. For examples specifically related to childhood and school settings, please refer to Table 4.1.

In behavior analytic terms, these examples are an illustration of the three-term contingency. The three-term contingency consists of the **A**ntecedent (what happens immediately before the behavior), the **B**ehavior (the individual's response), and the **C**onsequence (the event that follows the behavior). This three-term contingency is often referred to as the ABCs of behavior analysis. Because behavior does not occur in a vacuum, the surrounding events must be taken into consideration.

Table 4.1 Examples from Preschool and School Setting

Positive reinforcement: attention	At recess, Peter makes jokes and his teacher laughs.
Negative reinforcement: escape	During circle time, Jacob says he's sick and the teacher tells him to put his head down and rest.
Positive reinforcement: tangibles/activities	During playtime, Maggie bullies a peer and he gives her his toy.
Positive reinforcement: sensory/automatic	During lunch, Marcus hums a song.

Note: These examples are for demonstration purposes as behaviors may have different functions in different situations, times, and places.

Behavior is also often predictable and occurs in similar patterns from one day to the next. Because of the predictability, if the teacher can detect the antecedent that reliably comes first, then in theory the behavior can be eradicated. Likewise, if the teacher begins to see the behavior emerge and a similar consequence routinely follows, then changing the consequence should result in a change of behavior. In addition to altering the antecedent and the consequence, intervention can also occur by directly teaching a new behavior that serves the same function as the maladaptive or undesired behavior served. This new behavior is referred to as replacement behavior. Replacement behaviors must be based on the function or they will not be successful. Furthermore, the replacement behavior needs to be something the child can do. If it is not a behavior currently in the child's repertoire then the behavior must be taught to the child using explicit teaching, modeling, and practice. Please refer to Chapter 5 for an explanation of how to effectively teach academic skills, as this method of direct instruction works for teaching appropriate behaviors too. Additional steps for teaching replacement behaviors can be found in the discussion below, focusing on ways to troubleshoot if the behavior intervention plan appears to not be working.

Consider this case:

Mario is a young child experiencing problems in the classroom. Mario's behavior pattern is as follows. When Mario is asked by the teacher to put his crayons away (coloring is his favorite activity) he will immediately begin crying and screams "no, I am not finished!" In response to the screaming, the teacher runs to his chair, tells him it is going to be okay and allows him to color while she is comforting him.

If we break this down into the ABCs, we can see how the antecedent is the request from the teacher to stop a desired activity. The behavior is

described as crying followed by screaming "No." The consequence is that Mario is granted more time with his activity, thus not required to follow the instruction of "stop" and receives attention from the teacher. Once the scenario is broken down into the ABCs, we are able to more easily see what is happening and gain an idea of why Mario's behavior persists. Table 4.2 highlights methods of intervention for Mario.

At times, the ABCs may not be apparent to the teacher or assistant due to their close familiarity with the day-to-day events, their other job responsibilities, their commitment to the class as a whole, and sometimes the difficulty in being objective in separating the behavior from the individual.

Table 4.2 Rearranging the ABCs for Mario

Antecedent	*Behavior*	*Consequence*
Mario is asked to put the materials for a preferred coloring activity away.	Mario cries and screams "No, I am not finished!"	Teacher approaches Mario, and comforts him, as well as allows him to continue to color.
Antecedent	*Behavior*	*Consequence*
(The teacher gives the students a warning and sets a timer for when they will be required to put away coloring activity.) Timer goes off and teacher tells students to put materials away.	Mario puts away coloring materials.	Teacher praises Mario for putting away materials quickly and quietly.
Antecedent	*Behavior*	*Consequence*
Mario is asked to put the materials for a preferred coloring activity away.	(Mario is immediately prompted to request for more time.) Mario asks the teacher for more time to finish.	Teacher praises Mario for asking for more time.
Antecedent	*Behavior*	*Consequence*
Mario is asked to put the materials for a preferred coloring activity away.	Mario cries and screams, "No, I am not finished!"	Teacher ignores the student's vocal outburst and physically prompts the student to put away coloring materials.

As a result, an outside observer may need to come in and conduct an assessment of the ABCs in order to determine the underlying causes.

The process of identifying and uncovering the function through an FBA is essential and is recommended in the literature as best practice (Sugai et al., 2000; Horner, 1994), is required within federal law such as the Individuals with Disabilities Education Act (2002), and is referenced in national organizations' position statements, such as the Division for Early Childhood (DEC) in the Council for Exceptional Children (CEC). While the law mandates that schools use an assessment to discover the function of the child's behavior and guidelines have been set forth for local education agencies (LEAs) related to the timing of conducting an FBA (e.g., number of suspensions, number and type of alternate placements, nature of the violation; Drasgow & Yell, 2001), the mandates are not directly applicable to the early childhood sector. As a result, administrators and teachers must rely on the spirit of the law, their ethical guidelines, and position statements set forth by the accrediting bodies. Specifically, the DEC position statement on behavior states that at the individual level a functional assessment should be conducted, followed by an intervention plan tailored for the child.

Thus, pulling from the mandates set forth at the LEA level, the positions of the national boards, and empirical research, the method of choice for determining the underlying cause of the behavior is an FBA. Ultimately, if conducted appropriately, the FBA could minimize the use of reactive or default technologies in the classroom. Default technologies are consequences that, defined by Cooper, Heron, and Heward (2007), are "intrusive, coercive, or punishment-based interventions" that are often selected arbitrarily (p. 503). To prevent reliance on default technologies, the FBA process should directly lead to the following: (a) more proactive treatment choices that teach appropriate behavior; (b) suppression of the undesired behavior through changes to the antecedent or consequences; and (c) a behavior plan specifically designed for the target behavior(s) that the individual is exhibiting. The FBA process does not rely on reactivity or instinct but rather on observable facts in the classroom.

Starting the FBA Process

The first step in beginning the FBA is to be aware that this is truly a process and not a quick fix. Despite the many benefits of an FBA to the student and school, conducting FBAs can be time consuming and intensive and the hypotheses may not lead to interventions that quickly decrease maladaptive behavior, but rather decrease contingencies that over time produce desired behavior that is sustained (Casey & Smith, 2014). As a result, the teacher needs to be prepared for assessment and the behavior-change process to take some time. Even in an early childhood setting where the child is young and his or her learning history is not as vast as that of an older child, it is not an

overnight fix. This is because the learning history exists with the child whether he or she is two years of age or eight years old. The element of time exists because behaviors become habitual and habits are hard to break at any age. Despite the potential drawbacks (time allocation, delay in behavior change, and having to re-teach or teach appropriate replacement behaviors once the function is determined), empirical support for FBAs in early intervention programs (McLaren & Nelson, 2009) and within school settings (Sugai et al., 2000) is well documented in the literature and nationally supported by the DEC and mentioned in the NAEYC standards.

Phases Associated with Conducting an FBA

A functional behavior assessment typically consists of interviews, direct observations, and, when needed, environmental manipulations to evoke the behavior (O'Neill et al., 1997). Figure 4.1 can be useful for determining where to conduct assessements. For the purposes of this chapter, the FBA

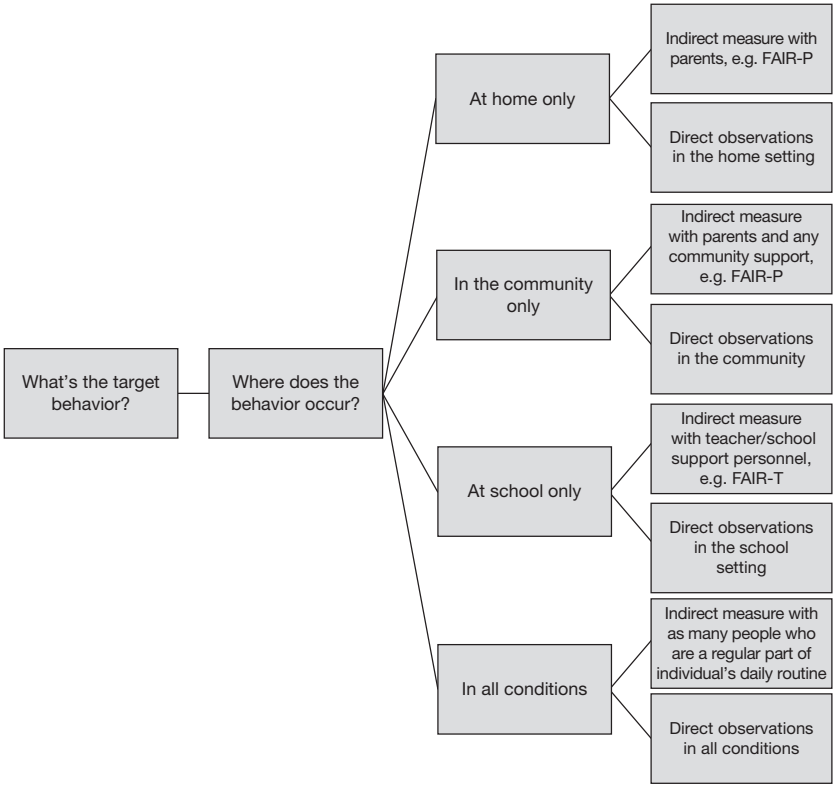

Figure 4.1 Decision Tree for Location of Assessment

process will be discussed in terms of four primary phases. These phases of the FBA are identified as (1) indirect, (2) direct, (3) interpretive, and (4) intervention development. The sections below are organized around these phases.

Indirect

The first phase is the indirect assessment in which data are obtained from existing records such as school or medical records. This phase also consists of semi-structured and/or structured interviews with students, parents, and school personnel. Record review and interviews are considered indirect

Table 4.3 Indirect Assessments

Name	*Interview or rating scale*	*Brief description*
Functional Assessment Informant Record—Teachers (FAIR-T)	Interview	Six-page interview questionnaire composed of 34 questions geared toward teachers. Broken down into three categories: personal information, problem behaviors, antecedents and consequences
Functional Assessment Informant Record—Parents (FAIR-P)	Interview	Six-page interview questionnaire composed of 34 questions geared toward parents. Broken down into three categories: personal information, problem behaviors, antecedents and consequences
Functional Assessment Screening Tool (FAST)	Interview	Two-page questionnaire composed of 27 yes or no questions with a scoring form to identify function
Functional Assessment Interview (FAI)	Interview	Extensive nine-page interview form ranging from yes or no questions to open-ended questions about problem behavior to identify function
Consequence Variables Assessment Form (CVAF)	Interview	Brief form designed to identify the current consequences for problem behavior
Questions About Behavioral Function (QABF)	Rating scale	25-item Likert-scale questionnaire that leads to a better understanding of behavioral function
Motivational Assessment Scale (MAS)	Rating scale	Likert-scale assessment used to determine function of the behavior

because the child is not being directly observed; rather, the information is being gathered from informants that can speak to the behavior, and through the review of permanent products (see Table 4.3 for a sampling of interviews often used). This phase is essential as the teachers and parents are key players in the overall success of any intervention derived from the FBA and often can provide information that is unable to be seen or is difficult to obtain in a few visits to the classroom.

Indirect assessments may help define a specific behavior prior to direct observation, may identify the ideal times and places in which behavior is going to be observed, and may decrease the amount of time needed in the classroom when attempting to determine the target behavior (Floyd, Phaneuf, & Wilczynski, 2005). However, as a result of relying on third parties to complete the information requested, this phase may be biased and subjective. Specifically, subjectivity occurs when the third party erroneously reports information. This may be by accident or in an attempt to satisfy their predetermined hypothesis. However, in the last few years, indirect methods have been created to decrease subjectivity while asking questions related to the function. Table 4.3 has some examples of function-based indirect measures.

Prior to beginning the descriptive phase of the assessment, or at the initial outset of the second phase, it is helpful if these indirect measures result in an operational definition of the target behavior(s). To operationally define a behavior is to create a clear, measurable definition that is easily discriminated from other behaviors and that accurately depicts what the behavior or behavior chain does and does not look like. Operationally defined behaviors should be written in a manner in which anyone reading the definition could easily identify when the behavior is exhibited. Refer to Table 4.4 for a comparison chart of well-written and poorly written definitions.

Once the behaviors have been operationally defined, the evaluator must then determine how he or she will collect data in the natural setting; thus, truly starting the second phase of the FBA process. As a cautionary note, all informants should review the definition so that there is a universal understanding between all parties as to what the behavior to be observed looks like. In some cases it may be necessary to have all those who will be observing practice collecting data together and make sure that everyone is collecting data similarly.

Descriptive

The second phase involves directly observing the child in the classroom or setting where the behavior reportedly occurs using the operational definition created and modifying the definition as needed based on what you observe. The observation period will consist of systematically recording data on the ABCs and surrounding events such as sitting arrangement, teacher behavior,

posting of rules, etc. There are multiple methods that can be used to objectively gather data (refer to Table 4.5). Each of these data collection methods varies in level of difficulty and amount of attention required to accurately record. However, when selecting the recording method, emphasis should be placed on the specifics of the behavior. For example, if the target behavior is very infrequently observed but when it does occur it occurs for a long period of time, frequency recording may not yield much information.

Table 4.4 Operational Definitions of Non-Compliance, Property Destruction, and Biting

Good definition	*Mediocre definition*	*Bad definition*
Any instance in which the student vocally says "No," "I won't," or any other phrase indicating he/she is unwilling to comply when requested to complete a task	Vocally refusing to complete a task • No examples • No way to know when to count multiple refusals as one behavior or multiple behaviors	Non-compliance • No examples • No way to know when to count multiple refusals as one behavior or multiple behaviors • Leaves too much room for a subjective decision
Any instance in which the student picks up, throws, moves, or pushes a piece of furniture, e.g., chair, desk, or table, without permission, attempting to negatively affect the condition of the furniture or room	Throwing classroom furniture • No examples • No way to know when to count multiple destructive behaviors as one behavior or multiple behaviors	Property destruction • No examples • No way to know when to count multiple destructive behaviors as one behavior or multiple behaviors • Leaves too much room for a subjective decision
Any instance in which the student touches his teeth to another person's skin and applies any degree of pressure	Biting another person with any degree of pressure • No examples • No way to know when to count multiple biting behaviors as one behavior or multiple behaviors	Biting • No examples • No way to know when to count multiple biting behaviors as one behavior or multiple behaviors • Leaves too much room for a subjective decision

Table 4.5 Direct Measures

Measure	*Description*	*Tips for easier data collection*	*Cons*
ABC	The A in ABC stands for antecedent, or what events occurred immediately before the behavior. The B stands for behavior, what specific behavior occurred. The C stands for consequence, what occurred immediately after the behavior, e.g. programmed consequences, natural consequences, reactions from peers/teachers. Helps lead to a potential hypothesis on function	1. Have multiple observers 2. Use a key, e.g., biting = B, reprimand = R 3. Have clear and concise operational definitions	• Time consuming • Cumbersome • Sometimes difficult to record each instance as behavior can occur quickly
Duration	The amount of time from the onset of the behavior until the behavior terminates	1. Keep stopwatch handy	• No information on frequency • No information on the surrounding events
Event	Each instance a behavior occurs during the observation period is recorded	1. Use a counter/clicker 2. Have a large number of small items, e.g., paper clips, in one pocket and each time behavior occurs move an item from one pocket to the next 3. Place a piece of masking tape on your arm, place tally mark on the tape for each instance	• No information on surrounding events • No information on duration of behavior
Latency	The amount of time between when a student-directed instruction is provided and when the student begins to behave.	1. Keep stopwatch handy	• No information on frequency • No information on consequences • No information on duration of behavior

Table 4.5 continued

Momentary time sampling	Observer records if behavior is occurring exactly at a specific time or intervals of time, e.g., every 15 minutes	1. Keep stopwatch handy 2. Create recording sheets with pre-determined intervals organized	• Can give inaccurate depiction of frequency • No information on duration of behavior • No information on surrounding events
Narrative	Informal written descriptions of the behavior(s) as it occurs in the environment	1. Write it down as soon as it happens 2. Audio record and dictate later	• Time consuming • Cumbersome • Difficult to record each instance as behavior can occur so quickly
Partial interval	Recording whether a behavior occurs at least once during a pre-determined interval of time	1. Set aside a specific amount of time based on the length of your intervals as well as how many intervals you would like recorded 2. Create recording sheets with pre-determined intervals organized	• Potentially overestimates how frequently a behavior occurs • No information on the surrounding events
Whole interval	Recording whether a behavior occurs during an entire interval for a pre-determined interval of time	1. Set aside a specific amount of time based on the length of your intervals as well as how many intervals you would like recorded 2. Create recording sheets with pre-determined intervals organized	• Potentially underestimates how frequently a behavior occurs • No information on the surrounding events

However, recording the duration may be very appropriate with a goal in the behavior plan to be decreasing the duration.

An additional item to consider during the data collection phase is to be inconspicuous. If it becomes obvious to the child that he or she is being observed, the behavior targeted to change may deviate, become more prominent, or become non-existent. If, as a teacher, you are concerned that the child may become reactive in any way, suggest that the outside observer come on multiple occasions so that the entire class becomes comfortable with this individual and the level of obtrusiveness decreases. Furthermore, if an outside observer is coming in to observe, do not change routines or the physical structure of the environment because this may affect the observation too.

If the teacher is the primary data collector and recording data becomes too cumbersome, there are some strategic ways to be creative. For example, a golf ticker can be invaluable during frequency counts. If using momentary time sampling, set an alarm on your phone so that it vibrates each time you need to look up and record. Lastly, if at all possible, try to have an additional person collect data with you on a few occasions or ask the independent observer if he or she can bring in a second set of eyes for a session. Having this second observer will determine the accuracy of your findings. If in agreement, this increases the likelihood that the data observed are truly occurring in the order you state, for the amount you record, where and when, and followed by the contingencies you state. The utilization of a second recorder is common practice in research to calculate consistency between observers and is referred to as inter-observer agreement (IOA). For research purposes, approximately one-third of all observation periods should have IOA recorded and reported (Cooper, Heron, & Heward, 2007). For clinical purposes, it primarily serves to assist in the validity of your findings and the confidence that you have in making a hypothesis about the function of the behavior.

Interpretive

Interpreting the data collected via indirect and direct measures will assist with the formulation of a hypothesis or hypotheses as to what the function of the behavior is. It is during this phase that answers should begin to surface related to the ABCs that directly point to the probable function of the behavior in question. If this is a clear-cut scenario, then the next step is to suggest a hypothesis and form of a summary statement. A summary statement should include the ABCs, the hypothesized function, and any setting events that have been noted. It is essential that this statement is written in a manner that suggests the hypothesis was based on the data generated from the assessments.

Once the hypothesis is formulated, the next step is to create the Behavior Intervention Plan (BIP). However, when reviewing the data and attempting to write the hypothesis, if the data are not directly suggestive of the possible function or they indicate that the behavior may be multiply maintained, then further assessment, using a functional analysis (FA), may be needed to verify the hypothesis. The term *functional analysis* was originally used by Skinner (1953) to denote empirical demonstrations of *cause-and-effect relations* between environment and behavior. FAs are typically conducted in an analogue setting; however, recent literature supports its use in a natural environment such as a classroom, day-care setting, or home (Mueller, Nkosi, & Hine, 2011). The FA consists of a trained individual manipulating the environment under certain preset conditions. The conditions typically include: contingent attention, contingent escape, alone, and a control condition (Iwata, Dorsey, Slifer, Bauman, & Richman, 1982). The use of the word contingent implies that the access to attention or escape is contingent upon the target behavior being exhibited. These sessions are presented one

Table 4.6 Functional Analysis Conditions

Attention	Allow the student to engage in preferred activities. Give 5 to 10 seconds of attention for each occurrence of the targeted behavior (i.e., "Hey, don't hit yourself like that. You could hurt yourself!"). Count the number of times the behavior occurs.
Escape	Place the student in a task or demand situation. Allow the student to ESCAPE (leave the situation) for each occurrence of the targeted behavior. Wait about one minute. After the minute elapses, direct the student back to the task or demand situation. Count the number of times the behavior occurs.
Alone	Allow the student to be alone without any stimulation. Count the number of times the targeted behavior occurs.
Play	Place the student in an enriched reinforcing environment. Allow the student to engage in free access to preferred items and activities. Do not consequate the targeted behavior (unless it is an emergency situation). Count the number of times the behavior occurs.
Access to tangible (optional)	Allow the student to briefly engage with preferred tangible items, then remove the item. Give 5 to 10 seconds of access of the tangible for each occurrence of the targeted behavior. Count the number of times the behavior occurs.

at a time, for a brief period of time (average 10 minutes) until a pattern of problem behavior emerges. A very brief description of each session can be found in Table 4.6.

Creating the Behavior Intervention Plan

When creating the BIP, the focus must remain on the individual. The plan typically starts with the individual's personal information, such as name, age, date of plan, location or locations where the observation took place, who conducted the observations and the primary reason for the observations. Next, the plan should include all of the assessments that were used, with proper names if they were published. It should also include reproducible assessments, along with a description of them. The BIP should be organized using the same headings as above (i.e., indirect, direct, interpretive) and end with the suggested strategies in the classroom to eradicate the maladaptive behavior and increase the desired behaviors. The format of the BIP should mimic the process from the beginning to the interventions. The remainder of the text and sample report at the end of the chapter includes the steps needed to create a comprehensive report that documents each step in the process and ends with interventions based on the hypothesized function.

If you think back to Mario, described in Table 4.2, you will recall how interventions can be designed so that any part during the ABC is changed. Therefore, when appropriate, it is important to provide suggestions in the report for interventions at each level (A, B, and C). Providing suggestions for multiple interventions based on function allows the individual implementing the interventions to have autonomy over the selection. Providing choices also increases the probability that the individual will implement the intervention with fidelity. For an overview of interventions based on function, please see Table 4.7.

After the FBA is completed and the BIP is written, the BIP is now in the hands of the individual who is going to be responsible for the implementation. No report is without mistakes, typos, or oversights, so be prepared. The person conducting the FBA should reach out to the implementer and ask if there are questions and offer to attend the IEP meeting or IFSP meeting if these changes alter current plans. If you are the one implementing the interventions, designed by someone else, do not hesitate to request a follow-up meeting or ask for an open dialogue throughout the implementation process. If communicating electronically, please use the ethical guidelines outlined by your profession, which exceed the scope of this chapter. Some basic recommendations across disciplines often include the following: (a) do not use client names; (b) do not use specific details that breach confidentiality such as location, teacher name, school name, |etc.; and (c) do include a statement of confidentiality in the communication

Table 4.7 Strategies Based on Function

Attention-seeking behaviors	*Behaviors to gain access to items or activities*	*Avoidance or escape behaviors*	*Behaviors to come in contact with automatic reinforcement*
Example inappropriate behaviors: 1. Talking out of turn 2. Getting out of seat	*Example inappropriate behaviors:* 1. Crying 2. Taking things without permission	*Example inappropriate behaviors:* 1. Saying "No" 2. Elopement	*Example inappropriate behaviors:* 1. Hand flapping 2. Whistling
Consequence intervention: Extinction: planned ignoring	*Consequence intervention:* Extinction (no longer allowing access to preferred item/activity after inappropriate behavior)	*Consequence intervention:* Escape extinction (requiring the individual to complete the requested task, or not allowing the individual to elope)	*Consequence intervention:* Blocking the behavior
Teaching intervention: Teach appropriate attention-seeking behaviors Provide an excessive amount of attention and praise when appropriate behaviors are demonstrated	*Teaching intervention:* Teach (1) functional communication and (2) waiting skills Provide access to preferred items/activities when appropriate behaviors are demonstrated	*Teaching intervention:* Teach (1) functional communication skills; (2) interchange easy and hard tasks Provide (1) reinforcement for completed tasks; (2) utilize picture schedule to show when reinforcement will be available	*Teaching intervention:* Teach appropriate topographically competitive behavior Provide reinforcement for alternative appropriate behavior, block self-stimulatory behaviors
Example appropriate behaviors: 1. Raising hand 2. Tapping the teacher on the shoulder	*Example appropriate behaviors:* 1. Asking for permission 2. Waiting your turn	*Example appropriate behaviors:* 1. Requesting a break 2. Asking to complete a different task first	*Example appropriate behaviors:* 1. Hand flapping = holding hands together and squeezing 2. Whistling = talking, chewing gum

thread. When in doubt, a phone call or visit is best. However, before you panic, there are some tips to troubleshoot.

Troubleshooting the BIP

If the suggested interventions are not successful, there are a few ways to troubleshoot. First, remember that it takes time to change behavior and that patience is key. If you feel sufficient time has passed, look carefully at the steps of the intervention and make sure that each step is being implemented. In Chapter 5 treatment integrity will be discussed as it relates to academic interventions, but the applicability of integrity carries over to behavior interventions as well.

A checklist, similar to a task analysis, can greatly assist. Ultimately, lack of treatment integrity, or treatment fidelity, during implementation can make a very well designed, appropriate intervention appear to be inappropriate. In other words, don't switch the interventions out too quickly. If it is determined that the implementation has been accurately followed and sufficient time in intervention has been documented, another intervention may be needed.

Another consideration to help with the troubleshooting is the possibility that gains/changes in behavior are too small to detect without graphing. Change may actually be occurring but small, incremental gains or decreases may be difficult to determine simply by interacting on a daily basis. If the desired behavior change was to decrease the time of the tantrum and the tantrum is decreasing but only by 30 seconds, it may be hard to tell. Systematically recording the behavior during intervention and comparing to baseline data taken during the FBA can often visually reveal success that is easy to miss if data are not being graphed. Chapter 5 also provides information related to graphing tools that are very applicable to academic monitoring as well.

If the intervention requires teaching a replacement behavior, be sure that time was actually devoted to teaching the behavior. Specific steps for teaching a replacement behavior include: (a) identify the replacement behavior; (b) once the behavior is agreed upon, directly teach the new skill and practice the new behavior when the student is in a situation in which problems do not occur; (c) practice the skill with multiple teachers and in multiple environments; (d) be specific and teach the student when to use it and why; (e) if you can anticipate when the child is going to engage in an inappropriate behavior, prompt him/her to use the new skill and then reinforce the new behavior; (f) be cognizant that prompts may be needed from time to time even after the student has been successful in demonstrating the new, appropriate behavior; (g) if problem behavior resurfaces, don't reinforce and don't get discouraged—simply re-teach if needed; (h) reinforcement may no longer be reinforcing as the student may have become satiated; and (i)

behaviors sometimes get worse before they get better. Common replacement behaviors based on function can be found in Table 4.6. The last bit of troubleshooting advice: if none of the above suggestions work, it may be time to re-evaluate the function; functions do change over time.

Summary

The idea that behavior serves a function and that all behavior is purposeful is well documented in the behavior analytic literature, but may be a new concept to early childhood professionals. The good news is that viewing behavior from this vantage point allows the focus to be shifted away from internal attributes and ensures that the focus is shifted to external loci. This is essential as it eliminates subjectivity, removes blame from family and child, and forces environmental changes to be made; which as teachers, we have some control over. Designing the BIP so that changes are made to the antecedents, the behavior itself, or the consequences, provides the teacher with tools to effectively change behavior, increase desired behavior, and have a more efficiently run classroom overall.

Discussion Questions

- Describe the ABCs of behavior.
- Discuss how consequences can maintain a behavior.
- Describe the benefits to altering the antecedent.
- What are key issues needed in a replacement behavior?

Chapter 5

Supporting Pre-academic Skills for All Children

Overview

This chapter will discuss current practices in teaching pre-academic skills while providing clear examples to guide implementation. Specifically, it will focus on how to develop pre-academic skills such as responding to simple instructions, maintaining active engagement during teaching time, and effectively teaching new skills. Case studies will be provided to assist educators in their efforts to increase opportunities to respond, incorporate procedures to increase motivation, and outline a rationale for formative assessment, graphing, and progress monitoring.

Material and Techniques to Learn

- Understand the process of direct instruction and acquire skills for implementation
- Learn to use a prompting hierarchy during an instructional lesson
- Gain skills for keeping a class motivated and engaged during whole-group and small-group instruction
- Be able to recognize and define developmentally appropriate practice

Case Study

Lisa is a new teacher who was trained at a university that offered dual licensure in early childhood and special education. Lisa was excited about this opportunity to receive instruction in both fields and jumped at the chance to be well equipped in both domains. During Lisa's educational training she took several classes that focused on behavior analysis and direct teaching methods that complemented her early childhood coursework. Upon graduation, she felt well prepared to apply the strategies that she learned and she was confident that her early childhood dual experience prepared her well for the classroom. As a result, she was highly qualified and had lots of job offers. Lisa was able to have her pick from several positions nationally. She ended up selecting a job in a neighboring area that

was an inclusive preschool classroom for three- and four-year-olds. During the first six weeks on the job, the principal evaluated Lisa as part of the process for new hires. Lisa's principal noticed that her students were highly engaged, listening intently, responding to questions, and asking questions. Specifically, the principal observed lots of student–teacher interaction and a great deal of opportunities to ask questions, pose comments, and participate. She also noticed that following the didactic instruction portion, the class transitioned nicely to independent seatwork, seeming to fully understand what was expected of them. Following this observation, the principal informed Lisa of the components of her class that impressed her. Then, she asked Lisa to share a few instructional strategies with her fellow teachers in a professional development that would include the following: how she made instructional time valuable, how she successfully blended didactic instruction with free-play and unstructured times, and why she felt it was important that her students were active learners.

As you read below, let the following questions guide your reading.

Questions to Consider

- What type of strategies might Lisa be using during her instruction?
- How could she effectively share her experiences with other teachers?
- What should she do to best describe her strategies to her colleagues?
- What specifics from her background in the dual program of special education and early childhood education may have helped Lisa succeed, especially as a first-year teacher?

Introduction

The early childhood classroom should be viewed as a place where a myriad of learning opportunities come together for the children as a result of careful planning, thoughtful instructional practices, and the flexibility to adapt to the needs of the class (see Figure 5.1). In an excerpt written by the editors of the American Educator (2014), some common myths may need to be dispelled in an effort to provide children with a curriculum that is appropriate. These myths include the notions that young age children are not ready to learn sophisticated content and that simply enrolling in and attending preschool is enough. These myths are just a few of those that surround early childhood, but even these two, if believed to be true by a parent or teacher, could prevent the child from reaching his or her full potential. These myths must be put to rest so that children are being taught in a manner that sets them up for later academic success.

Setting a child up for success begins with good teaching. This may mean blending pedagogical strategies such as providing time to explore through hands-on activities (akin to a Montessori approach) with time devoted to implicit teaching (a more direct teaching approach).

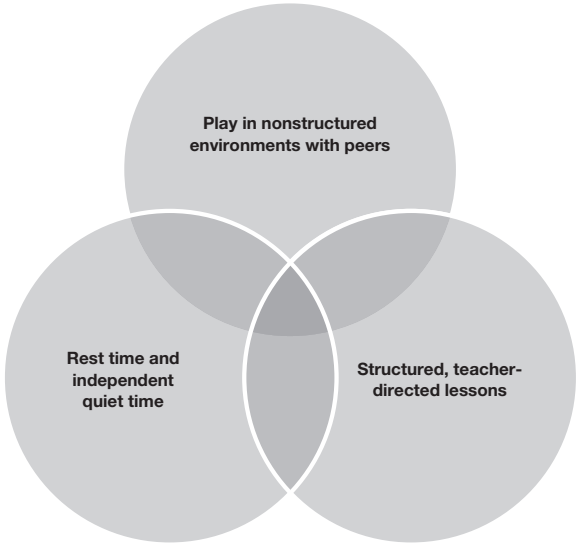

Figure 5.1 Categorizing the Educational Structure and Time Allocation

Being a teacher in a blended classroom where play, exploration, and explicit instruction coexist potentially requires the teacher to view teaching as both an art and a science. It is a science in that running a classroom suitable for academic and social growth requires vast knowledge, understanding, and expertise in academic content areas such as child development, behavior management, and social skills. It is an art in that the teacher must also have the ability to weave all of his or her knowledge together to orchestrate a class that is rich in academic skill and one that encourages age-appropriate peer-to-peer and peer-to-adult interactions.

The result of the science–art dyad is an environment that feels safe and playful but with academic rigor. For example, consider the case where a teacher sets up stations based around academic content areas such as pre-literacy, science, mathematics, and art. In this classroom, the teacher could be viewed as a scientist who has researched each area and has designed the classroom with all of the right tools; e.g., pre-primer books in the reading area, manipulatives for math, a sand box and magnifying glass in the science section, and crayons and paper in the art corner; or an artist who has designed and created a masterpiece with each piece of the puzzle. Thus, in that perfect blend of science and art, there is intentional thought in the overall design of the classroom.

Cultivating this nurturing environment for the youngest learners can be challenging, but with guidance from accrediting bodies, national organizations, and empirical research, this daunting task becomes manageable. This

chapter will provide information from national organizations invested in the development and education of children, as well as suggestions for making the preschool classroom a successful learning environment though using strategies rooted in behavior analysis that are directly applicable to teaching style, delivery of instruction, ongoing monitoring, and will end with websites and helpful hints to guide instruction.

Inclusive Early Childhood Education

While early childhood education is not framed or labeled as necessarily being inclusive, the reality is that any early childhood group setting will be inclusive. According to the National Center for Birth Defects and Developmental Disabilities, Centers for Disease Control and Prevention (2015), developmental disability estimates in the United States are about one in six, or 15%, of all children aged 3 through 17 years of age, regardless of race, socio-economics, or ethnicity. These disabilities include attention deficit/hyperactivity disorder, autism spectrum disorder, cerebral palsy, hearing loss, intellectual disability, learning disability, vision impairment, and other developmental delays. Also reported by the Centers for Disease Control (CDC) is the overall increasing trend of developmental disabilities, with the highest increase reported to be autism spectrum disorders. Because of this prevalence, the early childhood educators will be required to support all learners in attendance with a variety of learning abilities, health statuses, and educational/socio-economic factors. With the inclusive classroom comes diversity and further increases in the demands of creativity, skills, and competencies related to content knowledge that are placed on the educator. In turn, this pushes the teacher to alter instruction, modify assignments, and accommodate the learner as needed to ensure that the early years do serve as a gateway to middle and high school education. The overall outcome of a well-organized inclusive classroom is that all students and instructors are exposed to a richer learning environment that more adequately resembles the increasingly diverse world in which we live.

Early childhood educators, in particular, must be cognizant that later learning builds on early learning, that catching up in later grades is difficult (Dougherty, 2014). Educators must also be aware of the unfortunate fact that some students will *only* receive instruction in the classroom due to life circumstances and limited support at home. According to Coyne, Kame'enui, and Carnine (2011), diverse learners "are often greatly dependent on the quality of schooling if they are to break the pernicious cycles of illiteracy, innumeracy, and invisibility" (p. 7). This statement highlighting the importance of quality instruction, coupled with the positive long-term effects of obtaining effective early education during the preschool years (e.g., lower drop-out rates, less need for retention, promotion of overall health benefits), illuminates the responsibilities of the early childhood educator by stressing

the need for these teachers to be successful in finding means of reaching all children in a timely fashion and identifying those that are not catching on (Reynolds, Temple, Robertson, & Mann, 2001). Specifically, factors such as lack of academic resources at home, undereducated parents, single-parent households, poor nutrition, inadequate living circumstances, along with others, can all increase the importance of having quality classroom instruction for preschoolers.

Reaching All Children Through Teaching

All young children deserve to have an opportunity to learn the skills necessary for them to be successful. One approach to reaching all learners in the classroom is to use teaching practices and instructional methods that are inherently developmentally appropriate, with a strong research base to support their efficacy. Since 1986, the National Association of Education of Young Children (NAEYC) has used the terminology of developmentally appropriate practices (DAPs) to describe instructional practices that optimize learning for all and bridge the services received in preschool to that of elementary school.

In a 2009 position statement, NAEYC noted the need to adapt the definition of DAPs because the climate of the early childhood classroom had become more diverse. This diversity includes students who are immigrants to the States, English second-language learners, and an increase in children with special needs, including behavior challenges. In this position statement, the authors recognize several key elements to teaching in the early years. Some of these include: the need for teaching to the level of the student and building on the prerequisite skills, the fact that all students develop at different rates, the recognition of individual differences within the child (splinter skills and varied rates in acquiring content across the academic domains), the need for blended teaching practices that include teacher-directed, child-directed, and play, the ability to recognize the whole child and support the whole child, and the notion that the early years set the foundation for later successes (academic and independence).

Approaching instruction from a developmentally appropriate standpoint is also encouraged and supported by the Division for Early Childhood (DEC), a subdivision of the Council for Exceptional Children (CEC). A joint paper published in 2009 by both entities, NAEYC and the CEC/DEC, on early childhood inclusion was expounded upon by the DEC with a publication entitled, "Recommended practices in early intervention/early childhood special education." In this 2014 publication, eight areas were addressed: leadership, assessment, environment, family, instruction, interaction, teaming and collaboration, and transition.

For the purposes of this chapter, the focus will be on the recommendations for instruction related to DAPs. The recommendations are grounded in the

notion that the instructional practices should be intentional and systematically aimed at "what and when" to teach, knowing how to evaluate the teaching, and focused on supporting and evaluating the quality of implementation; e.g., integrity of the instruction. Furthermore, the recommended practices for engaging and reaching students who may be at risk for academic failure include some of the following: identifying each child's strengths and preferences, targeting specific skills in both the natural and inclusive environment, gathering and using data to inform instructional decisions, planning and providing supports to ensure access for all students (at risk, English language learners [ELL], developmentally delayed), embedding instruction across routines for generalization, using explicit feedback, and utilizing peers as appropriate. Thus, the majority of the evidence-based teaching approaches approved by both entities used a graduated approach that incorporated explicit instruction, direct feedback to provide both specific praise and detailed correction, and had the teacher at the helm of the classroom.

What is Direct Instruction?

To date, there are two primary uses in education for the term *direct instruction*. Direct Instruction, DI, with capital letters, is now used to describe instructional programs developed by Bereiter and Englemann in the 1960s. As noted in Carnine, Silbert, Kame'enui, and Tarver (2010), this DI also refers to the school-wide implementation model, while direct instruction, *di*, with lower case initial letters, refers to general teaching techniques. For the purposes of this chapter, the focus will be around teaching variables that are often associated with *di*. Direct instruction is more teacher-directed than the more traditional models often used in early childhood. The basic components of *di* are that it is relatively fast-paced, includes teacher–student interaction, and is based on taking larger units and breaking them down into smaller, more manageable sub-components, then teaching these smaller units in a sequenced format that is highly structured. When implemented correctly, *di* gradually fades the role of the teacher to a small group with teacher assistance, to the individual working alone.

From the outset, *di* consists of high levels of student engagement, is academically focused, carefully sequenced, builds on prior knowledge, and uses structured materials and lessons that are initially led by the teacher. However, it is important to note that it is not a strict authoritarian approach. It allows for ample opportunities for teacher–student interactions then delegates more and more responsibility to the student for independent practice once success has been demonstrated. The key to *di* is preparing, then effectively using, explicit instruction to teach the task, concept, or topic in a manner that sets the student up for success. Table 5.1 outlines the procedures to guide proper implementation.

Table 5.1 General Strategies for Implementing *di* Effectively

Getting started	*Using explicit instruction*	*Functions of explicit instruction*
• Set clear goals • Allow sufficient time allocated to instruction • Know the material to be able to have extensive content coverage • Create data sheets to monitor student performance • Be very structured in the approach, but not authoritarian • Design the lesson to allow for multiple teacher–student interactions	• Be prepared to overtly teach the steps or processes needed to understand a concept, apply a strategy, and/or complete a task • Create a task analysis by breaking down the components into smaller units • Be able to model the task using step-by-step instructions to demonstrate what is expected • Use behavior-specific language explaining expectations • Use behavior-specific praise for successful completion • Use corrective feedback	• Review — Review relevant previous learning — Review pre-requisite skills and knowledge • Presentation — State lesson goals — Present new material in small steps — Model procedures — Use clear language • Guided practice • Corrections and feedback • Independent practice • Weekly and monthly reviews

When teaching a lesson, it is critical that the teacher prepares for and builds in the following components: opportunities for the students to respond; lessons that start with high levels of success to build momentum; and ongoing assessments to ensure the activities to gauge success are at the level of the individual child. Each of these critical components will be discussed from a behavior analytic perspective in the paragraphs below.

Getting Started with *di*

The core components of *di* include three processes: (1) teacher modeling or demonstrating the new skill, or the *I do* phase; (2) teacher providing prompted or guided practice, or the *we do* phase; and (3) providing time for unguided, independent practice, or the *you do* phase. Two things must occur at the outset of the teaching lesson. First, the teacher must ensure that the students have the pre-requisite skills or knowledge to learn the new skill or content. If the lesson for the day was writing the lower case letter *r*, pre-requisite skills would consist of checking for pincer grip or close approximation, orientation of writing tool to page, appropriate positioning of the paper, and knowledge of the letter.

Because each class is filled with students with a range of abilities, you may need to have multiple exemplars ready to ensure that every student has the appropriate reference point and starts at a place where they will be successful. For example, as you begin to prepare for the explicit instruction on the academic task of writing the letter *r*, one student may need the letter written in complete form at the top of the page so that he or she can trace. Another student may only need to have the letter *r* dotted to use as a reference, while another student may be able to refer back to the board, where the letter is completely written.

This may at first seem like a lot of work on the front end, but research has associated interventions incorporating explicit instruction with improved outcomes for students with learning difficulties for both basic skills and higher-level concepts across academic areas (Baker, Gersten, & Lee, 2002; Biancarosa & Snow, 2004) and much research in the early childhood sector, as well as the field of behavior analysis, discusses the importance of starting a lesson at a point where the student can be successful independently then guiding him or her to the next level (Vygotsky, 1978; Cooper, Heron, & Heward, 2007). According to Vygtosky, this would be termed working within the child's zone of proximal development. In behavior analysis, it would be referred to as building on pre-requisite skills and shaping new behaviors by systematically rewarding approximations of the desired new skill.

Second, the teacher should gauge whether or not they have each student's attention. In order to gauge student attention, the teacher must be in close proximity to the students and then quickly scan the classroom to ascertain if any students are not engaged or not demonstrating readiness skills.

Readiness skills may include: having needed materials out, eyes directed toward the teacher or task, and quietly awaiting instructions. This scan should take approximately 15 seconds, and should be no longer than 30 seconds. Following the scan, positive reinforcement, in the form of verbal praise or public posting, should be given to students who are ready. For example, a statement like: "Class, I like how many of you have your materials out and your eyes are on me," would be appropriate if only a few students were not engaged. If this comment to the whole class does not get everyone's attention then a verbal re-direction should be offered to those who are not overtly demonstrating readiness. "Richard, I need you sitting in your chair, feet on floor, and your eyes on me." Once attention is gained, the *I do* phase can begin.

Phase 1: I Do

In the first segment, the modeling section or the *I do* phase, the teacher models the desired academic behavior for the students correctly in a step-by-step fashion. Using a step-by-step process breaks the task down into manageable pieces and as a result the students can better understand how each step works in unison to make a whole. Modeling is used in the phase for two reasons. First, through the modeling demonstration the teacher illustrates how to correctly complete the task from beginning to end. This allows the students to see the entire process completed with accuracy. Modeling is also used in the phase as many students have a history of receiving reinforcement for correctly imitating a task following the adult's lead (Alberto & Troutman, 2006).

In the very early years, this reinforcement is often in the form of positive reinforcement such as praise. Early modeling can be exemplified by a mother clapping her hands, the baby then clapping his hands, and then the mother praising the baby by saying positive comments such as great job, way to go, and possibly clapping more. As a result, this pattern of receiving praise following appropriate imitative behavior now becomes part of the child's learning history.

In the educational setting, day care, or other environment where learning is taking place, modeling should consist of two primary components: (1) correctly demonstrating the skill; and (2) accurately describing what is being done. As described above, making sure the class is attentive is key. Once attentive, a positive statement is immediately followed by a directive such as "Thank you all for your attention. We are now starting our lesson on writing." Do not pose this in the form of a question such as "Who would like to start the lesson now?" This is not an appropriate time to use choice in the classroom. This is the time to teach.

Once the directive has been made, state the purpose of the lesson: "Today you are going to learn how to write the lower-case manuscript letter *r*."

This may involve using a task analysis to help guide your activity and ensure that each step is highlighted. A task analysis is a means of breaking down the task into the smaller components that are needed to make up the larger skill that is the focus of the lesson (Cooper et al., 2007). If we refer back to the example of teaching the class to write the letter *r*, a task analysis used to guide your instruction for the skill of writing the letter *r*, may look like the steps below.

1. Place paper on desk in front of child, using age-appropriate paper.
2. Pick up pencil with preferred writing hand using pincer grip or close approximation.
3. Touch the tip of the pencil down to the paper.
4. Hold down.
5. Draw one straight line down, back up ¾ of the line, and draw one curved line out to the right in one smooth motion.
6. Pick up the pencil.

The task analysis described above is detailed—in many situations maybe too detailed, but modification is always an option as students become proficient. However, the goal of creating a task analysis is to guide instruction and the descriptive terms listed in the task analysis, along with the reference to dimensions, are to benefit the teacher in determining student gains. If a task analysis was designed as more of a prompt that the student will use at his or her desk during the *we do* or *you do* phase, icons or pictures may be of more benefit than a lengthy step-by-step. Also, if the task analysis were for the student, avoiding jargon such as "pincer grip" would be necessary.

During this section of "I do" it is important to be concise and include several demonstrations on an "as needed" basis, allowing the students to watch you perform the tasks multiple times. This is referred to as *forward chaining*. For some students and for some tasks, *backward* chaining may also be appropriate. Backward chaining is done when you start with the finished product and work backwards. So, either breaking the final product down slowly, starting with the finished product, or going in order from start to finish (as described above) is fine.

It is at a teacher's discretion as to whether they show the final product at full speed, then slow down using a task analysis to illustrate each step in the process, or begin with each step and end with full pace. Discussion during this initial teaching segment should specifically focus on the "why" and "how" to complete the task. When explaining the concept, during the discussion phase, allow the students to ask questions by providing ample opportunities to respond. Student engagement is critical and opportunities to respond should be built into the didactic instruction.

If a student is truly actively engaged in one activity, he or she will find it very difficult to actively engage in a competing, non-academic activity

(Heward, 2003). In other words, if the teacher is able to maintain the students' attention, they are less likely to be off-task. This can be accomplished by providing opportunities for student response and by maintaining a consistent and fast pace during an instructional lesson.

Explicit instructions should also be used by the teacher throughout the process, including before and during logical transitions from one lesson to the next. Heward (2003) describes this process using the behavioral terms of relative rates of reinforcement and opportunities to respond (OTR). He also contends that slowing down instruction for struggling learners can be detrimental to their success, by providing evidence that faster-paced instruction actually provides more opportunities for students. Heward further contends that covering more academic material at a consistent and quick pace actually helps maintain student attention, while slower instruction often results in boredom. Covering less material and proceeding at a slow pace naturally takes up more time and increases the likelihood of misbehavior. Figure 5.2 outlines the differences in pacing during classroom instruction.

Opportunities to respond can be thought of to occur in three basic categories or responding methods: no technology, low technology, or high

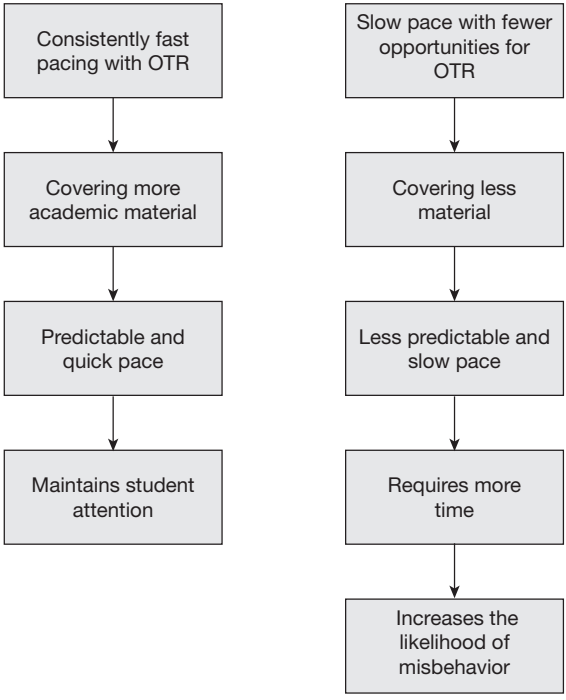

Figure 5.2 Different Approaches to Teaching All Learners: Faster vs. Slower Instruction

technology. A high technology method may require computers or some form of technological device, whereas low technology would require something additional but not necessarily electronic; no technology would not require any additions. OTR techniques described below are all considered no or low technology and do not involve current computer technology, but all do require explicit instruction on how and when to respond, which should be outlined to the class at the beginning of the learning segment. At the same time, the consequences of responding and, conversely, withholding responses should also be explained at the outset. In addition, regardless of the type of responding method selected, the teacher should begin the academic session by introducing, explaining, and demonstrating how to use the technique selected.

At the most basic level of a teaching segment involving no technology OTR, the teacher could simply signal to the class that the floor is open for questions and the teacher can select a few students to call on. If this method of engagement is used, the teacher needs to be sure to select different students and provide incentives for students to ask questions that they are comfortable with in the classroom.

With this open-floor option, certain teacher skills are needed to ensure the flow of the teaching time is not thrown off. Specifically, the teacher needs to keep the question-and-answer session on pace so that more than one question can be answered and the teacher has time to get back to the lesson. The teacher also needs to respond with detailed answers; do not respond back in the form of questions. Responding with detailed answers allows the student to hear the correct answer. It also provides verification and clears up any misconceptions that may exist.

During this question-and-answer process, it is also valuable to rephrase the question during your response. For example, during a written expression lesson Johnny asks "Why do we need to learn to write with a pencil? My mom types everything or talks it into her phone!" A detailed and appropriate response would consist of "Learning to write is a skill that will always be needed even in times of modern technology and can also help with other academic areas such as reading and mathematics." Do not respond with "Johnny, you tell me?" This question in response to a question can decrease the confidence students have in the teacher's knowledge and can also lead them down the wrong path. Also, do not get into the nuances or get caught going down tangential paths of the "it depends" scenarios. While an open-floor time devoted to individual questions is appropriate, some students inevitably will not be called on. To counterbalance this, other methods have been suggested that are more inclusive but less individualized. Some of the other methods that have been touted as a means of keeping students focused during instruction time while also providing the whole class an opportunity to participate on a regular basis include choral responding (no technology) and response cards (low technology).

Both of these OTR methods also need to be cued by the teacher so that the class knows when the appropriate time to respond is. Choral responding, also known as responding in unison, can be done as a classroom or in small groups. If done as small groups the teacher can preselect the groups and alternate calling on one group then the next. Response cards, as compared to aloud choral responding, provide the teacher with a fairly quick way to scan the classroom for correct and incorrect answers to help measure understanding, with even the quietest voice being heard.

There are two common ways to utilize response cards during class time. One method is to provide the students with pre-printed response cards, which clearly and legibly display their dichotomous answers such as "yes or no" or "true or false." The other option is to allow the students to create their own. Creating their own in a preschool classroom will more than likely prove difficult. If possible, it should be done ahead of time and laminated; but even then it may not be feasible. As students move on to higher grade levels, an individual wipe board may be utilized. In this instance, the student can simply write "T" for True and "F" for False and then hold up the sign when prompted to respond.

In conclusion, this first section, the *I do*, is the time to directly teach the material, teaching the concept step-by-step to ensure that early mistakes are not made, that students have the opportunity to respond through active engagement, and that learning is essentially errorless as topics are explicitly and thoroughly taught. This section should end with positive remarks for correct execution and corrective feedback when appropriate followed by a discussion on the relevance of the target skill to the students' interests. Matching academic tasks to students' interests helps make the work more meaningful while also keeping the students focused and motivated (Miller, Gunter, Venn, Hummel, & Wiley 2003). A sample discussion around the letter *r* might be similar to the following: "Once we learn how to make the letter *r*, you will all be one step closer to writing the word, *red*! Stop signs are red and cars stop at stop signs; even Lightning McQueen stops at a red stop sign. What else is red that makes cars stop?"

Phase 2: We Do

In the next step, the guided practice or *we do*, students get the opportunity to explore the new concept with help using the teacher as a partner or group leader. At this point, it is the responsibility of the teacher to provide prompts as needed both to the class and to the individual struggling students. Prompts are defined as something that is added to the request in order to assist the learner. Some learners may just need a slight reminder, whereas others may need physical guidance to complete the task. Because the level of prompting varies from one child to the next, the teacher must assess the individual needs and decide if she is going to begin with a more hands-on prompt, minimal

assistance, or even a less invasive approach such as paper with additional lines, dashed lines, or color-coded lines to indicate appropriate height of lower case and upper case letters. Figure 5.3 describes two types of prompting sequences.

When prompting from most-to-least (MTL) intrusive to guide the student with using the pincer grip when correctly forming the letter *r*, the teacher would begin with a full physical prompt, also referred to as hand over hand (e.g., teacher's hand may be over the student's hand and the formation of the letter is completely guided), then graduated guidance, also referred to as a partial physical prompt (e.g., the teachers hand may be slightly touching the student's hand), then a gestural (tapping of the student's hand to initiate letter formation or tapping of the paper to suggest it is time to write), and last a verbal prompt (e.g., a directive to hold the pencil correctly).

When choosing whether or not to prompt from most-to-least intrusive or least-to-most (LTM), several variables should be considered: Is the student likely to become dependent on your assistance and not be motivated to do so independently? Does the student adversely react to physical touch? Does the student need a lot of assistance to acquire the skill to the point that pre-requisite skills are needed first? Research shows that new skills with MTL and LTM prompting are generally acquired at the same rate, but MTL may result in fewer errors if the teacher can afford the time that is required as this process may result in slower acquisition (Libby, Weiss, Bancroft, & Ahearn, 2008).

Recall that the goal in the *we do* phase is to ensure that the student does not learn the task incorrectly, does not practice it incorrectly, and that the

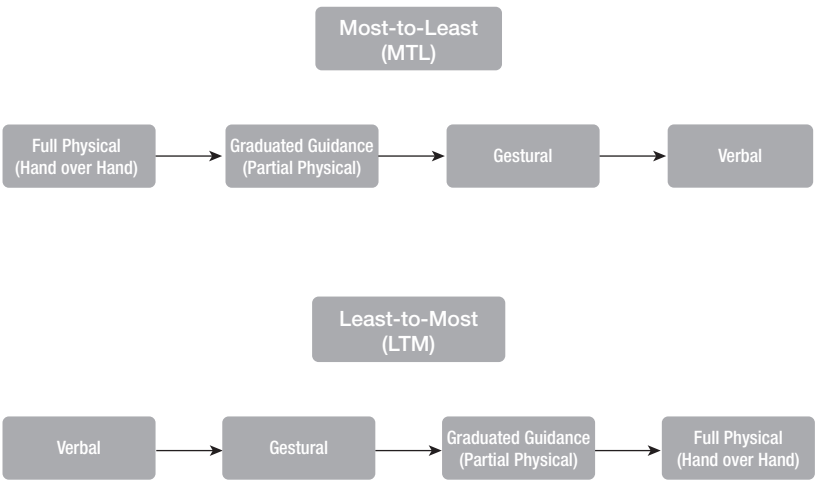

Figure 5.3 Illustrations of Prompting Hierarchies

level of prompting gradually fades as the student acquires the skills and demonstrates errorless mastery. Prompts should only be viewed as a temporary means to support the early learner and should be implemented with the goal of quickly fading so that independence is achieved. However, removing too quickly could result in errors and this decision to fade prompts should be guided by the student's progress because practice does not make perfect if the practice is done incorrectly. In fact, if practiced incorrectly, the incorrect method becomes part of the repertoire and then ingrains itself as learned history.

Once an undesired academic behavior becomes part of the child's repertoire, the effort is now focused on unteaching or re-teaching. To decrease the probability that re-teaching takes place, selection and utilization of the proper prompting sequence is key. Once fluency is demonstrated, the student will need to gain confidence in his or her ability to independently complete the academic tasks correctly. In an effort to assist with building confidence and increasing fluency in the newly acquired skill, it is beneficial to allow the student to independently practice under direct supervision and with heavy amounts of reinforcement following each correct demonstration. While there is merit in drill and practice in early childhood, the utilization is often not looked upon favorably. However, it is second nature in many other fields.

A prime example of this is athletics. In sports the utility of drill and practice is well respected and actually expected from consumers; even consumers of youth sports. Coaches and parents know that it is through drill and practice that athletes build "muscle memory." While on the surface there are stark differences between learning a cognitive concept and learning a physical skill, the acquisition and training regimen for both can be tackled using a behavioral approach of *I do*, *we do*, and *you do*. In conclusion, it is essential that these first two phases, *I do* and *we do*, are accurate, that learning checks through OTR are built in, that errors are corrected, that prompts are used and then faded, and that the learner gains confidence in his or her newly acquired skill prior to moving on to the last and final step—*you do*.

Phase 3: You Do

The *you do* phase is the independent segment of the three-phase direct teaching approach. This is the time to allow the students to independently demonstrate to you what they have learned without relying on you to guide them. This is the time where the work done in the *I do* and *we do* comes together. However, with any independent seatwork requiring students to work on their own and quietly, the teacher is now more likely to be in direct competition with environmental variables such as noise and peer distractions, making the teacher less prominent or at a minimum having to vie for attention.

Initial motivation for the academic task will be gained in the *I do* phase by tying in relevance and application (e.g., even Lightning McQueen stops at red stop signs) and should continue through the *we do* phase from the graduated prompting and phasing out of the level of teacher involvement. While the student's confidence level and motivation has potentially risen from the explicit instruction and time for guided practice, this will be the first time the student is asked to complete the task solo. So, how can teachers create situations that are motivating so that the entire class puts forth a high degree of effort? This is a question that proves particularly vexing for early childhood educators who find that independent seatwork comes with an array of competing variables that were not as alluring when the teacher was actively instructing.

Aiding Motivation

There are many overt behavioral indicators that potentially show that the majority of the class has begun the task. These include simple signals such as students looking at the paper in a focused manner, pencils moving, and eyes directed at the board. The teacher may interpret these common classroom signs in a positive manner and assume that all is well. In the teacher's mind, it will soon be time to shift focus to the next task or the next transition that is soon to follow. However, it is possible that as the delay from the teacher-given prompt to begin work and the time to cease independent work lengthens, competing tasks will crop up that could potentially compete for student attention. In this instance, the student now has to elect to continue the independent work and elect to not attend to the extraneous variables.

One way to compete with outside variables is to prevent them or use antecedent controls (refer to Chapter 4 for a description of modifying the antecedent within the ABC continuum). In an effort to head-off the competition, the teacher must be diligent in creating assignments where the choice to remain on-task beats out the plethora of competing choices that are available in a typical classroom. Environmental arrangement is an effective antecedent control (refer to Chapter 2 on classroom arrangements). Other approaches aimed at motivating the student to stay on-task include using behavioral momentum through interspersing the difficulty of the tasks and using choice. Each of these were discussed in Chapter 2, so only a brief discussion will be held below tying the strategies directly to academics.

One strategy is for the teacher to design the worksheet in a manner so that a student comes into contact with success from the start, build on that success, and then increase difficulty. This works if success or accurate completion of work is reinforcing for the child. By taking this approach in the design of the worksheet and utilizing reinforcement early on from the student achieving correct responses in a row, the teacher is utilizing the theory

of behavioral momentum which refers to the tendency for behavior to persevere based on the rate of reinforcement at the given time (Mace et al., 1988).

Gaining momentum, as the term implies, is achieved by charging the students with tasks that are "easier" or those tasks that have resulted in success in the past and allowing the student(s) to come into contact with reinforcement after each instance of success. As mentioned, reinforcement may be in the form of success from simply getting the answers correct, but it may also be in the form of positive reinforcement from the teacher if the teacher is able to be in close proximity. After the initial segment with heavy amounts of reinforcement, the process includes slowly challenging students with more difficult tasks (e.g., the change in environmental conditions that may alter the rate of reinforcement). Often teachers intersperse difficult and easy questions in an effort to maintain the momentum that is initially built.

Another previously referenced strategy is to allow the student choices. Using choice during the independent work segment is also a valuable tool to increase on-task behaviors. The ability to allow children a choice is not novel, but is often a difficult concept for teachers to buy into. Some reasons this is difficult in the academic arena are: (a) teachers may feel compelled to control the sequence of events; (b) they may not be accustomed to allowing choice during structured work; and (c) they may be afraid that the choices will impact the learning process. Some suggestions to combat teacher resistance include creating menus for the students.

Creating choice menus is a very effective way to alert the students to the available options, as selected by the teacher. Choice menus can be pictures, icons, or words. The manner in which the choice board is used is completely up to the classroom teacher. For example, the teacher could use a rule that each student has to complete three worksheets but they can select the order in which they are completed. Another example may be that the student is able to choose one of two worksheets to complete in class and the other one is for homework or to be completed with the help of a peer. There are many ways that choices can be embedded into the academic setting to increase the motivation to complete assignments.

After the independent segment is over, the teacher may want to end with an activity that is fun; one that also reinforces the topic of the day and completes the circle back to the *I do* phase. For example, the teacher may state a few questions allowing for OTR: "After we all practice independently writing the letter *r*, we can color a picture of the stop sign. What color is a stop sign? What does red start with? What does Lightning McQueen do at a stop sign?" Encouraging the student to color with a red crayon following a work segment on writing the letter *r* is one way to maximize reinforcement in the classroom, as discussed in Chapter 1, and ties the activity to a common everyday occurrence, which reinforces motivation.

While independent work is technically the last step in the *di* process, teaching is ongoing and re-teaching may be needed from time to time, especially if practice is not frequent enough. Checking for skill maintenance, following the acquisition phase, is essential to ensuring longevity of knowledge as well as generalization of one skill to another skill or concept. There are two basic ways to check for skill maintenance following explicit instruction: the use of formative assessments and the use of summative assessments. Summative assessments typically consist of tests at the end of a long segment, end-of-the-year testing, and/or multi-year testing. Formative assessment is more frequent and is often conducted in the form of quick checks to get a snapshot of any progress made and to ensure maintenance and continuation of the skill is present. In the early years, focus should be on formative assessment.

Formative Assessment

Formative assessments are conducted frequently and allow progress monitoring, which provides an opportunity for teachers to adjust teaching strategies and make modifications as needed to differentiate instruction (Brady & McColl, 2010; Herman & Dorr-Bremme, 1983; Stiggins & Bridgeford, 1985). According to Fuchs and Fuchs (2011), progress monitoring begins with baseline data collected on one targeted skill and is conducted, at a minimum, monthly with the goal of (a) approximating rates of improvement, (b) identifying those not making adequate progress, and (c) designing more effective, individualized instructional programs for problem learners. If, for example, you want to see gains in the students' handwriting ability and you have been working on lower and upper case, competencies in one area should not be compared to competencies in another. Both of these are important skills, but the formative assessment would look different depending on what skill you are measuring and if you are gauging accuracy, fluency, or completion.

One method of formative assessment is curriculum-based measurements (CBMs). According to Deno (1987), CBMs can be characterized as measurement procedures that consist of frequent, direct observation and measurement periods to probe a student's progress within the curriculum (Deno, 1987). CBM is a sub-set of the larger group of assessment procedures known as curriculum-based assessments (CBAs). CBAs and CBMs share commonalities such as alignment with the chosen curriculum, frequent measurement, and assistance with instructional decisions. However, CBM has very specific features that separate it from the broader term CBA. These differences are primarily that CBM utilizes standardized assessments with alternative forms of equivalency, rather than teacher-made assessments that vary across students and can be time consuming. In other words, CBMs are

prescriptive and can be used to compare students to one another within the same curriculum, as they are pre-made, subject-specific, and do not deviate (Fuchs & Fuchs, 2011).

In addition, CBM spans across subject areas and grades. Often these brief CBM checks, where teachers collect data to monitor progress, are referred to as probes. Probes are nothing more than standardized teaching segments that last usually 1–5 minutes (Wright, 2015). Since the probes are efficient, they can be done repeatedly to collect data on a student's progress. Probes can serve many functions in addition to checking students' knowledge and growth. For example, an additional purpose for using CBM probes is to identify simpler and more efficient interventions, while another is to eliminate ineffective interventions (Gortmaker, Daly, McCurdy, Persampieri, & Hergenrader, 2007). The key to proper utilization is graphing to visually see incremental gains, highs and lows, and ensure the student is working toward their goal. When graphing, it is important to set a goal, to include an aim line that is illustrative of reaching the goal, and to include a legend so that it is very clear what each data set represents. A graph depicting a successful intervention is shown in Figure 5.4; a graph that documents an unsuccessful intervention is shown in Figure 5.5.

Summary

While non-structured time with peers and time to rest may be the more enjoyable parts of the day for the students, the more structured instructional

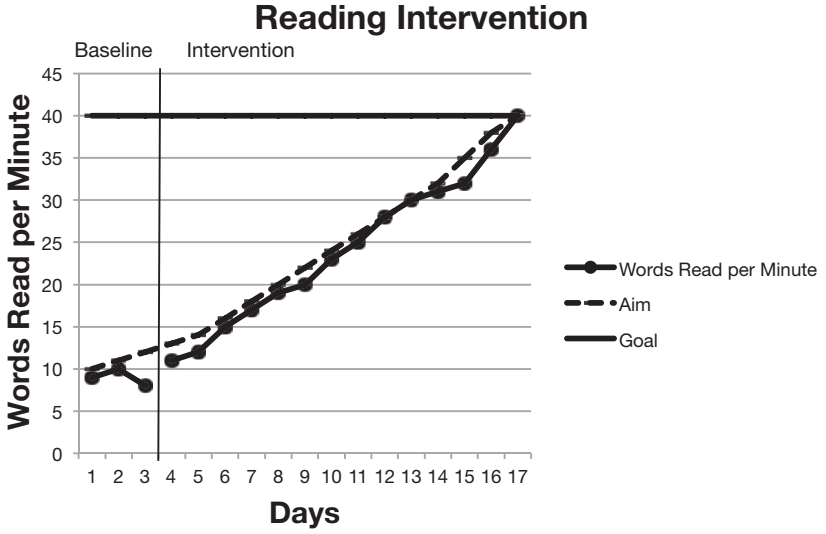

Figure 5.4 Example of a Successful Reading Intervention

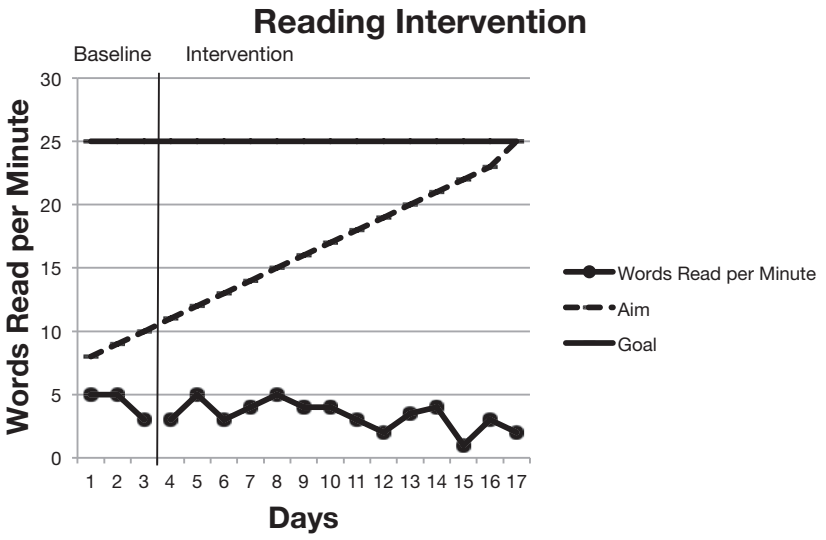

Figure 5.5 Example of an Unsuccessful Reading Intervention

components, which are often more difficult, must be incorporated if preschool and early elementary school is going to be a true foundation from which to grow. By using the strategies and tips mentioned above, the ability to make the instructional portions of the day more enjoyable should now be a bit more manageable. Furthermore, if the days of viewing explicit instruction as dichotomous to exploration no longer exist, then blending the two approaches becomes much easier and more accepted. In other words, remembering that one approach does not have to be exclusive of the other and that if used in tandem, the students' potential academic gains may be greater, and the youngest learners will be well prepared for their academic future. Furthermore, when thinking about gauging academic gains and the call from the national organizations to rely on DAP, this blended classroom of explicit instruction with lots of OTR, periodic checks to probe understanding and maintenance of learned materials, coupled with opportunities for free play, exploration, and rest, could potentially become the gold standard. Incorporating planned activities to keep students engaged and motivated is key, too, because a motivated student is much more likely to complete his or her work on time, is typically more open to constructive feedback, can serve as a model to fellow learners, and is much less likely to act out in an aggressive or distracting manner. Ultimately, being able to find that delicate balance between explicit instruction and discovery, keeping the early learning experience fun while also meaningful academically, and motivating each student to work to his or her potential are quite possibly the greatest challenges to the most formidable time in the child's life.

Discussion Questions

- What does developmentally appropriate practice refer to?
- What are the three phases involved in a *di* approach to teaching?
- Create a task analysis for tying your shoes with a minimum of five steps.
- Work with a partner to create a graph on www.interventioncentral.org/teacher-resources/graph-maker-free-online using the following data set: Baseline: 10, 9, 6, 8; Intervention: 7, 10, 12, 8, 15, 17.

Chapter 6

Multi-tiered Systems of Support

Overview

The focus of this chapter will be introducing the concept of a multi-tiered system of support (MTSS). This chapter will build on the previous chapter discussions that focused on academics and behavior. The MTSS is an organized and systematic approach aimed at preventive measures across academics and behavior. This tiered model takes a graduated approach to modifications, accommodations, and interventions, while moving away from reactive and punitive measures.

Material and Techniques to Learn

- Understand the MTSS model from a philosophical standpoint
- Describe the different tiers
- Describe how MTSS can be beneficial if implemented

Case Scenario

Solomon is a five-year-old child in a very small class of eight children at a school named Brookfield. At the moment, he is off to a "not so good" start in the second half of his pre-kindergarten year. During the first semester of school he was considered a hyper child by his teachers but was performing in the average range compared to his peers on all subject matters. Because the teachers were okay with his academic performance and many kids were up and down throughout the day, his active behavior was overlooked. This semester much of the work is new and Solomon is struggling to grasp the concepts. As a result, he has increased his level of activity so that he often physically runs around the classroom. In the first few days of this new running behavior, the teacher placed him in time-out. However, the teacher noticed that Solomon appears to enjoy time-out and now gets up, runs and says "I will just go to time-out now!" The teachers have grown tired of this routine and have decided that Solomon's behavior is now so bad that he must be suspended. They feel that he is going to become a disruption to

the class and they see that his work is suffering. Mid-week, during what the teachers described as the worst week yet, they called his parents and informed them that Solomon should remain home from school on Thursday and Friday. They suggested that on Monday morning he may return but only if the parents can meet with them prior to the school day to discuss the contingencies that now surround Solomon's attendance. Unfortunately, the teachers have no explicit behavioral rules for the classroom, outside of the "Golden rule," and they are unable to truly articulate what is expected of him during instructional time because in the past his high energy level was not viewed as a problem. Furthermore, the academic activities have not been individualized but the teachers feel certain that if the rest of the class is acquiring the knowledge then the curriculum must be appropriate enough for all students to learn.

Questions to Consider

- What are some issues with suspension?
- How should the teachers view Solomon's behavior?
- Consider the surrounding events described in this case study—what may be the function of this behavior?

Introduction

Nationwide, there is a push to increase support in the early years to increase the probability that students enter elementary school with the necessary prerequisites to thrive. Some measures have been taken to assist these efforts, but as a whole there remains room for improvement. Often, early childhood classrooms are seen as a time for play and maturation and less of a time for determining which students may need additional support or differentiated instruction. However, in reality, this is the time to begin thinking about the individual needs of the learners from both an academic and behavioral standpoint. While it is disheartening at times to group according to ability, grouping is needed sometimes so that individualized instruction and appropriate systems of care can be put into place. Small-group instruction can be beneficial to advance certain students by allowing them to work at a similar pace with others who are also working toward a similar goal. The general consensus is that grouping should only be done for specific subject area interventions and should not be exclusively done throughout the day. In other words, it is not best practice to exclusively group or isolate young children from their peers for extended periods of time. There is also no hard-and-fast rule that mixed-ability groups are not appropriate, but there is merit in grouping children homogeneously as well as heterogeneously. In fact, some interventions are designed for more advanced peers to work alongside the struggling student.

As a teacher in the early, formative years, your job is multifaceted as you try to assist the child in reaching his or her academic goals while nurturing

their strengths, helping them to forge relationships with peers, all while being mindful that the young child is soaking in everything you say and their personality, self-esteem, and thoughts of the world around them are budding. With this layered job at hand, researchers have sought to make your job a bit easier through the development of MTSS. When these systems of support are done correctly the students and parents are aware of the progression and the expectations (both behaviorally and academically). The teachers have a guide to ensure that they are implementing best practices from day one. These tiered systems are also designed to ensure objective decision-making that is in the best interests of all students.

Multi-Tiered Systems of Support

Multi-tiered systems of support are based on the following premises: that reactive procedures are not in the best interest of the children; that punitive measures do not teach the skill deficits; that sending a student to special education without confidence that prior interventions were evidence-based and implemented with fidelity, and that without clear behavioral expectations maladaptive behaviors will continue. With these principles underlying the rationale for multi-tiered instruction, it is easy to see why efforts have been made at the k–12 level to ensure that schools are familiar with MTSS and that they implement MTSS at school and district-wide. In fact, an early intervening services component was added to the Individuals with Disabilities Education Improvement Act (IDEIA) to ensure that proper provisions were being added to the early years to align early childhood with elementary and secondary efforts. While there was not specific mention of an MTSS, there was reference to scientifically researched, evidence-based instruction, assessment, and positive practices, all of which align nicely with an MTSS.

Currently, there are many misconceptions that surround the MTSS, and just as many ideas and perspectives about how to implement it. In a joint paper published by the National Association for the Education of Young Children (NAEYC), the DEC of the CEC, and the National Head Start Association (NHSA) in 2013, misconceptions and misunderstandings are addressed and debunked. This was done by illustrating how MTSS can and should be utilized in early childhood while highlighting the future and unique opportunities if response to intervention (RtI) is embraced. The misconceptions mentioned that center on MTSS include: (a) it is inappropriate for the early childhood population (they counter this with the fact that MTSS is actually encouraging developmentally appropriate practices and intentional teaching); (b) that referrals to special education are delayed because children have to matriculate through tiers (this is countered by referencing that at any point a parent can request an evaluation and that IDEIA clearly states that an MTSS cannot be used to delay services); (c) ability grouping is promoted (which is negated by stating that some small

grouping may need to be homogeneous for targeted instruction but that this is just one way and only for a limited amount of time); (d) top tier is special education, which again is not in line with the premise of a tiered system (this is to support instruction and be proactive). In addition to these misconceptions, there are many interpretations of the tiers and the terms associated with them. For example, across the nation, many states have their own terminology, unique thoughts on how to incorporate both academics and behavior into the tiered approach, how much data should be collected, including when and by whom; some states and districts even add an extra tier to the proverbial three-tiered triangle referenced in Figure 6.1.

Because of the discrepancies and controversy in the literature connected to terminology, correct citation of the terminology (e.g., capitalization of all letters, all lowercase letters, mix of both with response to intervention and the addition or subtraction of the term "intervention" in positive behavior supports), the authors of this chapter will refer to the academic side of the MTSS as RtI and the behavioral side as PBS. In other words, this chapter will simply provide background information on the two primary terms found in the literature surrounding MTSS in schools. Both terms chosen stem from IDEIA. They are response to intervention (RtI) and positive-behavior support (PBS). Both of these, RtI and PBS, are tiered models which operate hierarchically from the least to most intensive interventions (e.g., whole group to small group to individualized approaches) and focus on preventive, proactive measures as opposed to reactive, punitive measures. Furthermore, the purposes of the chapter are predicated around imparting

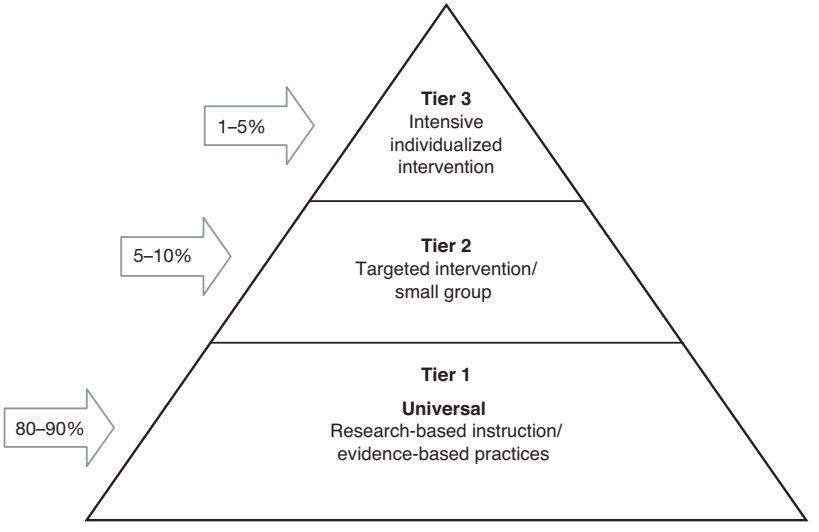

Figure 6.1 MTSS Tiers

knowledge on tiered interventions, which supersedes a discussion around nomenclature and which movement, behavior or academic, came first.

Response to Intervention

RtI was originally developed to be an alternative way to assist with identification of special education that ensured quality academic instruction. It was also developed to utilize data-driven decision-making. As a result, it increasingly becomes more and more intensive if the child does not make the academic gains needed for advancement. One premise behind developing this tiered approach to identifying children who may benefit from specialized services was to move away from what many believed to be the "wait to fail" model. Another premise was to intervene sooner. Through early intervention, the hope was to increase the probability of closer monitoring of both teachers' and students' performance while decreasing referrals to special education that were not warranted by catching those students who really just needed an extra boost. While the wait-to-fail model was really not as the name implies, it does refer to the reliance on the child being referred for educational testing after poor performance to determine if he or she has a significant discrepancy between their IQ and their achievement scores on standardized testing. Even though this model is objective and relies on mathematical determinants, the degree of variance differs from one state to the next. This often pushed families qualifying for services to move to another state only to have their services dropped. Another drawback was the fact that many kids would miss the cut-off by a point or two and, as a result, they would not receive any assistance when it was documented that their classroom performance was subpar. In other words, the child did have to demonstrate less than adequate performance in the classroom to be referred for services, which in essence implies failure came first, but also implies that unless a certain score differential was received, no services were rendered and the child remained unsuccessful in the classroom. Furthermore, what this model did not do was ensure that proper measures were taken to rule out poor instruction, limited assessments, lack of prior exposure in the classroom, and the use of evidence-based interventions. On the contrary, what RtI does is attempt to counterbalance what was dubbed the shortcomings of the wait-to-fail approach with an approach that relies on teacher accountability in terms of utilization of best practices, collecting formative data on student progress, emphasizing the integrity with which interventions are implemented, and providing continued classroom assistance prior to and after a child moves into another tier. The RtI model is primarily a general education initiative as the first two tiers, as depicted in Figure 6.1, are designed to take place in the general education classroom and to be implemented by the general education teacher. Table 6.1 is a brief overview of the purpose of the tiers, which will be discussed in more detail below.

Table 6.1 Overview of Tiers in RtI

Tiers	*Definitions*
Tier 1	All students receive research-based, high-quality, general education instruction that incorporates ongoing universal screening and ongoing assessment to inform instruction.
Tier 2	Intervention is implemented when assessment indicates that a student is not making adequate gains from Tier 1 instruction alone. In addition to Tier 1 instruction, students are provided small-group interventions designed to meet their specific needs. These students are progress monitored weekly or every other week using a tool that is sensitive to measuring changes in the student's individual skills.
Tier 3	More intensive interventions are provided to students who have not made significant progress in Tier 2, who are more than 1.5 grade levels behind, or who are below the 10th percentile. These students are progress monitored weekly or every other week using a tool that is sensitive to measuring changes in the student's individual skills.

Starting RtI

Starting this initiative is no easy task. There must be a strong backing and commitment by the leaders at the district or local agency level. Once the initial support is obtained, a team of leaders should be formed. Ideally, team members would include some of the following, if not all: principal or vice principal, lead teacher, school psychologist, social worker, school counselor, special educator, behavior analyst, parent advocate, and interventionist. Once this team is formed, meetings should take place to agree on how to launch the initiative. Regardless of how the initiative is begun (i.e., a kick-off meeting with staff only, a pep rally including students, a parent–teacher meeting, etc.), one of the first steps is to get the whole school or district, depending on the situation, excited about the plans. Excitement is easily gained by sharing other schools' success stories in the form of testimonials, sharing data of the grim future if academic readiness is not achieved, sharing the satisfaction that will come from being a teacher who is able to focus on teaching and less on paperwork, or having a brainstorming session to ensure buy-in and ownership from all parties. It is important to assign a point person to be the contact so that he or she is able to spend a large portion of time on ensuring success from implementation to data collection to follow through; from one tier to the next with pre-determined criteria for movement through the tiers. A flowchart for setting up RtI is found in Figure 6.2.

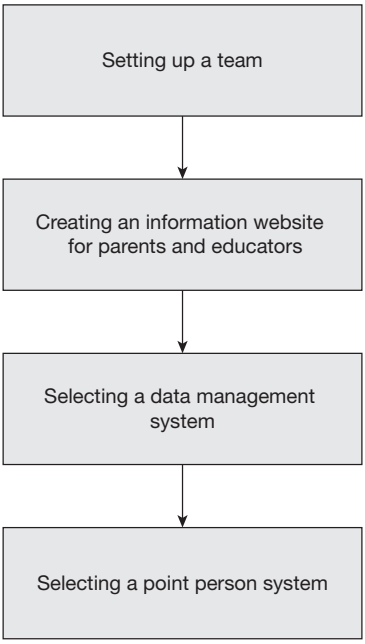

Figure 6.2 Setting up RtI

Tier 1

Tier 1 is a time for the teacher to build the basic classroom foundation and to begin universal screenings of all students. If done correctly, this tier is designed to accommodate the majority of the students in the classroom. The foundation of the tiered pyramid is truly based on best pedagogical practices and the use of the academic strategies referenced in Chapter 5. These include: appropriate pacing of instruction, utilization of direct instruction practices, and increasing opportunities to respond (OTRs). The true focal point in Tier 1 is for the teacher to rely on evidence-based practices and effective teaching so that if and when a child is unsuccessful, it is not due to poor instruction or lack of opportunity, but rather the need for more intensive support than this first tier can offer. In the case of Solomon, if the teachers had been graphing gains and losses, they may have seen the downward trend before Solomon felt the need to increase behaviors to escape the work. Furthermore, if the teachers were incorporating a large amount of OTR, the teachers may have noticed that Solomon was falling behind his peers, particularly if his overt responses were incorrect. In this first tier, if the teacher does not embrace the model fully and evidence-based practices are neglected or implemented with low fidelity, then MTSS is not successful and students will

begin to slip through the cracks. Once a student is identified as struggling, the MTSS team is responsible for determining appropriate measures based on classroom observations of teacher practices and peers, as well as progress monitoring of both classwide and individual trends.

There are proposed steps for moving between tiers; however, best practices for moving between tiers suggest that the primary, overall focus be on objectivity in the decision-making process. Second, determine, either as a school or district, how objective decisions will be made. In other words, will you rely on a certain percentage below the aim line (refer to Chapter 5 for a visual graphic of an aim line for academic growth), a pre-determined amount of data points with a downward trend, evidence of no growth from baseline (e.g., baseline trends continuing), or a certain amount of separation in the target child scores from the rest of the class scores? This last reference to class comparison would be particularly useful in decision-making from Tier 1 to 2.

Tier 2

Tier 2 would include small-group academic work and peer pairings during a specified instructional time focused on a specific academic area. This tier would also rely on researched evidence-based interventions to home in on the area or areas in need of remediation. Best practices suggest that this additional time not be during another key academic subject area as missing another area may result in academic loss there, too. Rather, the teacher should select a time during the target deficit area to coordinate efforts for directed and focused intervention. Generally, this tier will be small group-based and include the students who are struggling. However, while these students are working collectively as a group to remediate their skills, if the intervention does not involve the rest of the class it is suggested that the other students also form groups. This formation of multiple groups is aimed at not creating distractions and intended to minimize any negative social connotations that may result unintentionally. After small grouping with specific academic focal points, if gains are not evident then movement to Tier 3 may be warranted.

Movement through tiers is one of the more challenging concepts. Thus, ample time should be devoted to setting up guidelines for troubleshooting when students are not successful and how and when you objectively determine movement out of one tier and into the next. Movement between tiers should represent a change in some dimension of teaching or of the intervention (i.e., intensity, frequency, duration). It is recommended that only one dimension change at a time. If multiple elements are altered, it is difficult to discern which change made the difference or whether it was the combination of the changes. The more systematic the changes, the better

Hints for Moving Tiers	Yes	No
Was implementation done with fidelity?		
Was attendance a factor?		
Are there other relevant data that need to be considered?		
Should the intervention provider change?		
Should the composition of the intervention group be altered?		
Should intervention frequency change?		
Should the intervention program change?		
Has it been done long enough to warrant change?		

Figure 6.3 Checklist for Movement Between Tiers

for all involved and the easier it is to determine which elements are key and which can be decreased with time. Figure 6.3 provides suggestions in a checklist format that can be used to decide whether it is time to progress to the more intensive Tier 3.

Tier 3

In most RtI models, the final tier, or Tier 3, would be considered the most intensive, with more individualized supports in the classroom based specifically on the individual student's present level of performance. These supports would have an increased focus on unique academic skill deficits. This tier may also involve pull-out sessions with a teacher who specializes in the area of need. However, it should be noted that each of these tiers may only be successful if the interventions selected are evidence-based and if the implementation of the intervention is conducted with high levels of fidelity. This tier, like all other tiers, should be closely monitored with formative assessments, data should be graphed, and gains and losses should be looked at daily or, at a minimum, no more than two sessions should be conducted without graphing so that slight modifications can be made to the intervention. If the child is unsuccessful at this last tier, it is time to look into the root of the delay, with a closer examination to rule out and/or diagnose an organic issue, intellectual disability (ID), or specific learning disability (SLD). If it is suspected to be an ID or SLD, a referral to a psychologist or medical doctor may be needed. After the battery of tests conducted by a professional, if it is deemed an SLD or ID then the assessment results should be reported to the school so that strategies and long-term academic plans can be made for the student and family if appropriate.

MTSS Behavior Side

Early educators often report feeling ill-equipped and ill-prepared to deal with challenging behaviors and frequently state that much of their day is spent dealing with the behaviors of a few, while the rest of the class is left with little time devoted to their needs (Fox, Dunlap, Hemmeter, Joseph, & Strain, 2003). Thus, it is often thought that all academic tiered movements should have a comparable behavior counterpart. This notion prevails because without the behavioral counterpart, the majority of the class time becomes devoted to disciplining the few squeaky wheels, which leaves less than adequate time to teach the students who are engaged. In addition, not knowing how to manage behavior effectively will directly impede the target child's learning due to him/her missing instructions related to the assignment, not being in the room during academic time due to removal from the class, and—worst case scenario—missing instruction due to suspension or expulsion.

Suspensions do occur in the early years and the stats are actually quite alarming. In fact, in a joint publication by the DEC of the CEC, the National Association for the Education of Young Children (NAEYC) and NHSA, it is reported that close to half of all preschool teachers have suspended a child. Furthermore, in a 2008 study by the American Psychological Association (APA), a zero tolerance task force statistically examined many factors related to expulsion. One of the areas they examined was the rate of expulsion for pre-kindergarten students to k–12. In this comparison, it was noted that preschool children were expelled at a rate that was 3.2 times higher than the national rate for k–12 students per 1,000 students. In this study, specific demographics were also discussed based on the population on which they focused. The findings related to demographic variables revealed that older preschoolers were expelled at a higher rate, with five- and six-year-old children being almost twice as likely to be expelled as a four-year-old. Retentions and children who were held back for parental reasons, despite being eligible for entry into kindergarten, may confound this finding. Of particular interest was the finding that teacher access to mental health or behavioral supports was negatively correlated to relative rates of expulsion—limited access to support resulted in more expulsions.

While the simple fact of removing a young child from a classroom is upsetting, even more disappointing is the strong evidence suggesting that suspension and expulsion have far-reaching negative outcomes that go well beyond the early years. However, if more supports can be offered to teachers early on, then theoretically the correlation can change directionally, as it is logical to accept that the more supports are provided, the fewer expulsions will occur. This is where MTSS for behavior comes into play. Again, as with the academic MTSS, there are many different terms in the field of education for the behavioral tiered model, such as RtI-behavior, RtIx2, RTI-squared, RTI-cubed, and so on. However, the most prevalent version is the positive

behavior supports model as discussed earlier, so this is the terminology that will be focused on within this chapter.

Positive Behavior Supports

Positive behavior supports should be a mirror image to the academic tiered counterpart. The premise of the behavior side of the MTSS is the same as the academic: to prevent problem behaviors by being proactive, not reactive. Not only is the PBS movement one of changing behavior at the individual level, but it is also a movement to change the behavior of teachers and staff while strategically arranging the environment too. According to Carr et al. (2002), PBS emerged from three major sources: (1) applied behavior analysis, (2) the normalization/inclusion movement, and (3) person-centered values (p. 5). In other words, PBS seeks to alter the school as a whole from the architecture of the classroom to incentives for teachers and students for appropriate rule following, all of which results in an overall positive place to work and learn. While punishment procedures do work in terms of immediately reducing the unwanted behavior, punishment does not teach a replacement behavior. In other words, the unwanted behavior will subside immediately following the punishment and may not even return. By definition, a true punishment decreases the probability of the undesired behavior occurring in the future. While the absence of inappropriate behavior is desirable, a complete absence of behavior is not always the goal. In fact, exhibiting the appropriate behavior is the goal and often this desired behavior needs to be taught, rewarded, and encouraged over time. Ultimately, reactive and punishment measures by themselves are not sufficient in creating and sustaining a nurturing or safe environment, and actually if over-used can decrease the school's level of academic engagement for all students through the creation of an authoritarian system of control (Sugai & Horner, 2002).

Because the ultimate mission of the educational system is to keep children in schools, reliance on expulsion negates this mission and potentially inadvertently reinforces escape-maintained behaviors (see Chapter 4 for a review of functions of behaviors and then re-consider the case of Solomon). If every time a new activity was initiated Solomon had a meltdown which resulted in time-out then eventually suspension, his behavior was actually reinforced as he was allowed to escape the difficult task. However, more alarming than reinforcing his behavior is that the out-of-school suspension denied him the opportunity to be exposed to the new material, learn the new concepts, and work through his struggles in a meaningful way. This juncture of inappropriate consequences, removal from academic work segments, and the lack of reinforcement of appropriate behavior is where PBS comes into play.

Starting PBS

Best practice is to launch both RtI and PBS district-wide. This will create a large system of support and an even larger support team that expands beyond the immediate needs of individual schools, creating continuity for children as they matriculate from the early years to grade school and up through high school. The rationale behind large-scale, district-wide PBS is to not only have continuity, but to build on early learning by setting clear behavioral expectations from a very young age that do not differ across classroom teachers nor across grades. Behavioral expectations can be explained as general, broad goals that all children are expected to follow. However, if district-wide is not an option, focusing on school-wide initiatives is still advantageous. As with RtI, a team with key personnel from diverse educational backgrounds must be created to successfully implement PBS. According to Crone and Horner (2003), a team approach with a basic organizing structure will achieve multiple goals by remaining focused on an objective and keep momentum for moving forward toward measurable outcomes.

This team will ultimately be responsible for setting the stage, gaining interest and buy-in from teachers, and then getting the school ready to roll it out. A suggestion to aid with the roll-out is to appoint a key person who can each devote a significant amount of their day to the PBS initiative. A first assignment for this lead person would be to work with the team to create rules for each area within the school based on the behavioral expectations. According to the IRIS Center for Training Enhancements (2014), rules should be objective, behavior-specific, describing what to do, written with appropriate language for age, and short. Rules should also be based on the school-wide expectations. Writing rules is an essential component and should be pertinent to the area(s). When writing rules, best practice also suggests that rules are written in a positive manner (e.g., what to do rather than what not to do), kept to a minimum of five, and visibly posted for the students to regularly refer to.

In this scenario above, Solomon was expelled for behavior while his academic performance was on the decline. Neither the timing nor the choice of removal was appropriate, but couple this with the lack of preparation the teachers put into preparing for the school year and the case scenario is a recipe for disaster. If Brookfield were to adopt a PBS plan and create some classroom rules for the Brookfield Bears, they would be headed along a much better trajectory. While his academics are probably the root of the problem, the behavior is what sent him packing. Having rules based on the mascot would be one easy way to create rules that preschoolers could remember. Some guidelines for creating rules include limiting the number of rules to 3–5 per area, having rules for all school areas, being consistent from one area to another while falling under the guidelines of the overarching school rules, and using positive statements. Examples of correctly and incorrectly written

Table 6.2 Examples of Rules for Multiple Areas

	Appropriately written rules	*Poorly written rules*
Hallway rule	Walk quietly	Do not run
Classroom rule	Raise your hand to answer questions	Do not shout out the answer
Lunchroom rule	Keep your hands to yourself	Do not touch anyone else
Circle-time rule	Sit in your spot on the floor	Do not lie down

rules can be found in Table 6.2, which has examples of rules for the hallway, the classroom, the lunchroom, and circle time.

Tier 1

The first tier in the PBS movement is the whole-group initiative. This tier sets the stage for all children by creating rules that clearly follow the behavioral expectations, which have been set school-wide. Posting the rules in many locations in the classroom, with particular emphasis on having area-specific rules visible in the area where they are expected, is key. Furthermore, posting 3–5 area-specific rules throughout the school, specific to the setting (e.g., lunchroom, hallway, bathroom), will also be beneficial to both teachers and students. Best practice encourages the PBS team to explicitly teach, review, and rehearse to the class examples and non-examples of the topography of the behavior. This is also the time when appropriate consequences should be discussed and posted next to the corresponding rules. Specifically, there should be consequences for appropriate, as well as non-appropriate, behavior that ideally would be consistent across locations and potentially across grades, as deemed appropriate. Teacher behavior is also important as behavior is imitated. As a teacher, praise needs to be frequent, meaningful, and specific. It also needs to occur more often than reprimands. Utilization of praise sets the tone for a positive class. According to Paine (1983), there are different types of praise that can be effective in the classroom. These types include: nearby praise given in close proximity; across-the-room praise delivered to students that are somewhat distant; praise while helping another student; and praise while teaching. In addition, Paine describes good praise as positive comments that follow the if–then rule, includes the students' names, describes the behavior that is being complimented, is genuine in nature, varied, and non-disruptive to the class. In essence, good praise should be delivered with purpose, meaning, and so frequent that it does not shock the student when they hear a positive statement.

Hints for Tier I	Yes	No
Visual daily schedule		
Rules and consequences posted		
Only 3–5 rules, which are positively stated		
Use of timers (including visual timers)		
Transition countdown and songs to prepare for change		
Individual cubbies with names		
Stations and centers already prepared for the day		
Utilization of 3:1 ratio of positive statements to reprimands		
Classroom organized so the teacher can move freely throughout		

Figure 6.4 Strategies for Tier I (Behavior)

As a teacher, you can use a checklist similar to the one described in Figure 6.4 to assist you with classroom organization.

However, if the child does not have success in Tier 1 then a move to Tier 2 may be warranted. The notion of not being successful is a difficult one and should be an objective decision-making process based on data collection. Behavioral data could be collected by simple tally marks (e.g., frequency count) or time sampling, where at predetermined time intervals a mark is made to indicate off-task or on-task. Best practice would suggest that a member of the MTSS team assess the classroom monthly using an environmental checklist to ensure rules are visible, and by doing a class-wide behavior form to gauge the class as a whole, not just the targeted child. The environmental checklist should include all items from Figure 6.4, at a minimum. In addition to these suggestions, Glasberg (2008) provided strategies to prevent challenging behavior from escalating, which included offering choices, providing plenty of access to preferred items, keeping days interesting, building strong communicative skills, picking your battles, and respecting the individual's right to be an individual.

Tier 2

Similarly to the academic MTSS, Tier 2 in PBS is the time when small-group interventions would be used in addition to those foundational rules that were put into place in Tier 1. In Tier 2, interventions could be some basic behavioral strategies such as differential reinforcement (DR; see Table 6.3 for examples and types of DR), non-contingent attention, where attention is delivered on pre-determined time intervals, and overt behavior-specific praise statements to students who are engaging in appropriate behaviors and no delivery of praise to those off-task.

Table 6.3 Types of Differential Reinforcement

Term	*Definition*	*Suggestions/examples*
Differential reinforcement of alternative behavior (DRA)	Providing reinforcement for a more appropriate behavior	Heavily praise the alternative behavior and do not praise the maladaptive behavior
Differential reinforcement of incompatible behavior (DRI)	Involves reinforcing a replacement behavior that is incompatible with the problem behavior	Teach a student to raise his hand instead of slamming his hands on the desk. The act of raising one's hand is incompatible with hitting the desk
Differential reinforcement of other behavior (DRO)	Reinforce whenever the problem behavior has not occurred during or at a pre-determined specific time	Give a student praise when he/she is not screaming within a pre-determined time frame. Be careful not to accidently reinforce another undesired behavior by using behavior-specific praise

In addition to these strategies, more structured interventions like the Good Behavior Game (GBG) can be incorporated, if needed. The success of the GBG is well-researched, dating back to the late 1960s (Barrish, Saunders, & Wolf, 1969), and within the past decade was referred to as a behavior vaccine (Embry, 2002). GBG is based on the principle of group-oriented contingency and works by dividing the class into teams competing against each other to earn points that result in reward for the winning team. There are many ways to structure the game and keep points, so there is flexibility for the teacher to cater it to the individual class needs. It is suggested that the game be kept to a certain period of the day and not run throughout the course of the day. During Tier 2, it is still essential that ongoing data be collected so that one can be sure that the move to Tier 3 is necessitated (refer to Figure 6.3 on page 112 for criteria to review before making a move to the tertiary level).

Tier 3

Tier 3 is focused on individualized interventions and is the time that a functional behavioral assessment (FBA) would be conducted (refer to Chapter 4 for a discussion on FBA). At this time, the individual would be assessed using the procedures described in Chapter 4, a behavior intervention plan (BIP) would be created based on the function of the behavior, and the

intervention would be implemented and assessed for appropriateness. Behavior intervention plans should be individualized specifically for the targeted student. They are best when the following items are considered: all behavior is taken into consideration; all parties involved in the student's life are interviewed; medical needs are noted; previous interventions are noted to document that all tiers were appropriately implemented and that previous tiers were deemed not effective; interventions are now based on functions identified from the FBA; preferences are determined and utilized when appropriate behavior is demonstrated (refer to Chapter 2 for conducting a preference assessment); and troubleshooting ideas are listed to help support the teacher. Interventions should also ideally be suggested across the ABCs of behavior to allow the teacher some flexibility and ownership to select the most appropriate intervention for the student. Table 6.4 outlines suggestions for simple function-based interventions.

As the child ages, he or she may begin to play a role in the BIP. According to Glasburg (2008), the individual should be involved in creating the behavior plan and, if possible, answering questions such as "When are you most likely to do this problem behavior?" or "When are you less likely to do this problem behavior?" The rationale behind the student being actively involved is that the student knows him/herself better than the intervention team does and he/she will also be more likely to cooperate if they are an active participant in the plan. Specifically, if you explain the consequences for each behavior to the student, this can greatly speed up the process of treatment.

Table 6.4 Examples of How to Intervene Based on Function

Function of behavior	*Antecedent interventions*	*Replacement skills*	*Consequence interventions*
Escape/ avoidance	Alter the demand; eliminate the cue that triggers the behavior or add predictability to the demand	Teach the individual to appropriately ask for a break	Use differential reinforcement
Attention	Provide attention regularly	Teach the individual to make an appropriate request for attention	Ignore undesired behavior
Access to preferred item/tangibles	Allow access to desired item/activities throughout the day	Teach appropriate requesting	Deny access contingent upon inappropriate behavior

Summary

It is well documented that academic and behavior problems occur together and that one may lead to the other. As a result of the circular nature of academic and behavior issues, MTSS have been designed to prevent and decrease the occurrence of academic as well as behavioral concerns. The strategic design in the pyramidal approach ensures that best practices are utilized from day one, across the school system, by educating teachers on evidence-based approaches, and with high levels of fidelity by having an ongoing data collection system in place. The utilization of a team approach helps to guarantee that agreement occurs at all levels and that multiple people become stakeholders who are each intrinsically invested in the MTSS. If appropriate efforts are invested at the outset, the team approach is utilized, and the school-to-parent communication is transparent. The MTSS traditional k–12 tiered structure is easily adaptable for early childhood. While growing pains may be experienced early on and personnel and parents may offer initial resistance, the long-term benefits of not relying on punitive measures, taking time to intervene at multiple levels to varying degrees, and having an individualized approach for the students who are not successful in the first two tiers are worth the investment of both time and energy.

Discussion Questions

- What is MTSS?
- Why is MTSS an effective approach?
- What suggestions would you provide to a school district wanting to embrace MTSS in early childhood?
- How would you address parental resistance to a tiered approach?
- What are some suggestions for encouraging other early childhood teachers to buy into an MTSS?
- Based on what you've read, work with a partner to create classroom rules for three different environments.
- You encounter a principal who only wants to implement the academic side of MTSS; what do you counter this argument with?

Chapter 7

Successful Toileting Strategies

Overview

This chapter will focus on recognizing toileting readiness skills, reinforcing pre-toileting behaviors, and providing a supportive environment for successful toileting. A basic toileting instructional sequence will be provided which parents could implement at home. Also, terminology related to elimination disorders will be defined and some effective treatments for elimination disorders utilizing behavior treatment approaches will be provided.

Material and Techniques to Learn

- Become familiar with common toileting issues for young children
- Recognize indicators of toilet readiness displayed by young children
- Understand how toileting issues should be assessed
- Describe some of the common techniques used to promote proper toileting

Case Scenario

Daniel is a six-year-old boy who has been experiencing some considerable frustration because he has not been able to stop wetting his bed at night. He doesn't wet his bed every night, but it does occur approximately 3–4 times each week. Daniel gets embarrassed about his bedwetting and wants it to stop very badly, not only because it requires him to change his clothes and bedding in the middle of the night, but also because he wants to have a sleepover at his friend's house, but he is afraid to because he does not want to wet the bed and have his friend know. Daniel's mother is worried that something is really wrong with Daniel and that he may have some underlying physical condition or possibly a psychological condition that is causing him to wet his bed. She also believes that the toilet training method that she used with Daniel may have caused him to start wetting his bed. She has talked to her family and friends about the bedwetting and they have told her to limit the amount of liquid he drinks

in the evening regardless of how thirsty he may say he is feeling. Other family and friends have told Daniel's mother that she should make Daniel clean up his wet bedding and clothes by himself and also start taking away some of his favorite toys unless he keeps his bed dry at night. Other family and friends have said that he should be taken to a psychologist because bedwetting is a sign of an underlying psychological problem. Daniel's father believes that Daniel will grow out of the bedwetting because he experienced the same thing himself and he eventually outgrew the bedwetting.

Questions to Consider

- Whose advice should be followed in order to help Daniel with his bedwetting?
- Is bedwetting a major issue for Daniel? Should he just wear special underwear to keep his bed from getting wet?
- When should a child be expected to stop bedwetting?
- What are the social implications of bedwetting for Daniel?

What are Common Toileting Issues in Young Children?

Everyone has some type of toileting issues during a lifetime. For young children, toileting is an important issue because this is the time when they are expected to learn how to toilet appropriately. Infants are totally dependent upon another person to care for their toileting needs, but as they grow older those around them begin to place expectations on them regarding independent toileting. Parents are usually one of the first to want to see the child become independent in their toileting. There are several reasons why children are expected to acquire appropriate toileting skills and many of these may not necessarily be focused on the individualized needs of the child. Figure 7.1 provides a summary of some of the factors that may influence parents or others to feel toilet training is necessary. In some cases, parents may simply want relief from the chore of changing diapers. In other cases, parents may believe that their child is getting behind on a developmental milestone. Other influences may involve relatives' comments about how the child needs to be potty trained or accounts of relatives describing how a different child was potty trained at such an early age.

Influences can also come as a type of competition, where a friend or relative describes how they trained their child of the same age. Also, parents may be influenced by fear when relatives or others tell them that if they don't start potty training right away, they will miss out on this window of opportunity and the child will never learn to toilet themselves appropriately. In addition, parents may be told by certain day-care facilities that in order for their child to be admitted, the child must be toilet trained. All of these

- Attempting to avoid thinking of themselves as a "bad" parent
- Fear that their child will become delayed
- Beliefs that their child is highly advanced
- Comments from friends
- Comparing their child with a child of similar age
- Listening to perspectives from extended family
- Fear of missing the best opportunity for training
- Relief from changing diapers
- Competition among parents
- Pressure from day-care facilities
- Child health factors
- Child cleanliness
- Child interest in toileting
- Child avoidance of toileting
- Child attention span
- Child temperament

Figure 7.1 Factors That May Influence Parents' Opinions on Toilet Training

factors can put pressure on parents and cause them to feel the need to rush their child into potty training in order to escape from all of the comments and pressures being placed on them, and to help them avoid feeling like a "bad" parent. The pressure and frustration that parents place on themselves has been known to lead to very unpleasant experiences and in some cases even violence toward the child (Hamdi, Senol, Arda, & Cansu, 2014). In many cases, all of these pressures get targeted toward the child who may not believe there is anything wrong with their current toileting practices.

All of the influences on toileting described thus far have relatively little to do with the specific needs of the individual child. They are instead various societal or parental influences. When looking at the needs of the individual child there are some other factors that can make toileting an issue. These may be referred to as child-specific factors influencing toileting and are also listed in Figure 7.1. These include health factors, such as a child who may be prone to dehydration or constipation and needs to have a specific toileting routine.

In some cases young children may want to acquire toileting skills in order to be more like their peers who have such skills or just to avoid wearing diapers, or to avoid having wet pants, etc. For children who have disabilities, toileting may be a skill that allows them to attain a feeling of competence and be more accepted by their peers.

Toileting Readiness Skills

The age at which toilet training takes place is an important issue to discuss. Many different opinions exist on this issue. Much has been written about initiating a toilet training program before a child reaches a certain age in order to avoid resistance to training by the child and to avoid more toileting issues/disorders associated with toilet training that occurs late. These concerns have led to many recommendations to train children as early as possible, but this may also not be the best recommendation. Recent research by Hodges, Richards, Gorbachinsky, and Krane (2014) has found that early toilet training (prior to 24 months) and late toilet training (beyond 36 months) were both associated with an increase in elimination disorders. They described how the bladder requires a period of development before potty training begins and that beginning potty training late is often associated with constipation. Given these findings, there does appear to be a "window of best opportunity." This window exists between two and three years of age. This may seem like a brief period of time to conduct toilet training, but a tremendous amount of development can occur in the life of a young child within the span of a year. Also, the fact that a child turns two years old should not be the sole factor toward making a determination that toilet training should begin. Other factors, such as the child's readiness to begin training, should be considered as each child develops at his or her own pace and programs should be individualized for each child.

One of the most important factors for developing a successful toileting skill program involves the recognition that a child is ready to begin toileting skills. While some programs may not emphasize the need for readiness skills, the point of view taken in this chapter is that a typically developing child who has begun to take an interest in toileting will be more motivated to begin a toileting skill program and it will be easier for a teacher or parent to maintain that motivation once the program is implemented.

An easy way to determine whether a child is displaying toileting readiness skills and to evaluate the extent of the child's readiness is to use a checklist. Kaerts, Van Hal, Vermandel, and Wyndaele (2012) conducted a review of the literature on toilet training and found a total of 21 different toileting readiness skills. They concluded that there was no consensus on the varying importance of readiness skills or on the number of toileting readiness skills a child should display before initiating a program. Given the lack of consensus on the subject, Figure 7.2 provides a brief 10-item checklist of some toileting readiness skills that can be completed by a teacher or parent to provide some insight into how ready a child may be for beginning a toileting skill program. In general, the more readiness skills a child displays on the 10-item checklist, the greater the extent to which the child appears to be ready to begin a toileting program.

Directions: Place a check mark next to each toileting readiness skill that a child displays. If the child does not display the skill then do not put a check in the box next to the skill.

Toileting Readiness Skill	Check ✔
Child shows an interest in the potty (asks about potty, watches others use potty, wants to touch potty, etc.)	
Child demonstrates the ability to model the behavior of others	
Child is able to use words related to the potty	
Child is able to pull pants up and down	
Child wants to wear underwear instead of diapers	
Child is able to follow simple directions ("Go get the toy train and bring it to me")	
Child is able to sit still with minimal adult prompting for 2–3 minutes	
Child is able to wait patiently for a brief time when told they will receive a reward	
Child is able to put away their toys and clean themselves with assistance (wash face with a washcloth, etc.)	
Child can report to adult when they need a diaper change	
TOTAL # of check marks	

Figure 7.2 Brief Checklist of Toileting Readiness Skills

Some of the most important readiness skills that caregivers can look for may involve a child showing an interest in using the potty. Some children may explicitly indicate that they want to use the potty while others may show some curiosity about the potty. Other children may express that they want to wear underwear instead of diapers or pull-ups. In addition, some children will tell an adult that they feel uncomfortable and need to have their diaper changed. These are some signs that a child may be motivated to begin a potty training program.

Developing a Successful Toilet Training Program

Toilet training programs have typically been categorized into two different types, depending on the primary approaches underlying the program. One category of toilet training programs that have become very popular utilizes a child-oriented approach. These programs rely on recognizing readiness skills and waiting until the child is ready to self-initiate toileting with guidance and support from a caregiver. These put the focus on the child and not on the parent, thus hopefully decreasing the likelihood that parents place unnecessary expectations on the child.

One of the most popular of these child-oriented programs was developed by Brazelton (1962). This program emphasizes a self-paced process whereby the child becomes increasingly more interested in sitting on the potty using loosely structured procedures. In addition, more opportunities are provided to access the potty, the child is told to go to the potty whenever they like by themselves, and diapers are removed for increasingly longer periods of time. The pace of this program is determined by the child's self-initiated accessing of the potty and uses shaping procedures building on pre-requisite skills similar to those discussed in Chapter 5 to assist the child along the way and ensure the child is making progress on their own time.

A second type of potty training program has been referred to as having a parent-oriented approach. These programs are more focused on allowing the parent to set the pace for teaching the skills necessary for toileting. In general, these approaches to toilet training are considered to follow a behavior analytic approach to potty training by using highly structured procedures and involving more rapid training methods.

The most well-known of these parent-oriented toileting programs was developed by Foxx and Azrin (1973) and incorporates a rapid method for teaching toileting skills. This method of potty training involves directly teaching the child to sit on the potty and requiring the child to go to the potty on a very frequent schedule initially. Praise and rewards are offered for sitting on the potty and reprimands are used when the child has an accident, along with a requirement to repeatedly practice appropriate toileting. This is an intense teaching procedure that incorporates several other features such as increasing liquids, scheduling potty sitting, positive practice, etc. This program is designed to develop toileting skills in less than a day.

While both of these methods have been shown to be effective for teaching potty training, there have been numerous variations of these types of programs that have been proposed in order to make the procedures easier to implement or to make the procedures more acceptable to the parents or caregivers implementing the programs. Colaco, Johnson, Schneider, and Barone (2013) compared child-oriented and parent-oriented toilet training programs to determine whether either of these methods was connected to any long-term dysfunctional voiding issues. They found that neither toilet

training program was associated with an increase in later dysfunctional voiding and recommended that parents be informed that both of these methods were acceptable options.

The toilet training program that is described within this chapter is an attempt to offer a bridge between the child-oriented and parent-oriented approaches. The approach is intended to follow the best practice standards described within the NAEYC standards and utilize behavior analytic strategies throughout. Figure 7.3 provides an outline of the toilet training procedures. The procedures are described below in detail. While the program is written

Step #1
- Look for presence of toileting readiness skills around the age of two years (refer to Figure 7.2 checklist).

Step #2
- Begin toilet training in the morning at a time with at least 2–3 days where the child can remain close to a potty and gather several preferred items to use as rewards for the child, such as stickers, favorite toys, etc. In addition, have a supply of the child's favorite drink available and a stuffed animal.

Step #3
- Place the child in underwear and easy to pull on and off pants. Have several extra pairs of both available.

Step #4
- Bring the child into the area where the potty is located and use the stuffed animal to demonstrate using the potty. Reward the stuffed animal. This can be repeated as often as deemed necessary.

Step #5
- Have the child sit on the potty with clothes on and immediately reward sitting.

Step #6
- Have child remove pants and underwear before sitting on potty. Immediately reward the child for sitting on the potty. If the child moves away from the potty, then remove or stop the reward. The child should sit on the potty for no longer than five minutes at any one given time without standing up and taking a break from sitting.

Step #7
- Repeat having the child sit on the potty for rewards multiple times throughout the day and subsequent days until the child successfully uses the potty. If the child has an accident, help the child clean themselves and have them immediately sit on the potty and earn a reward.

Figure 7.3 Outline of a Simple Toileting Program Using Behavior Analytic Techniques

primarily for parents who are interested in a quick method of toilet training, the procedure could be modified for implementation in a day-care setting. This would require several modifications to the program in order to account for the daily practices and requirements of a day-care facility, and it is recommended that parents and day-care staff work together to ensure that both are aware of the toilet training techniques that each are utilizing. Kaerts, Vermandel, Van Hal, and Wyndaele (2014) reported on a survey of Flemish parents that indicated that 74% of parents believed that parents and day-care workers were equally responsible for toilet training, but 40% of the parents reported being unaware of what toilet training techniques the day-care staff were utilizing. This indicates a potential need to ensure that parents and other caregivers work closely together to avoid giving the child mixed messages about toileting routines and expectations.

Before beginning a toileting program it is always advisable to have the child visit their pediatrician and discuss the initiation of the toileting program with the pediatrician. The pediatrician can provide recommendations on any existing medical conditions and potential problems that could arise. In addition, if a parent or caregiver feels uncomfortable implementing the program it may be beneficial to seek out someone who has implemented toileting programs before and who is highly familiar with the program. It may be helpful to have this person present while implementing the program so that they can coordinate the program and offer direction to the parent or caregiver implementing the program.

Toileting Program Step #1

The first step in toilet training should be to consider the toileting readiness skills the child is displaying. As mentioned previously, there are numerous readiness skills that have been described in the literature, but a very simple method for examining readiness skills can be accomplished by completing the checklist provided in Figure 7.2. It may also be helpful to have more than one person who knows the child well complete the checklist for comparison. Also, as mentioned earlier, it may be optimal to look for these readiness signs between approximately two and three years of age. If the child is displaying several of the toileting readiness skills, then it may be assumed that the child is a good candidate for a toileting program.

Toileting Program Step #2

The second step in initiating a toileting program is to set a date and time to begin the program. This is a very important step because this toileting program requires a great deal of attention and effort on the part of the parent or caregiver, but should provide quick results. If the parent or caregiver is not willing or able to put forth the time and effort required to implement

the program then they should admit this and possibly choose a different toileting program. The parent or caregiver should not feel bad about themselves if they are unwilling or unable to implement a rigorous toileting program as it is better to choose a program that will be implemented rather than attempt a program that they know the child will not continue and complete. The toileting program described here is rather intensive and is not necessarily appropriate for every caregiver, parent, or child.

Once a time and date have been set to begin the toileting program, it is necessary to do several things to arrange the environment in order to support successful acquisition of toileting skills. The parent or caregiver needs to be very aware of several things that are highly rewarding to the child and that can be used to reward the child. One important reward that should be offered is a favorite drink, such as juice, possibly in the child's favorite cup. By offering a drink as a reward, the child is getting fluid that should lead to an increased need to urinate and, thereby, creating more opportunities for the child to use the potty. In addition, a stuffed animal or highly preferred item should be made available for demonstrating how to use the potty. When delivering the toy be sure to clearly associate the access to the toy with successful demonstration of toileting.

Other potential rewards might include stickers that the child can place on a rewards chart and preferred small toys that a child could play with while sitting on the potty. All of the materials to be used as rewards should be kept near the potty and the child should not be allowed to access them unless they are complying with the toileting program. The child should not be allowed to take any of the reward items away from the potty area. Another important consideration is that the areas outside of the potty area should not include preferred items that the child could play with when away from the potty. All areas away from the potty should be kept relatively free of toys or other interesting items. For example, if a child prefers juice to water then the juice should be used for complying with the toileting program and only water made available at times away from the potty.

The rationale here is that the area away from the potty should be made very uninteresting for the child and the area around the potty made highly interesting for the child. This may also be accomplished by differing the attention given by the adult to include a great deal of attention when the child is complying with the toileting program and less attention when the child is away from the potty. Adults may give praise whenever the child complies with the toileting program and engage the child in other activities such as singing a song or playing patty-cake while the child sits on the potty.

Toileting Program Step #3

Once the environment is arranged, Step #3 is to remove any diaper or pull-up that the child is wearing and replace these with underwear and pants.

The pants should be easy for the child to pull on and off. There should also be several additional pairs of underwear and comfortable pants readily available to use whenever the child has an accident. It is also important to have any materials needed to clean the child readily available.

Toileting Program Step #4

Step #4 involves bringing the child into the potty area and using the stuffed animal to model how to use the potty. It might be helpful to place a pair of underwear and pants on the stuffed animal and show the child that the stuffed animal needs to remove these before sitting on the potty. You may also pretend to reward the stuffed animal for sitting on the potty. The child should not participate by manipulating the stuffed animal or by rewarding the stuffed animal, only the adult should manipulate the stuffed animal during the demonstration. If the child wants to manipulate or reward the stuffed animal then the child should first demonstrate sitting on the potty themselves and the stuffed animal can then be used as a reward given to the child for a brief amount of time.

Toileting Program Step #5

Step #5 involves having the child sit on the potty without removing their clothes. If the child wants to remove their clothes then they should be allowed to do so. Either way, once the child sits on the potty they should be immediately although briefly rewarded.

Toileting Program Step #6

Step #6 requires having the child remove their pants and underwear and sit on the potty. Once the child sits on the potty they should immediately be given some form of reward such as praise, preferred toy, preferred activity, etc. The reward provided should only be made available to the child for a very brief period of time unless they remain sitting on the potty. If a child moves away from the potty then the toy should be removed or the song or game stopped.

Toileting Program Step #7

Step #7 involves repeating the process of having the child sit on the potty numerous times throughout the day and subsequent days until the child successfully uses the potty. Diapers or pull-ups should not be used during the daytime, but may be used during the nighttime or during naps. If the child has an accident, help the child clean themselves and have them immediately sit on the potty and earn a reward. Do not punish the child for accidents or for failure to comply with the toileting program.

Although this toileting program only has a few steps, and may appear simplistic, it can be successful if the program is maintained. This program does not include any punishment of the child, but rather it attempts to minimize the reinforcement that a child receives while away from the potty and increases the reinforcement available while near or sitting on the potty. The position taken by this book is that a punishment component is not needed and may cause unnecessary stress for the child, parents, and caregivers. Some children may require a few additional steps, such as being provided a reward for simply coming near the potty, or for touching the potty.

All of these additional steps need to be individualized for each child. The important thing to remember is that it is highly important to find a way for the child to be successful with the toileting program as soon as possible so that they may come into contact with a reward very quickly. It may be that a child needs to be rewarded for putting on underwear instead of a diaper. Regardless, a successful toileting program needs to find the right first step, where the child feels comfortable complying and can be immediately rewarded and then very slowly increasing the demand that is placed on the child in order for them to receive the reward. If a program moves too quickly from one demand to another, the child may become resistant. If resistance is displayed by the child, then the program should immediately move back to the step where the child was last successful.

Elimination Disorders

Probably the most prevalent toileting issue that is specific to the individual child involves excessive delays in achieving toileting skills. This is especially true as they get older and their peers have acquired the skills. This can result in the child being socially stigmatized due to instances of bedwetting, urinary incontinence, bowel incontinence, etc. In addition, it is important to be aware that although psychological issues are frequently suggested as possible causes of elimination disorders, this is not substantiated in the research (Christopherson & Friman, 2010). It is more likely that psychological issues are the result of ongoing elimination disorders rather than the opposite. Ongoing elimination disorders may cause some children to become frustrated, embarrassed, experience anxiety, etc. While some toileting issues or accidents are to be expected, for some children these issues persist and may meet the criteria for an elimination disorder. Some of the more common elimination disorders and terminology used in toileting are defined in Table 7.1 and are also described below.

Urinary incontinence: Incontinence is broadly defined as an inability to wait to expel urine or feces at an appropriate time or situation. Urinary incontinence involves releasing urine at inappropriate times or places. Urinary incontinence refers to daytime wetting that may be a direct result of age,

medical condition, etc. Young children wear diapers to accommodate for this until they develop adequate muscle strength, bladder size, and awareness necessary to withhold urine until they are at a potty.

Enuresis: This is another term for urinary incontinence, although it is frequently reserved for urinary incontinence occurring after age five and that is not the result of some physical, structural, or medical condition.

Diurnal enuresis: This refers to wetting that occurs during the daytime.

Nocturnal enuresis: This refers to wetting that occurs at nighttime and is frequently referred to as bedwetting.

Bedwetting: This is a form of wetting that is noticed because a child's clothes and bedding become wet with urine. This term is sometimes used both at nighttime or daytime when a child is napping.

Bowel incontinence: This involves the inability to withhold stool until an appropriate time and place is reached. Bowel incontinence refers to stool expulsion that may be a direct result of age, medical condition, etc. Bowel incontinence may be noticed by complete or partial evacuation of the bowels on clothing.

Encopresis: This is another term for bowel incontinence, although this term is frequently reserved for bowel incontinence occurring after age four and that is not the result of some physical, structural, or medical condition.

Constipation: This is a condition in which stool is held in the body for a lengthy period of time. An exact definition is difficult, but in general children may be constipated when they do not have a bowel movement for more than two days. Stool that is passed may have a very hard consistency and cause pain during elimination. A child who typically has a bowel movement every day and then goes for two days or more without a bowel movement may be experiencing constipation. It is more important to know the child's pattern of bowel movement and then make a determination of constipation based upon a delay in bowel movement. In addition, there are some established criteria such as the Rome III for functional constipation (Drossman et al., 2006) and questionnaires based on these criteria (Walker, Capler-Dovan, & Rasquin-Weber, 2006).

Fecal impaction: This is a condition where feces/stool become lodged in the colon. This condition can cause the colon to become enlarged and may be uncomfortable or even painful and result in constipation or diarrhea.

Diarrhea: This refers to passage of watery, loose stools.

Paradoxical diarrhea: This refers to passage of very wet stool when a fecal impaction is present. Although a fecal impaction of hard stool may remain in place, very wet stool is able to move around an impaction and be expelled from the body.

Table 7.1 Terminology Associated with Toileting Issues

Term	*General definition*
Urinary incontinence	An inability to withhold urine until an appropriate time and place is reached. Urinary incontinence refers to daytime wetting that may be a direct result of age, medical condition, etc.
Enuresis	This is another term for urinary incontinence, although this term is frequently reserved for urinary incontinence occurring after age five and that is not the result of some physical, structural, or medical condition.
Diurnal enuresis	Wetting that occurs during the daytime.
Nocturnal enuresis	Wetting that occurs at nighttime and is frequently referred to as bedwetting.
Bedwetting	Urinary incontinence that is noticed because a child's clothes and bedding become wet with urine.
Bowel incontinence	An inability to withhold stool until an appropriate time and place is reached. Bowel incontinence refers to stool expulsion that may be a direct result of age, medical condition, etc.
Encopresis	This is another term for bowel incontinence, although this term is frequently reserved for bowel incontinence occurring after age four and that is not the result of some physical, structural, or medical condition.
Constipation	A condition where stool is held in the body for a lengthy period of time.
Fecal impaction	A condition where feces/stool become lodged in the colon.
Diarrhea	Passage of watery, loose stools.
Paradoxical diarrhea	Passage of very wet, loose stool when a fecal impaction is present.

Determining the Presence of Elimination Disorders

In order to identify whether an elimination disorder is occurring in a child, it is necessary to seek an evaluation from an expert in the area of elimination disorders, such as a pediatrician or developmental psychologist. The DSM-V offers specific criteria for determining the presence of elimination disorders (APA, 2013). The first criterion that must be met before considering an elimination disorder is to rule out any medical conditions that could explain the condition. This would require a thorough examination from a pediatrician or other medical specialist. In addition, it is necessary to consider the possibility that a medication or other substance that a child may be receiving is responsible for the elimination dysfunction. Also, specific age criteria must be met before an elimination disorder is diagnosed. In general, a diagnosis of enuresis requires a child to be at least five years or older and a diagnosis of encopresis requires a child to be at least age four. Elimination issues are quite common among young children, with bedwetting occurring at least occasionally in approximately 20% of six-year-olds (Butler et al., 2008) and 10% of seven-year-olds (von Gontard, 2011; 2012).

One of the first steps toward determining the presence of an elimination disorder is to review information on family history and to obtain some data on the elimination patterns of the child. For example, parents and other caregivers may complete a chart that records the occurrences of urination and defecation each day. Collecting data on bedwetting may simply involve writing "wet" or "dry" on a calendar each day. For other elimination issues, more detailed data collection may be necessary. For example, daytime wetting of clothes may need to include the number of times that wetting occurred during each day. It may also be valuable to include some additional information such as the time, the setting in which the wetting occurred, the activity taking place when the wetting occurred, the approximate amount, the response of the child to the wetting, the response by others such as peers to the wetting, and the response by the caregiver to the wetting. Similar information may also be valuable to collect in order to gain an understanding of bowel movements when attempting to determine the presence of encopresis. Figure 7.4 provides an example of a chart that might be used to collect data on daytime wetting; Figure 7.5 provides an example of a chart that might be used to collect data on bowel movements. Charting the occurrence of these issues can be helpful for an expert to compare the data to the diagnostic criteria for an elimination disorder. In addition, the information on the setting, activity, and general responses can be used to identify any patterns in the behavior. This examination of behavior patterns can be used by an expert on elimination disorders with a background in behavior analysis to possibly make some environmental modifications which could be incorporated into treatment for the elimination disorder.

Child Name _____

Date	Time	Setting	Activity	Amount S/M/L	Child Response	Peer Response	Caregiver Response
Oct. 5	*1:15pm*	*Small Group*	*Puzzles*	*M*	*Told caregiver*	*No response*	*Helped change*

*S = small; M = medium; L = large

Figure 7.4 Example of Chart for Collecting Data on Daytime Wetting

Child Name _____

Date	Time	Amount S/M/L	Consistency Firm/Loose	In Potty Yes/No	Setting	Activity	Child Response	Peer Response	Caregiver Response
Nov. 10	*10:05am*	*S*	*Firm*	*Yes*	*n/a*	*n/a*	*n/a*	*n/a*	*Verbal praise*

*S = small; M = medium; L = large

Figure 7.5 Example of Chart for Collecting Data on Bowel Movements

Treatment of Elimination Disorders

In many cases, children spontaneously overcome elimination disorders without any type of treatment. The spontaneous remission rate for these disorders has been estimated to be as high as 15% (Forsyth & Redmond, 1974). There are numerous different treatments for elimination disorders that have been reported in the literature and via practical recommendations from pediatricians, parents, etc. Before initiating a treatment for an elimination disorder, it is important to obtain assistance from a professional who has expertise in treating these disorders and it is just as important to have ruled out any structural, physical, or medical conditions that may be related to the problem, although this should be a part of the diagnosis process. It is also important not to utilize just any of the numerous treatments that have been touted as useful; rather, it is important to only utilize treatments that have been proven to demonstrate effectiveness.

Christopherson and Friman (2010) described one treatment for enuresis that was and is still commonly recommended by pediatricians and by parents, relatives, friends, day-care providers, etc., but for which no scientific evidence has ever been found to demonstrate its effectiveness. This procedure was easy to implement and focused on restricting the intake of fluids prior to bedtime for a child with a history of enuresis. While this type of treatment may seem reasonable, it has not been shown to be effective. In addition, such a procedure may lead to distress for the child, who may experience excessive thirst and frustration on the part of the parent implementing the treatment when it does not result in expected changes.

Several treatments for elimination disorders include medications and are outside the range of those reviewed in this chapter, which focuses on behavior analytic strategies for elimination disorders. Behavior analytic data collection strategies can be used to assist in measuring the effectiveness of medication treatments. It is important to note that most elimination disorders require a child to learn skills necessary to remediate the elimination disorder and those that utilize medication to treat these disorders do not provide the child with any training or new skills. It should be noted that the literature indicates that pediatricians may prescribe medication for treating enuresis more than any other type of treatment, although medication treatments are generally much less effective than the behavior analytic treatment of a urine alarm for enuresis. The urine alarm is briefly described below as it is generally considered to be the most effective treatment for enuresis (Brown, Pope, & Brown, 2010; Friman, 2008; Houts, Berman, & Abramson, 1994; Mellon & McGrath, 2000). In addition, a combination of both medical and behavioral treatment is described for encopresis. It should be noted that these treatments should only be implemented under the supervision of an expert in elimination disorders with appropriate training in applied behavior analysis.

Urine Alarm Treatment for Enuresis

A urine alarm consists of a monitoring device that detects wetness and then signals an alarm to alert the child to use the toilet. These systems are available commercially and the alarm may consist of a vibration or an auditory signal. This type of alarm is typically used during the nighttime to treat bedwetting. In addition to nighttime use, Friman and Vollmer (1995) demonstrated that a urine alarm could be successfully used to treat diurnal enuresis in a 15-year-old female. These urine alarm systems are typically easy to use by following the directions that accompany the device, but it is always beneficial to seek advice from an expert on elimination disorders.

Combination Medical and Behavior Treatment for Encopresis

Treatment of encopresis can be difficult and potentially requires the assistance of a pediatrician, pediatric gastroenterologist, dietician, and expert in applied behavior analysis. Christopherson and Friman (2010) described treatment of encopresis that began by first addressing constipation that is typically present in children with encopresis. They described the treatment as beginning by administering a routine of stool softeners, enemas, or laxatives to remove all stool from the colon and relieve constipation. In addition to the medication, the pattern of soiling that the child displays can be used to schedule a time when the child can be asked to sit on the potty. The child can be reinforced with toys or other preferred items for sitting on the potty for approximately five minutes, or less if they have a bowel movement. In addition to these treatment components, the child's diet and exercise should be examined to help the child achieve appropriate amounts of exercise and to have a diet that provides a sufficient amount of fiber. Once the child's bowel movements become regularly successful in the toilet, the focus should turn to strategies to prevent the encopresis from returning. These prevention strategies should be individualized for each child, but might involve continued monitoring of diet and exercise, use of potty seats or stools for leverage, or toileting schedules.

Summary

This chapter focused on the importance of recognizing toileting readiness skills, reinforcing pre-toileting behaviors, and providing a supportive environment for successful toileting. A basic toileting instructional sequence was described for parent implementation, which could be modified for continuity of procedures from home to day-care settings. In addition, terminology associated with toileting and elimination issues was defined and some common elimination disorders were described. A highly effective treatment for enuresis, the urine alarm, was described and a combined medical and behavior analytic treatment for encopresis was described.

Discussion Questions

- What are some of the myths surrounding toileting and toilet training?
- How might early childhood educators be involved in reducing the preponderance of misinformation that is continually provided to parents about toileting?
- Discuss the value of having good communication between home and school/day-care settings regarding toileting issues and the pitfalls of poor communication about toileting among caregivers and parents.
- Describe how an educator can participate in the assessment of an elimination disorder.
- Discuss how treatment for an elimination disorder should be determined and who should potentially be involved in treatment determination and implementation.

Chapter 8

Working Through Common and Uncommon Feeding Issues

Overview

This chapter reviews some of the basic issues related to feeding problems such as medical conditions and social factors. In addition, fundamental behavioral strategies for providing support to young children with feeding difficulties are described. More advanced strategies are also described, but these techniques require extensive training beyond the scope of this chapter and intense supervision and oversight from an appropriately trained professional. Feeding issues can lead to serious health problems, and the techniques described in this chapter are intended to provide an overview of how parents and educators can promote healthy feeding behaviors, so medical professionals should always be referred to in the case of feeding issues.

Material and Techniques to Learn

- Gain an appreciation of the issues related to feeding disorders
- Identify some of the anatomical and physiological causes of feeding problems
- Become familiar with some of the disabilities that frequently have associated feeding problems
- Recognize some of the environmental issues related to feeding problems
- Understand some of the more frequently used interventions developed for feeding problems

Case Scenario

Valencio was a five-year-old boy with a diagnosis of autism spectrum disorder who attended Ms. Webb's preschool classroom. Ms. Webb was aware of several of Valencio's behaviors and characteristics, such as perseverating on certain objects in the classroom, requiring some extra prompting to complete tasks, and having difficulty with transitions. She had developed strategies to help with each of these issues and Valencio appeared to be progressing well academically and

behaviorally in her classroom. One day her teaching assistant pointed out that Valencio always brought the same lunch to school every day in the same container from the same popular restaurant chain. In addition, he always refused any snack that was offered to him during snack time. Valencio appeared very thin but his parents had never mentioned any issues with his feeding habits. Ms. Webb decided to approach the parents and ask them if he had any issues with feeding. Valencio's parents told Ms. Webb that he would only eat deep-fried chicken chunks and French fries that they got from a certain fast-food restaurant. He would only eat those when they were still in the original packaging. They stated that their pediatrician had told them his diet was unhealthy and that they should encourage him to eat a variety of foods. Despite their efforts to introduce healthier foods to Valencio, they had not found any other foods that he would eat. They had been discouraged by their attempts at providing him with new foods and had resolved to just going to the fast-food restaurant at least once or twice each day to get him the same meal combination in the same container. Ms. Webb considered this and asked his parents if she could try offering Valencio some different food items while at school. The parents agreed and Ms. Webb said that they should have his pediatrician involved and document exactly what foods were tried with Valencio, along with the number of times these were presented and Valencio's response to the food items. Ms. Webb had some other ideas in mind about how to get Valencio to try some different foods, but she wanted to be sure that this was an important issue for both the parents and the pediatrician. If everyone decided that Valencio was in need of an intervention to expand his food choices then they all needed to work together to develop a plan that would be safe, healthy, and effective.

Questions to Consider

- Is Valencio's feeding behavior common among children diagnosed with autism spectrum disorder?
- Why was Ms. Webb concerned about having everyone involved and in agreement about whether Valencio needed an intervention to address his feeding behavior?
- What other ideas might Ms. Webb have in mind to help expand the range of foods that Valencio would eat?

Introduction

Issues related to feeding among young children are somewhat common and can lead to very serious immediate health risks or long-term issues related to overall healthy feeding behaviors. Medical professionals should always be closely involved whenever there are concerns about the feeding behaviors of young children. Medical professionals can evaluate the impact of the feeding issues on the overall health and well-being of the child and recommend

interventions to address current problems or avoid future difficulties. The goal of this chapter is to provide some background related to factors that may influence feeding among young children and to introduce some strategies that can help to promote healthy feeding behaviors. Since feeding issues can lead to serious, sometimes life-threatening, health issues it is always important to discuss any concerns with a pediatrician and make them aware of any strategies that are considered to address specific feeding issues. The pediatrician should be highly involved in the process to quickly address any issues of changes in weight or subsequent problems that might arise. Given these precautions, parents and educators can make basic modifications to the environment that can be beneficial for fostering healthy feeding behaviors among young children. In addition, many of the strategies described in this chapter are intended to be utilized as a means for preventing feeding problems from developing.

Causes of Feeding Problems

Before discussing behavioral strategies to address feeding issues, it is important to provide some background related to some of the potential causes of feeding problems. These problems can be organized into two categories that include problems of insufficient feeding and problems of excessive feeding. While these are broad categories, they include most of the issues of feeding that occur among young children. Feeding conditions such as anorexia and bulimia are not covered in this chapter as they are uncommon among young children and are mostly considered problems that arise during adolescence or adulthood. For the purposes of this chapter, the issues which cause feeding problems will be divided into two categories. These categories include anatomical/physiological and environmental issues. For very young children, factors such as the anatomical structure of the mouth, nose, esophagus, etc. can cause difficulties when attempting to eat. Issues such as physiological functioning, which impacts control of the tongue and swallowing reflex, can cause feeding difficulties and make feeding an unpleasant experience. In addition, factors such as the lack of opportunities to eat or practice new methods of feeding can lead to further issues. Each of these categories will be described to provide some background to potential causes of feeding problems.

Anatomical and Physiological Issues Related to Feeding

There are numerous anatomical and physiological issues that can cause difficulties with feeding among young children. This chapter will only focus on a small number of the fundamental and more common issues related to feeding difficulties. In addition, the amount of information provided about

each of the issues is limited. Obtaining an in-depth understanding of these issues would require specialized training beyond the scope of this text. Regardless, teachers and parents may have opportunities to work with young children who display some feeding difficulties and therefore should have an understanding of these issues and some of the practices used to address these issues.

Anatomical/physiological issues related to feeding are composed of the way a young child's body is structured and how these structures function to support feeding. Anatomy refers to the physical formation, configuration, or structure of various features of the body, while physiology refers to how these various bodily features behave or perform to support bodily functions. The structure and the functioning of bodily features are very closely interrelated. As in most instances, typical structure is required for adequate functioning to occur. Figure 8.1 lists some of the more common anatomical and physiological issues related to feeding difficulties.

Feeding for young children initially requires that someone else present them with food in the form of liquid (i.e., milk). The child will then typically develop the ability to consume foods that have different consistencies. These stages of development generally progress from nursing, to receiving very moist foods presented on a spoon, to less moist foods presented on a spoon, to solid foods that a young child can independently use their fingers to consume. In order for a young child to receive the food adequately at these different stages they need to have necessary bodily structures and these structures need to function adequately. The structure of the face and head, along with the functioning of face and head, are important for feeding to occur appropriately. The gastrointestinal system also plays an important part in establishing appropriate feeding. Each of the basic bodily features and

- Structure of face and mouth
  - Cleft lip
  - Cleft palate
  - Tongue size (too large or too small)
- Tongue thrust
- Hypotonia (low muscle tone)
- Gross and fine motor skill development
- Esophageal structure
- Dysphagia (swallowing abnormalities or difficulties)
- Stomach structure and functioning (capacity, digestion, reflux)

Figure 8.1 Anatomical and Physiological Issues That May Cause Feeding Difficulties

systems that are necessary for feeding to occur normally and the issues that may cause feeding difficulties are discussed below.

Facial Structure/Deformities

The structure of the face, lips, and mouth are important factors to enable a young child to engage in appropriate feeding. Common structural abnormalities in young children that may involve the face, lips, and mouth are known as *cleft lip* and *cleft palate*. Cleft lip involves a separation of the upper lip and a cleft palate involves a separation of the roof of the mouth. Cleft lip and cleft palate can occur together and at varying degrees of severity. Depending on the severity of the deformity, an infant may not be able to adequately perform a sucking action to drink from a nipple.

Hypotonia

A young child must have an adequate amount of strength in their muscles in order to chew and swallow food appropriately. Hypotonia is the lack of muscle tone. A young child who lacks muscle tone may not be able to move their mouth with enough force to chew their food. In addition, a certain amount of muscle tone is needed for a young child to hold up their head in order to receive food. The head, neck, and shoulders need to be aligned in order for food to be swallowed more easily. A child who is unable to hold their head up because of low muscle tone may have difficulties swallowing food.

Problems with the Tongue

The tongue is involved in receiving, chewing food, and swallowing by moving the food around in the mouth. A common issue with the tongue is known as a *tongue thrust*, which involves pushing the tongue forward. This forward motion of the tongue can make it difficult for the child to receive food because the food will get pushed back out of the mouth. In addition, a tongue thrust makes chewing and swallowing difficult because the tongue does not position the food for chewing or push the food back for swallowing. Another issue of the tongue can be related to the size of the tongue. An excessively large or excessively small tongue can result in feeding difficulties.

Upper Gastrointestinal System

The upper gastrointestinal system includes the mouth, the esophagus, the stomach, and the duodenum. Difficulties with feeding can result from abnormalities associated with any of these components. The esophagus assists with the swallowing reflex, which if not functioning appropriately can cause

feeding difficulties. In addition, the stomach can cause difficulties with feeding if it is of inefficient capacity or if there is bloating or gastroesophageal reflux occurring.

Lower Gastrointestinal System

The lower gastrointestinal system includes the lower part of the small intestines and cecum, colon, anus, and rectum. Abnormalities within these structures can influence feeding by changing appetites and possibly causing pain associated with digestion. In addition, factors such as constipation, diarrhea, and impactions within the gastrointestinal system can result in pain and changes in appetite.

Disabilities That May Influence Feeding

There are some disabilities that are frequently associated with feeding difficulties. Some of these disabilities result in physical characteristics that make feeding uncomfortable or especially difficult. Other disabilities may not result in physical issues, but are frequently associated with characteristics that do not support typical feeding patterns or amplify common resistance to feeding (see Table 8.1). Other disabilities may not directly impact feeding but may indirectly influence feeding because of medications that are taken in relation to the disability. Some of the more common disabilities that are associated with feeding difficulties will now be discussed.

Cerebral Palsy

The primary characteristic of cerebral palsy (CP) is the impairment of motor movements that is the result of neurological dysfunction (Gillette Children's Specialty Care, 2014). These characteristics usually occur very early in life and may present in varying degrees from mild to more severe forms of the disorder. Four different forms of CP have been frequently described and include dyskinetic CP, spastic CP, ataxic CP, and mixed CP (Cerebral Palsy Alliance, 2014). Dyskinetic CP is characterized by random movements that are jerky, or in some cases these movements may be more fluid and sometimes described as "snake-like" because they appear wavy and flowing. Spastic CP is the most common type, and involves the resistance of muscles to stretching. This limits the range of motion associated with body movements and makes movements appear forced or restricted. Ataxic CP involves difficulties with balance and posture; movements are jerky and uncoordinated. Mixed CP is characterized by a combination of the movement difficulties described in the other forms of CP.

The difficulties with movement associated with any of the forms of CP can cause difficulties with feeding. Random, jerky movements can include a

Table 8.1 Disabilities That May Influence Feeding

Disability	*Characteristics*	*Potential influences on feeding*
Cerebral palsy	Motor movement impairments • Dyskinetic – random, jerky movements, sometimes "snake like" movements • Spastic – rigidity of muscle movement • Ataxic – impaired posture, balance • Mixed – combination of impairments	• Tongue thrust • Difficulties with positioning body to receive food • Problems aligning the trunk of the body to allow food to be moved through the body appropriately
Prader–Willi syndrome	• Intellectual impairment • Hypotonia • Difficulty with appetite control	• Low muscle tone to support feeding • Insatiable appetite • Obesity
Down syndrome	• Intellectual impairment • Hypotonia • Dental issues	• Low muscle tone to support feeding • Obesity
Autism spectrum disorder	• Difficulties with communication • Difficulties with socialization • Restrictive/repetitive patterns of behavior	• Avoidance of certain food textures, colors, or consistencies • Highly selective food preferences
Attention deficit hyperactivity disorder	• Attention problems • Impulsivity • Hyperactivity	• Failure to attend to hunger • Failure to stop for meals • Potential for medication to suppress appetite

tongue thrust that does not allow food to be moved easily into the mouth and moved into position for swallowing. Depending on the severity, food may need to be of a specific consistency because chewing may be difficult or impossible. In addition, the random movements of the body or restricted range of motion can make feeding more difficult because body positions may be difficult to attain or maintain. The body needs to have a certain amount

of alignment of the head, neck, and trunk so that food may be swallowed more easily. CP can make achieving this alignment difficult and inhibit swallowing.

Prader–Willi Syndrome

Caused by a chromosomal disorder, Prader–Willi syndrome is most widely known due to the difficulties associated with controlling appetite. In very young children with Prader–Willi syndrome there is usually hypotonia that results in feeding difficulties. As the child gets older and is able to self-feed, the issue becomes one of over-eating or binge eating that increases the risk of obesity. Numerous difficulties can occur in attempts to treat this syndrome as the child may feel continual hunger and may be resistant to attempts to limit their food intake.

Autism Spectrum Disorder

The prevalence of autism spectrum disorder (ASD) has risen significantly, with a reported 1 in 88 children being diagnosed with ASD (Centers for Disease Control, 2012). ASD is characterized by impairments in communication, socialization, and restrictive or repetitive patterns of behavior. Young children diagnosed with ASD may frequently display very limited interests, with rigid adherence to certain routines, objects, clothes, etc. This restricted pattern of interests can also involve food items. Research has shown that children diagnosed with ASD had substantially more feeding issues than their typical peers (Provost, Crowe, Osbourn, McClain, & Skipper, 2010; Schreck, Williams, & Smith, 2004). Parents of these children have frequently been known to state that the child will not eat anything but certain specific foods or foods with a specific texture, color, or consistency (Sharp, Jaquess, & Lukens, 2013). This highly rigid selective preference for certain foods can in some cases lead to nutritional or other feeding problems.

Down Syndrome

Chromosomal abnormalities can lead to the disorder of Down syndrome. This disorder is frequently associated with hypotonia (low muscle tone), dental problems and obesity (Roizen, 2013). When these children have hypotonia, they may not be capable of holding their head in an aligned position for feeding or they may not be able to utilize their mouth, lips, and tongue for feeding. Those who have dental issues may have difficulties chewing. In addition, since these children have a tendency to become obese, the feeding issues may involve the restrictions that are placed on them to prevent them from becoming obese or to address existing obesity.

Attention Deficit Hyperactivity Disorder

The characteristics of attention deficit hyperactivity disorder (ADHD) may include combined difficulties with maintaining attention and problems with hyperactivity and impulsivity. In addition, this disorder may only involve predominantly attention problems or predominantly problems with impulsivity and hyperactivity. While feeding difficulties are not highly reported in association with this disorder, the disorder can be associated with factors that influence feeding. For instance, young children may simply not attend to their hunger and forget to eat because they are too involved in other activities. Similarly, young children may become involved in activities and not stop long enough to eat. In other situations, young children may take medication to address attention difficulties or to address hyperactivity and these medications may result in a loss of appetite.

Environmental Issues Related to Feeding

While there are numerous physical conditions that influence feeding issues, there are potentially even more variables in the environment that can influence feeding. While physical conditions may in some cases become more or less influential over feeding behaviors, the environmental factors associated with feeding can continuously be changing in more ways than can be measured. The environmental influences on feeding can be seen by almost anyone on a daily basis. For example, people are frequently selective about their food; for example, some like pepper and some do not; some people like their soup very hot while others wait for their soup to cool; some people adjust their diets based on health issues; others base their diets on their preferred tastes; some people like pizza from a particular restaurant but not from other restaurants, etc. These environmental influences can be overwhelming to think about. If you add in the fact that many young children lack experience with a large variety of foods, and may lack the communication skills to let others know that they don't enjoy something like pepper on their food, the complexity of feeding issues becomes even greater. While any number of environmental issues may influence feeding, some of the more common environmental factors as outlined in Table 8.2 will be discussed.

Lack of Opportunities to Practice

Some young children may be delayed in their feeding abilities because they have not had the opportunity to practice feeding. Given adequate practice, these children may improve their abilities when it comes to using their lips, tongue, mouth, etc. to accept and swallow food. If a child is not given these opportunities they may not develop some of the fine motor skills required to accept, chew, and swallow food. One cause for having a lack of opportunity

Table 8.2 Some Common Environmental Factors Related to Feeding Issues

Environmental category	*Feeding-related issue*
Lack of opportunities to practice feeding • Medical issues prevent practice • Social issues prevent practice	• Child may not have had enough practice training their tongue, mouth, etc. to take food easily • Child may not have developed fine motor skills needed to pick up food or use a spoon • Child may have an adult who does not allow them to experience self-feeding
Avoidance of certain food characteristics	• Texture • Consistency • Color • Temperature
Perseveration on food presentation	• Food must be placed in a specific container • Drink must be in a certain bottle • Food must be prepared a specific way • Food must be presented in combination or in isolation or different foods may not touch on a plate
Restrictive intake/limited variety	• Eating only certain items such as finger foods, sweets, fried foods, etc.
Pica	• Eating nonfood items
Family eating practices	• Limited time for meals • Frequent fast-food meals • Unhealthy meals • Unreasonable expectations

to practice feeding can be a result of medical issues such as surgeries, prematurity, etc. that may require the child to receive food via a feeding tube, which allows food to go directly to the stomach without chewing or swallowing. A child who has a feeding tube does not have the experience of tasting food, moving the food around in the mouth, chewing food, or swallowing food. When transitioning from a feeding tube to oral feedings, it is necessary to be aware of potential factors that may be novel for the child such as tastes, chewing, etc., and other detrimental factors such as *aspiration* of food. Aspiration involves taking food or liquids into the lungs and can lead to serious medical complications. Teachers and parents need to be provided with some extensive training and preparation for dealing with these situations from

someone who specializes in feeding issues. This may involve taking measurements of food intake and detailing the experience so that modifications can be made to make the feeding experience more successful.

In addition to medical factors, there are some social variables that may lead to feeding issues in young children. Sometimes parents may be worried that their child is just not ready to receive chewable food; the parent may be unaware that the child is ready for chewable foods; or the parent may continue with liquids or soft foods for reasons such as convenience. If a young child is only provided with liquids or very soft foods beyond the typical time frame for introducing chewable foods (approximately one year of age), then the child may not be as receptive to chewing foods as a child who was given prior experience. In other cases, parents may encourage the child to not self-feed by not allowing the child to use a spoon themselves or to self-feed with finger foods. This can be a result of the parent wanting the child to eat quicker or to eat more, or because the parent is concerned about the child being messy and spilling the food. This can be especially problematic for children diagnosed with a disability such as ASD, where there may be a tendency for rigid adherence to certain routines. These children may be resistant to self-feeding or receiving food from others as this would involve a change in their expected routine. In other children, they would not be provided the opportunity to practice self-feeding and develop the fine motor skills necessary to pick up finger foods or to hold a spoon.

Avoidance of Certain Food Characteristics

Some children have a tendency to avoid foods that have certain characteristics. In general, young children often prefer bite-size foods that can be easily managed with their fingers, such as fish crackers, cereal, etc. Other foods that many children enjoy may require a bit more effort as it is somewhat difficult to eat pudding without a spoon and something like jello can be difficult to get into your mouth regardless of whether you use your fingers, spoon, fork, etc. While everyone has certain characteristics of food that they prefer, for some young children it may become problematic if they completely avoid certain food characteristics and put self-imposed limitations on the food that they consume. For some children, such as those diagnosed with ASD, they may display severe food selectivity that requires all their food to be of a certain texture, consistency, or color, etc. (Williams, Gibbons, & Schreck, 2005). These types of rigid preferences can sometimes lead to unhealthy diets that lack nutritional value.

Perseveration on Food Presentation

Similar to avoidance of certain food characteristics is perseveration on the way food is presented to a young child. Again, some children such as those

diagnosed with ASD may display rigid food selectivity and perseverate on mostly irrelevant factors associated with food. Some of the variables that they may focus on include the container that the food is served in, the bottle that the child drinks from, or the shape of the food. For example, a child who would only eat chicken in the shape of dinosaurs, or a child who would only eat food given to them in a bag from a fast-food restaurant. Other issues with presentation may not always be detrimental, as many of us are aware of adults who will only eat a sandwich if the crust is removed or who will not eat anything from a plate when different foods touch each other. These issues need to be considered and determinations made regarding whether they may be resulting in detrimental health concerns for a child.

Restrictive Intake/Limited Variety

Another feeding issue can involve young children only eating very small amounts of food or children who may restrict themselves to a very limited type of food. For example, a child who only consumes food every couple of days may quickly begin to experience some health issues. Similarly, a young child who only consumes a specific food such as popcorn or some other food with limited nutritional value may experience health issues.

Pica

The eating of nonfood items is referred to as pica. Very young children may have a tendency to place nonfood items in their mouths and sometimes swallow these items if the item is small enough. Pica can place a child at risk for choking on nonfood items, may cause intestinal blockages, or may result in poisoning or other health issues. Young children have been known to peel paint from various household items and eat the paint chips, which can result in lead poisoning. The cause of pica is uncertain, but possibilities include difficulty discriminating between food and nonfood, nutritional deficits, attempts to control hunger, or in some cases it may model the behavior observed in others.

Family Eating Practices

The eating habits established by a family can have an impact on a child's behavior and can lead to some feeding issues (Hendy, Williams, Riegel, & Paul, 2010). Families who have meals together in a relaxed and comfortable atmosphere may allow a child to develop supportive feeding patterns. In contrast, families that are frequently "on the go" and who do not put aside sufficient time for meals may cause a child to not feel comfortable with eating. Families may have expectations that young children eat meals hurriedly or possibly in uncomfortable situations such as in a car while driving to an event.

At other times families may put pressure on a child to eat, or engage in punishing a child who does not eat as expected. These types of situations can cause a child to begin avoiding meal times and can lead to feeding issues.

Other family mealtime practices can cause a child to establish a pattern of unhealthy eating. For example, a family who frequently had unhealthy snacks may lead a child to avoid more nutritious foods and establish a preference for foods that are not beneficial to their development. In other instances, families may have practices of overeating or eating high-fat foods that can establish a pattern in the young child of behaviors that can lead to obesity and subsequent health issues. This can be exacerbated by families who do not practice regular exercise or model inactivity.

Assessment

When a feeding problem is suspected, it is important to involve a professional with experience working with young children who display these specific issues. Teachers, parents, and others who regularly work with young children may be the first to notice these issues and they should have some basic knowledge of the factors related to feeding issues so that they can notice when such issues appear. In addition, teachers and parents may be involved in the assessment of potential feeding problems and with the implementation of interventions designed to address feeding problems. During the assessment process, teachers and parents may be asked to record specific information about the eating habits of a young child, such as what foods are preferred, the consistency of preferred foods, the temperature of preferred foods, etc. In addition, parents and teachers may be asked to complete questionnaires to provide information about a potential feeding problem. Some examples of these types of questionnaires include the *Screening Tool of Feeding Problems* (Matson & Kuhn, 2001), the *Brief Autism Mealtime Behavior Inventory* (Lukens & Linscheid, 2008), and the *Mealtime Behavior Questionnaire* (Berlin et al., 2010).

Assessment of feeding problems should also involve direct observations of feeding and in some instances it may be necessary to conduct a functional analysis. This type of assessment may involve the parent or teacher and include exposing the young child to different conditions during feeding. These conditions may include providing attention for food refusal, or providing a break upon food refusal, or providing a preferred toy upon food refusal (Piazza et al., 2003). Questionnaires and functional assessments are designed to determine how significant a feeding problem is, what is maintaining the feeding problem, and lead toward developing an appropriate intervention.

Teachers and parents of young children with feeding problems need to have some knowledge of the different types of interventions that are frequently implemented to address feeding problems. Having knowledge of

the different types of interventions may be beneficial when offering input on the type of intervention that may best be implemented and effective for the young child. In addition, parents and teachers may be involved in some of the implementation of interventions, but should only do so after receiving specific training. Some of the more frequently implemented behavior interventions for feeding problems of young children will now be described.

Behavior Interventions

There are several different types of behavior interventions that have been developed to address feeding problems. These interventions can range from broad family-based intervention packages to very specific individualized interventions. The effectiveness of these different types of interventions may in many cases be dependent upon the specific feeding problem that is occurring. For instance, a feeding issue that is considered mild may be adequately addressed with an intervention that is less intensive and has a broader focus on the overall eating habits of an entire family. A feeding issue that is considered severe may need to have a very specific and intense intervention that is individually designed to target specific details related to eating. Regardless of the specific design of the behavior intervention, there should always be consideration given to the best practice recommendations described by the NAEYC.

Package Interventions

A broad family-based intervention package for addressing feeding issues can be useful when there is evidence of a lack of structure in the eating habits within the family that may be influencing eating behaviors. Many families exist with a certain amount of chaos within their daily routines that includes eating habits that are unstructured, unhealthy, or infrequent. In most cases the members of these families are able to adapt and function quite well within these unpredictable routines, but in some instances family members may suffer, especially when a child displays certain characteristics or tendencies to rely upon routines. For instance, a child diagnosed with autism spectrum disorder may adhere to very rigid structures, and if mealtimes are highly variable and unstructured, the child may not function well. A package intervention may require that a family adopt some structure within their routines relating to mealtimes and then work toward generalizing mealtimes to fit within a busy lifestyle.

These family-based intervention packages rely upon the entire family to offer support, but they are also individualized to meet the needs of the young child who is experiencing the feeding issues. The strategies utilized should prove beneficial for the individual child, but should also be advantageous for the entire family in order to be successful. These packages

primarily involve manipulation of antecedent variables that provide a supportive environment for feeding.

The antecedents that may be varied to address feeding issues in a family-based intervention package can include developing schedules for mealtimes, involving a young child in the meal preparation, or developing appropriate exercise routines. A schedule for mealtimes may for many families be difficult to achieve, but adherence to such a schedule may be beneficial for a young child with feeding issues. Providing meals at approximately the same times each day can allow a child to become accustomed to the routine of mealtime. These types of schedules can be adjusted to provide mealtimes at times when a child is more likely to be hungry and when meals can be provided. Such a schedule can also include opportunities for snacks if appropriate or it may require that snacks be removed from the schedule to promote sufficient hunger during mealtimes. These types of schedules can prove beneficial, especially for a young child who may experience medication effects that involve loss of appetite. The medication administration and mealtime scheduling can be coordinated to provide meals at times when medication-induced appetite loss is minimal.

Allowing young children to participate in the preparation of meals may serve as a way to manipulate antecedents associate with mealtimes. This may provide young children with opportunities to become exposed to different foods at different stages of preparation and incorporate choices in the meal preparation that could influence feeding. For example, a young child may be given a choice of having apples or peaches for dessert and, once the choice is made, they could prepare the food by washing it. Other methods of antecedent manipulation might involve assisting with table settings or turning on soothing background music to listen to during the meal. These types of activities may eventually become indicators that a meal is about to be provided.

Another type of antecedent potentially relevant to mealtimes and feeding issues may be the presence of exercise routines. Exercise is necessary to burn calories and increase metabolism, which in turn can increase hunger. A young child who does not achieve a minimal amount of exercise may not burn enough calories to achieve a sufficient appetite before a meal. Families who do not engage in exercise activities that burn sufficient calories may inadvertently encourage young family members to not get enough exercise. In these cases the feeding issues may involve attempts to increase exercise to compensate for issues such as obesity and in many cases require a focus on the entire family.

Discrimination Training

In some instances, feeding problems can be related to an inability to distinguish between what is appropriate to eat and what is not appropriate

to eat. Choosing what to eat can be a difficult task for many adults and for less experienced young children it may be even more difficult. Discrimination training involves teaching a young child to distinguish between healthy food options and those that are less healthy. For example, a young child may be provided information about which foods are more or less nutritious and then be presented with actual food items or pictures of food items and asked to show which food items are healthy or unhealthy. This type of discrimination training may occur by placing items such as an orange, an apple, and a piece of candy on a table and then saying to the child "Point to the healthy food." If the child points to the orange or the apple, then they would be told something like "Very good choosing." If the child selects the candy, then they could be told "No, try choosing again." These types of opportunities to demonstrate their knowledge of healthy and unhealthy foods can be provided on a daily basis and can become more complex as the child acquires skills by increasing the number of items presented in the array or by including items that are less clearly distinguishable as to their nutrition.

In other instances, young children may need to be directly taught to distinguish between items that are edible and items that are nonedible. While mouthing nonfood objects is very common for very young children, some children continue to mouth and consume items that are nonfood as they get older. Eating inedible items is referred to as pica and can be very dangerous and unhygienic. In some instances of pica, it may be necessary to use discrimination training to teach a young child what is a food item and what is not a food item. While differentiating between food and nonfood items may initially appear obvious, it can at times be difficult, especially with items such as crayons, markers, or play dough, which smell like grapes and cherries. In some cases, discrimination training may be appropriate for instances of pica, but it should also be noted that pica can be a serious health risk and discrimination training may not be the most appropriate intervention for all cases of pica since it is an intervention in which it takes a substantial period of time for learning to occur.

Behavior Momentum

The technique referred to as behavior momentum involves providing a young child with several opportunities to perform a high-probability task and then interspersing a less probable task. The technique often results in an increase in the young child performing the less probable task. Focusing on food refusal, Patel et al. (2007) demonstrated that a child diagnosed with autism increased his food intake through the use of a behavior momentum technique. The intervention involved repeatedly placing an empty spoon in the child's mouth (a high-probability task) and then interspersing this with placing a spoon with food in the child's mouth (a low-probability task). This intervention resulted in an increase in food consumption as compared to only

providing the child with a spoon with food. Similarly, Meier, Fryling, and Wallace (2012) interspersed low-probability foods with frequent presentation of high-probability foods to increase the acceptance of a wider variety of foods for a three-year-old girl with autism. They described the procedure as effective and easy to implement; however, additional research is needed to determine how applicable the procedure may be in various situations.

Reinforcement

A frequently utilized intervention for issues such as food refusal and food selectivity involves providing reinforcement for consuming food or consuming a greater variety of foods. In very mild cases a simple procedure of providing access to a preferred item or giving the child a sticker may help increase food intake or increase the variety of foods consumed. For example, a child might be given a star or token to be traded for something later, for eating a preferred food, but given three stars or three tokens for eating a non-preferred food.

In most cases involving more severe food refusal, or food selectivity, reinforcement may need to be paired with some type of response cost in order to be effective. For example, Buckley and Newchok (2005) allowed a child to watch a video and provided verbal praise when the child swallowed all the food in her mouth, but removed the video when she refused to swallow the food. Similarly, Buckley, Strunck, and Newchok (2005) described providing a child with a preferred item when he swallowed his food and removing the item when he refused to swallow the food. These are some examples of how reinforcement can be used to increase food consumption, but there are several other examples of how reinforcement may be used to increase the types of foods consumed. For example, research has demonstrated that sometimes combining a preferred food item with a less preferred food item can result in increased variety of foods consumed (Ahearn, 2003; Piazza et al., 2002). Similarly, some interventions have involved blending foods together as a method of increasing acceptance and variety of foods consumed (Mueller, Piazza, Patel, Kelley, & Pruett, 2004; Patel, Piazza, Kelly, Ochsner, & Santana, 2001). Other interventions have involved fading preferred bite size, food textures, food shapes, food colors, etc. (Patel, Piazza, Layer, Coleman, & Swartzwelder, 2005; Sharp & Jaquess, 2009). However, all these interventions usually require other components such as escape extinction. Escape extinction usually involves some type of physical guidance to place the food in the child's mouth or not removing a spoon with food from in front of the child's mouth when they failed to take a bite of food within a specified time period or when the food was spit out (Piazza, Patel, Gulotta, Sevin, & Layer, 2003; Patel, Piazza, Martinez, Volkert, & Christine, 2002). These types of interventions can be quite complex and require a detailed protocol to follow in regards to implementing the procedure

correctly. A teacher or parent should only attempt to implement such a procedure as escape extinction under the direct supervision of someone highly trained in such procedures, as incorrectly implementing such a procedure may create more difficulties and cause the feeding problem to become worse.

Summary

This chapter focused on the issues related to feeding disorders. Several anatomical and physiological conditions that influence feeding were discussed. Some of these include hypotonia, tongue thrust, and facial abnormalities. Several disabilities that are associated with feeding problems were described, including cerebral palsy, Prader–Willi syndrome, autism spectrum disorder, Down syndrome, and attention deficit hyperactivity disorder. The environmental issues that can influence feeding problems include lack of opportunities to practice, characteristics of food such as texture, color, consistency, etc., limitations on variety of food, pica, and family eating practices. Assessment is an important part of developing an appropriate intervention for a feeding problem and assessment results can lead directly to specific interventions. The interventions for feeding problems may be presented as comprehensive packages to impact daily routines, or as more specific interventions that focus on reinforcement, escape extinction, pairing or blending foods, and behavior momentum techniques.

Discussion Questions

- Choose a partner in the college classroom and practice feeding the partner baby food while the partner simulates a tongue thrust, hypotonia, or improper positioning. Switch partners so that everyone has an opportunity to feed and simulate a feeding problem. Discuss how certain issues impacted feeding. Discuss how critical these issues may be to a young child experiencing these problems.
- Arrange the classroom into groups of four students. Using baby foods, have one student simulate food refusal and food selectivity. Have one student utilize the intervention protocol described by Piazza et al. (2002) to address the food refusal and food selectivity. The other two students should observe the procedure and note any deviations from the protocol. Discuss how difficult or easy the intervention protocol was to implement. Discuss any deviations from the protocol and how these could be avoided.
- Research Prader–Willi syndrome and the interventions frequently utilized to address the eating disorders associated with this disorder. Discuss the different types of interventions suggested for this disorder. Describe the comprehensiveness of the interventions used for this disorder.

Chapter 9

Teaching Social Skills and Addressing Antisocial Behavior

Overview

Acquiring appropriate social skills is a life proficiency that all young children need. The early childhood classroom is the ideal place to begin these lessons. Utilizing socially acceptable behaviors from an early age sets the stage for later success in school, life, and the work place. This chapter will review the rationale behind direct instruction of appropriate behaviors across settings as well as what to do when atypical or aberrant development is noticed. Examples of techniques useful for directly teaching socially appropriate behaviors and eliminating challenging social behaviors will also be presented. In addition, information will be provided on how to determine whether a child's behavior is in need of more substantial long-term supports to make them successful.

Material and Techniques to Learn

- Typical development of social behavior
- Atypical development
- Rationale for teaching social skills
- The role that social skills play in education

Case Scenario

Monroe is a seven-year-old male first-grade student. The other boys in Monroe's class enjoy role-playing based on the popular culture icons Ninja Turtles, superheroes, and Angry Birds during recess. The girls often join in or play their own games. Monroe shows no interest at all in joining the social play of his classmates. He prefers, instead, to spend his time digging in the gravel on the playground and collecting the "fossils" that he finds. Every so often a classmate will urge Monroe to join in, but he stoically refuses and continues to collect his dinosaur bones in a shoebox. He values his fossils and does not like anyone to mess with them or rearrange them. Monroe's parents worry that their son is not

progressing socially as he should. He does not have a "best friend" and shows no interest in playing with peers, attending birthday parties, or inviting friends over to play. You are Monroe's teacher and left with lots of unanswered questions.

Questions to Consider

- What is your recommendation to his parents?
- What strategies might you have to work with Monroe?
- Is it shyness or something deeper?
- If this is shyness, how do you help pull him out of his shell, or is this even a real problem?
- What if you suspect there is delay?

Introduction

The early childhood years are critical in terms of establishing an academic foundation and the corresponding appropriate classroom behavior to ensure that academic content can be taught; however, these are also the years where social skills are learned. So, while reading, writing, and arithmetic remain the focal point for the classroom, the social aspect of life cannot be downplayed, as much of a child's social development revolves around his or her social exposure at school. With dual-employed households or single-parent households with one bread winner, the home is no longer the primary place where social skills are learned or taught. All too often, some form of electronic device plays the role of the babysitter while mom and dad try to get work done or mom is working while dad is at work and some form of tag team parenting is in play. The nature of one parent being home to watch the children while the other parent leaves and goes to work or the over-reliance on screens as pseudo babysitters denies children opportunities to observe human interaction in real time. Parents often communicate about many things via text or email and vocal conversations are limited. When actual conversations do take place, it can be typically after the child is asleep. The nature of busy work schedules that force parents to multi-task leaves the majority of social interaction for school. Thus, more responsibility falls upon the classroom teacher. This adds yet one more layer to the already multi-layered job of the early childhood classroom teacher. The environmental classroom arrangements that lend themselves to practicing social skills (e.g., role play centers, dress-up time, cooperative games and sports with a team focus) are critical to shaping who the child will become from a social aspect.

Social-Emotional Development

From infancy to adulthood, we live in a social environment. It is an environment where those of us who are able to be amiable thrive and those

that are less likely to collaborate may struggle. In fact, the majority of the careers, and most facets of human life, require us to be social creatures. In other words, if success is based on one's ability to interact with others for some portion of the day, then it makes sense that these skills are instructed to some degree. While some of these lessons do need to be taught, others are natural if given an enriching environment. As a baby, if the caretaker provides an adequate amount of physical closeness and communication while taking care of the primary needs, the baby will coo, smile, and laugh. If, in these early years, the child associates interactions with others with their needs being met, the foundation for proper social emotional development is laid. While there is no guarantee that a well nourished, coddled child will grow up to be a social butterfly with empathic and altruistic tendencies, the opposite scenario does have strong supporting evidence to take one down the other path. According to Cohen (2005), acquiring social and emotional skills is one of the primary factors needed for children to be productive in the classroom. This sets the stage for learning, making friends, coping, and appropriately sharing thoughts, feelings, and emotions. In a monograph published by ZERO TO THREE: National Center for Infants, Toddlers, and Families (1992), seven key factors were identified that lead to social-emotional success in the classroom and were thought to be predictors for thriving in school. These factors were: confidence, curiosity, intentionality, self-control, relatedness, capacity to communicate, and cooperativeness. Together, each of these factors represents a child with a healthy, well-developed social-emotional framework ready to succeed in school and gain additional socialization skills needed for long-term success as a friend, co-worker, and mate.

Typical Progression of Socialization

Scholars have studied play and social interaction for decades and certain stages of socialization have been proposed and seem to hold true today. Parten (1932) proposed six different classifications of play. These included unoccupied, solitary, onlooker, parallel, associative, and cooperative. Many of these classifications will be described below followed by a brief overview of the progression between stages as the child grows toward cooperative interactions. Figure 9.1 outlines the progression.

In the early childhood years, children find themselves moving from a purely self-centered focus to more social behavior, with gradual growth in between. Ultimately, as children age, their social interactions become increasingly complex. This includes the complexity of their play. However, in the youngest years, play is typically not overtly social. Instead, it primarily centers on the individual and his or her own self. As they age a bit, you begin to see the child watching other children play. At this time, they are not actively joining in, but rather being a bystander. Often, parallel play emerges

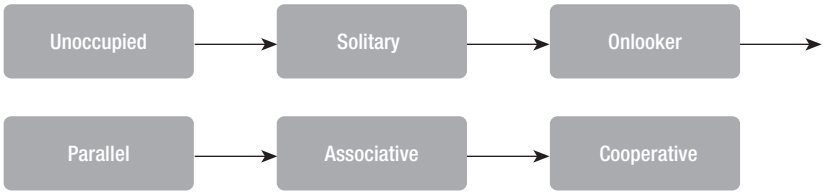

Figure 9.1 Classifications of Play

around this time. Parallel play is when children play in close proximity but not together in a give-and-take fashion.

As they age, children begin to interact with peers in a more playful manner. At this time, sharing is beginning to materialize. They begin to bridge the gap from play that is self-centered on their own interests to play that focuses more on the interest of the group or the interest of their peers. These interests can develop from popular culture, including cartoons or books, or they can come from older siblings, peers, or parents. The notion of parallel play still exists, but cross play is definitely taking place as sharing and similar interests surface. This is more of the associative play phase as children are seeking out attention from peers more than in previous times. While there is still a good bit of individual play occurring, the progression to social play has begun.

Approaching kindergarten age, full-fledged role play is typically in effect. This can include children pretending to be characters from television shows, movies, cartoons, comic books, or imitation of household chores and caretaking. Children also begin to connect with peers through communication and form bonds with friends with similar interests. They begin pairing off or forming social circles of friends, and their play is very social in nature as communication drives the play. For example, many favorite games at this age have rules and the kids will all follow the rules to bring the game to life. It is commonplace for children to claim a "best friend" at this age. They may also switch back and forth from one friend to another or have several "best friends" or be part of self-initiated clubs. "Friendships foster a sense of connection and security and build self-esteem and self-confidence, helping young children adapt more readily to the preschool setting" (Manaster & Jobe, 2012, p. 13).

It is important to realize that not all children develop at a similar rate and some may show varying degrees of shyness. This is natural depending on personality and comfort level (i.e., the child is more introverted or extroverted). It can also be situational, depending on the environment and the child's general comfort level with the environment and/or the individuals present in the environment. Regardless of level of shyness, typically developing children should begin to socially interact, in both positive and negative

ways, with others based on the age progression mentioned above. Variations, when noticed, should be considered and weighted based on the degree of deviance. Disabilities rooted in or those strongly characterized as being social in nature will be discussed later in the chapter, but first the discussion will be around ways to create situations that will facilitate growth and development of socialization.

Facilitating Social Interactions

In earlier chapters there was reference to teaching being both an art and a science. This statement really holds true whether the topic area is on teaching academics, behavior or social skills. Each of these areas requires that the classroom be set up to facilitate desired behavior. In many instances, when the environmental arrangement is designed to elicit behavior, it is referred to as "baiting" the environment. Baiting the environment so as to set the stage for the desired behavior to occur is a form of antecedent control (refer specifically to Chapters 4 and 6 for a review on antecedent manipulations). In this situation, the antecedent works as a discriminative stimulus.

Cooper, Heron, and Heward (2007) define the discriminative stimulus as a stimulus that cues the learner that reinforcement is available for a particular response and not for others. In other words, the child begins to associate a particular arrangement, most often a cue (e.g., verbal, physical, gestural, noise, or light), with the opportunity for reinforcement following the desired behavior. For example, when the bell rings on the timer set and the teacher says "time to put up your work and line up for recess," and the children who comply receive a high-five and access to the playground. Over time the teacher's statement, or even first word, will begin to alert the children that if they comply with the teacher's directive, their on-task behavior will be reinforced. In the adult world, some prime examples are a traffic light signaling when to drive and when to stop and then the driver associating appropriate stopping with not receiving a ticket and not crashing into the car ahead (both reinforcement for appropriate behavior).

Another more social example would be shaking someone's hand upon first meeting them. As a society, we have been conditioned that, if another adult offers his or her hand upon introduction, we offer ours back. The reinforcement in this scenario is social in nature as conversation typically ensues and we make a new social contact. Even though little children don't have much learning history due to their young age, they quickly pick up on social cues and social nuances and model behavior of adults, peers, and siblings. Thus, as a classroom teacher, it is dutiful if social skills are modeled for the children, explained, and rehearsed. If undesired behavior is observed in the classroom, the student may model that behavior.

Even at a young age, children remember what they see, model what they see, and hold adults to a high standard. The job of teaching social skills may not fall within the realm of reading, writing, or arithmetic, but it is often a deciding factor in peer associations in the classroom. These associations can create cliques that last into junior high and they can create labeling of certain children as trouble makers, noise makers, rude, selfish, and even bullies. Often these stereotypes are hard to break, so the best bet is to teach children early, embed social skills into the curriculum, and reinforce appropriate behavior when it is demonstrated.

Building Social Skills into the Day

The early childhood classroom is the ideal place to begin teaching social skills as the culture and setting is ripe. Specifically, social skills grow out of opportunities to engage with peers. These early interactions shape the behavior of the future child. Some of these skills are learned during free time with same-aged peers while others are learned during more structured, teacher-driven or parent-driven activities that take place in the classroom. Each scenario from free-play to direct instruction allows the children to learn different skills of equal importance. Acquiring differing skill sets for proper and improper behavior is key for youth. It then becomes essential that children learn to differentiate between these varied environments. Furthermore, once they differentiate one setting from the next based on the environmental cues, they are able to self-regulate their own behavior.

Self-regulating behavior, based on circumstances, is a skill that is critically needed in schools. Each schoolroom is different, ranging from the library to the cafeteria to the playground, and appropriate behaviors for one setting are not appropriate for another. In Chapter 6 it was even suggested that different rules be created for each unique setting to alert the children to the expectations relative to the setting. This ability to self-regulate based on the venue holds true for areas outside of school too. For example, at a football game it is expected that people should cheer, clap, yell, and throw peanut shells on the ground; however, at a dance recital or religious event eating and drinking is discouraged and loud behavior is not acceptable.

While these two examples of behavior are from extreme ends of the spectrum, they depict the need to teach children an array of social skills based on the locale and, more importantly, how to differentiate between the places. While the classroom and school building are naturally set up as great locations to work on social skills, sometimes the skills need to be directly taught as if it were an academic subject. However, because the proficiencies that need to be addressed are relational in nature and situational, as alluded to above, social competences are best taught in a group setting.

Activities for social skills classes can take many forms. One way to conduct social skills is to have short videos that depict proper and improper

interactions, then discuss the differences. These videos can be pre-made commercial videos, created by older students at the school, or created in the classroom. They can also be cartoon-based. Other methods of teaching are through puppets, reading stories that discuss moral dilemmas or acts of altruism, or drawing pictures and writing stories as a group to tell or re-tell a story. In addition, the class could invite a guest speaker from the community who may be a psychologist, a pediatrician, an adult that was bullied as a child, a policeman, or a counselor. Sample topics can be found in Figure 9.2.

Unfortunately, some children may lack the pre-requisite skills needed to begin in the group setting and may benefit from one-on-one skills training. If one-on-one is needed, the skill acquisition should be monitored daily and group sessions should be incorporated as soon as the child grasps the skills. Social skills taught in a group setting may be best done in a discrete trial type of venue. Discrete trial training (DTT) is a method of teaching in which a very specific discriminative stimulus (e.g., a word or a pre-determined couple of words) is presented to the student and only the desired behavior results in reinforcement. In most cases, the DTT occurs in a quiet, controlled setting with the teacher/other professional and the child sitting in close

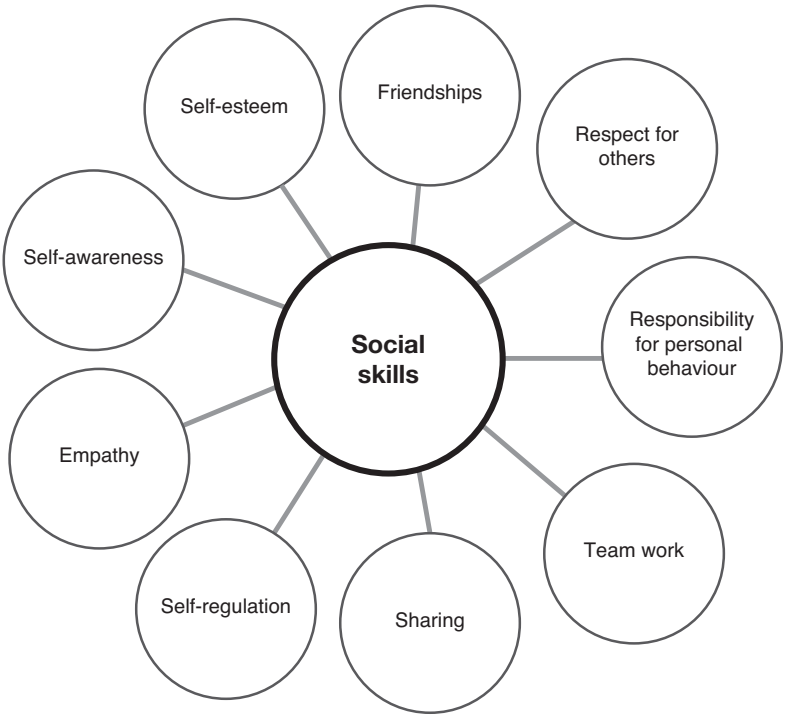

Figure 9.2 Sample Topics

proximity to one another. If the desired behavior is to identify a happy conversation versus an unpleasant exchange and the desired behavior is wanting the child to point to the picture with two people talking and laughing as opposed to the pictures of fighting and arguing, then the discriminative stimulus may be the teacher simply saying "point to happy people" to the student. If the child is not able to successfully point to the happy conversation then a prompting sequence may be needed. In Chapter 5 there was a discussion on prompting that outlined most-to-least and least-to-most prompting, which should be referred to if a prompting sequence is needed during DTT to initially evoke the desired behavior. In the example above, a prompt may be repeating the stimulus or pointing to the correct picture, or even taking the child's hand and moving it to the correct picture. If prompting is utilized, it is important to take notes on the type of prompt so that you can gradually fade the level of prompting or know what level to move up to. In Table 9.1 are examples of possible ideas for DTT with social skills.

Offering social skills training as part of the curriculum can ensure that all children are educated on appropriate interactions, have seen appropriate social skills, are aware of how to engage with same-age and older peers, are informed how to respect adults, and well-versed in situational behaviors through multiple opportunities to discriminate situations. When social skills are taught, the teacher can feel confident that he/she did his/her part to ensure that socially suitable behaviors were taught, modeled, and encouraged because, unfortunately, the lack of proper social interactions can

Table 9.1 Examples of Social Skills Topics That May Benefit from DTT

Target skill	*Discriminative stimuli*	*Desired behavior*	*Indicate correct or level of prompt*
Eye contact	"Look at me"	Eye contact made	Verbal: Gestural: Physical: Correct:
Handshaking	Offer hand	Shake hand	Verbal: Gestural: Physical: Correct:
Greeting	"Hello"	"Hello"	Verbal: Gestural: Physical: Correct:

be detrimental to the child, the child's future, and devastating to one's social status for years to come as peers and adults often base a child's reputation on those perceptions created during the early years. In other words, once a troublemaker label has been issued, it can be difficult to remedy.

Consider the case of a young child with a reputation already . . .

Liza (four) and Millie (four) have become friends at school this year. Millie is a shy child who just moved to the school, and when she comes home speaking about her new friend, Liza, Millie's mom, a local psychologist, is thrilled. Millie's mom begins to ask the other parents about Liza and Liza's family. The other classroom parents tell Millie's mom to be aware that Liza's family does not have a good reputation in town. In fact, one parent is convinced that she called Liza's mom one night to remind her that she was to bring cookies to school the next day, and that Liza's mom was at a bar and had left Liza at home with her ten-year-old sister. The parents also told Millie's mom that all of the last school year, Liza was selfish and threw fits at every field trip, school event, etc., and as a result the class was forced to end the activity early. Basically, the moms have already labeled Liza as a mischief-maker. Millie's mom is sad but does not want to risk becoming associated with this family. In particular, she does not want to risk Millie's reputation if she continues to be friends with Liza. Because of the nature of work that Millie's mom does, she is aware of the social ramifications of "running with the wrong crowd" and the powerful influences that peers have on one another. She is also well aware of how soon bullying begins and does not want Millie to be victimized or become a bully. Millie's mom is now ready to talk to the teacher but does not want to make false accusations about the parent as this is all hearsay, but does want to learn more about the child; therefore, she begins to probe Millie a bit more about the friendship She also begins early discussions about bullying, sharing, and social skills. After her conversations with Millie, she reaches out to the classroom teacher and principal and offers to provide the school with some professional development on bullying. Her offer includes discussion of topics such as recognizing the early signs of bullying, how to effectively communicate to parents, the need to start social skills classes and conversations early, and the importance of opening a dialogue around mental health and mental well-being in addition to the topics already discussed around physical health, such as the food pyramid, exercise, and rest.

This case above is important to discuss because according to the CDC's data from 2005–2011, it is estimated that 3.0% of children aged 3–17 years had anxiety, while 2.1% had depression. Thus, it is suggested that teachers and school administrators become aware of the signs and symptoms, have access to local healthcare professionals, and that the youth are educated on mental health in addition to physical health. It is never too early to begin discussion around feelings, sharing one's feelings, and appropriate coping mechanisms when you do feel sad or angry, or feel like you are being bullied.

Bullying

Bully is a term often used to describe an individual who is exerting power over another individual through intimidation (physical or verbal) in an attempt to gain control over the other person, coerce them to do something, to impart some reign over the other person's current peer status, self-esteem, or psychological well-being. The individual that is being bullied is referred to as the victim. Bullying can occur in multiple forms and may be overt or covert. It can also be verbal, physical, or relational in nature (Dolby, 2010). According to Gartrell (2008), many young children bully other children to obtain a goal (e.g., an object, access to something, attention, etc.), while for others it is reactive and in response to not knowing how to ask for help or cope with stress. In addition, they state that the victim may have done little or even nothing to provoke the bullying. For examples of bullying in early childhood classrooms, see Table 9.2. Regardless of whether the bullying was provoked or unprovoked, these actions may be hurtful to the child's self-esteem and may have longlasting ramifications for the mental health and emotional well-being of the child. The child may also become physically hurt. Furthermore, regardless of the form (physical, emotional, or relational) the impact of the bullying behavior may result in the child fearing school, lashing out, or completely isolating him or herself.

Table 9.2 Examples of Bullying in the Early Years

Types	*Examples*
Verbal	"I hate your dress."
Physical	A child pulls another child's hair and takes the toy.
Relational	Jane tells Beth she can't be friends with Lisa and can only be her friend.

Bullying may directly impact the school day and as a result impede academic success too. Teachers must be aware of bullying and the fact that it is beginning with younger and younger children. As with anything, behavior is learned and some children learn this bullying behavior from their parents as they overhear their mom or dad speak ill of other children, make fun of other children, and even encourage their young child to participate in this misbehavior. In addition to parents not always setting the best example, television and videos games are often equally guilty, and children mimic most of what they see and hear, especially if it results in attention.

Cyber-bullying is another vehicle through which bullying can occur, and it also is beginning earlier and earlier. Many young, elementary school-aged

children have electronic devices. This allows them to text words and emoticons, and share videos with their peers. The sooner the discussions begin that center around appropriate online interaction and the permanent nature of texting and emailing, the better. It is vital as an early childhood educator that one is aware that bullying starts young and that "If bullying in the early years is overlooked or not stopped, young children who bully will continue to bully as they get older, and children who are victimized will continue to suffer. In fact, bullying may spread as other children see opportunities to engage in bullying. If left unchecked, patterns of bullying and victimization will persist into adolescence and even adulthood, resulting in abusive teen dating relationships, and eventually domestic violence or other criminal activities" (Storey & Slaby, 2013, pp. 2–3). Furthermore, if bullying behaviors are not stopped, the child who is victimized may lose self-esteem, become depressed, resort to alcohol or drugs to cope, and sadly even contemplate suicide.

Ross and Horner (2009) suggest that bullying prevention be embedded in the MTSS, which is discussed in Chapter 6. Specifically, the model that Ross and Horner describe includes the following steps. First, the students should all be taught the concept of respecting all. Second, a three-step response consisting of stop, walk, talk should be explained and implemented. Third, teachers should pre-correct the three-step response prior to beginning new activities. This pre-correction phase could be seen as an antecedent control. Fourth, direct instruction on an appropriate reply when the three-step response is used, and lastly, implement staff training on a universal strategy for consistent response to all reports of problem behavior (p. 749).

If deficits in acquiring social skills are noticed, specific notes should be made and a discussion with parents and school professionals such as the school counselor and social worker should take place. If all internal school resources have been tapped, a referral to an outside expert may be needed. Atypical progress or regression and outright defiance may warrant an evaluation for an underlying disability such as a mood or anxiety disorder, behavior disorder, or autism spectrum disorder.

Atypical Social Skill Development

When atypical development is suspected, it is important to document the behaviors that you see, the times they occur, the topography of the behavior, and the antecedents (A) and consequences (C) surrounding the behavior (B). Chapter 4 overviews the information on the ABC contingency. Collecting this documentation will be helpful to the diagnostician or professional to whom you refer the child. Some of the possible diagnoses are briefly discussed below.

Autism

Autism is a spectrum disorder with a range in abilities that now affects 1 in 68 children and 1 in 42 boys according to the most recent statistics from the Centers for Disease Control (CDC, 2014). Sadly, autism prevalence figures are growing and the cause is still unknown outside of the belief that genetics and environment both play a role. In the fifth edition of the American Psychological Association's (APA) *Diagnostic and Statistical Manual* (DSM-5), autism's defining characteristics are social in nature, present in the early developmental years, impair functioning, are persistent over time, and occur across multiple settings. The characteristics include the following: (1) deficits in social communication (verbal and non-verbal); (2) lack of social interaction ranging from abnormal conversational skills such as reciprocity, initiation, rigid responses, and lack of imitation; (3) fixation on certain topics despite the other person's interests or comments; and (4) troubles with developing/understanding relationships based on social context. The severity of autism will dictate the nature and amount of treatment that is recommended.

Best practices suggest that applied behavior analysis (ABA) services are the therapy of choice for individuals with autism (U.S. Department of Health and Human Services, 1999), and early intervention is vital to long-term success. Some indicators that may be red flags for autism and that may trigger that you, as the classroom teacher, need to begin the data collection and referral process may include behaviors described in the following scenario about Alex.

Alex is playing in the toy area and consistently goes to toys that are age appropriate. Alex is described as a shy boy and often the teacher forgets he is in the classroom during playtime. However, recently she noticed that he does not play with the toys in the same manner as the other kids. She has observed him picking up the matchbox cars and spinning the wheels while the other boys are saying "vroom, vroom" and racing the cars down the path. She walks over and tries to talk to him and engage him in appropriate play and he appears to not hear her and continues to spin the wheels.

ADHD

In the DSM-5, attention deficit hyperactivity disorder (ADHD) symptoms must present with a pattern of either inattention or hyperactivity-impulsivity, or both, that interferes with development or overall functioning and the symptoms need to be present in more than one setting. Common symptoms may include the following for inattention: appears to not listen, difficulty organizing, loses things, forgetful, and careless mistakes. Symptoms for hyperactivity and impulsivity are as follows: excessive talking, fidgeting,

difficulty waiting, and interrupts or intrudes on others. Red flags in the classroom to begin thinking about the possibility of a child having ADHD may include behavioral observations described in the following case with Roger.

Roger is part of a second-grade class that is beginning to incorporate opportunities to respond (OTR) using pre-created answer cards. Roger and the rest of the class are excited to begin this new method of responding. The discussion is about to begin and all of the kids have their cards ready. The teacher poses the first question and Roger yells the answer out while holding up the correct card. The second question is posed and Roger jumps up and holds his card up. Before the next question is finished, he blurts out the answer.

Other Diagnoses

The DSM-5 now has a chapter titled "Disruptive, Impulse-control and Conduct Disorders" which houses diagnoses that previously fell within the chapter "Disorders Usually First Diagnosed in Infancy, Childhood, or Adolescence." Within this new chapter are the following (non-exhaustive list) that are applicable to early childhood: oppositional defiant disorder (ODD); intermittent explosive disorder; and conduct disorder (CD). Each of these diagnoses have overt behaviors associated with them that are aggressive and a violation of societal norms, with each having specific criteria and examples to delineate one from another. Red flags in the classroom to begin thinking about the possibility of a child having another diagnosis may include some behavioral characteristics as described below about Donald.

Donald has a difficult time with transitions and the teacher knows that this is a struggle for him. She is putting another behavior plan together but nothing motivates him and the past three plans have failed. Today in line, he punched Stephanie and then stepped on Claire's toes. He then yelled at the teacher "I hate you and lines are a waste of my time."

As referenced above, if any of these diagnoses are suspected, a referral to a professional is warranted as treatment may vary for each individual and is outside the scope of an early childcare provider, teacher, or caregiver.

Summary

Social emotional health is akin to physical health in terms of the role that it plays in school readiness and school success. Just as a healthy breakfast keeps children nourished throughout the day so that hunger does not interfere with learning, having a solid understanding of social skills keeps a child sustained and ready to focus on academics and the obstacles of the real world. Teachers

should never underestimate their role in teaching social skills nor should they underestimate the importance of taking classroom time to devote to the social and emotional health of young children.

Over the years, peers will become more and more important. Acquiring the necessary ability to navigate social situations and the ability to be a contributing member of a team are both very valuable skill sets. On the flip side, being able to recognize when to remove oneself from potential settings with negative outcomes is a potentially life-saving talent. Early childhood is the time to begin learning these lessons, acquiring the skills, and testing out situations and potential dilemmas. These can be taught through the use of role play, modeling, and direct instruction. These critical years serve as the foundation for years down the road when parents and teachers are not present to jump in and fight the battles for them, scoop up the child who now outweighs them, or put the intimidator in time-out. If, as the teacher, you consider teaching life lessons as opportunities to educate children, then at the end of the day, you can state with confidence that you helped this young generation develop cognitively, emotionally, and socially.

Discussion Questions

- How is play connected to social development?
- A parent approaches you about your planned lesson on bullying. They imply that by teaching a lesson on bullying you are actually encouraging this phenomenon. What is your rebuttal?
- How do rules and social skills go hand in hand?
- If you notice abnormal development, what is the first thing you do as a teacher? What is the next? How many steps before you conference the parents to seek professional help?

Chapter 10

Working with Anxieties and Phobias

Overview

The focus of this chapter will be on the most common anxieties and phobias displayed by young children, such as separation anxiety or fear of new places or people. Strategies such as systematic desensitization, graduated exposure, association of fearful situations/people with preferred items/situations will be described.

Material and Techniques to Learn

- Become familiar with the most prevalent forms of anxiety and phobia among young children
- Recognize the different ways that anxiety can be displayed by young children
- Identify different methods for assessing anxiety and phobias in young children
- Describe some strategies used to address anxiety and phobias in young children

Case Scenario

Carlos is a four-year-old boy who started preschool three weeks ago. Prior to beginning preschool, his preschool teacher made a visit to his home in order to get to know Carlos and become familiar with his family. During the home visit, Carlos was resistant to meeting his new teacher, tried to hide behind his mother, and cried whenever the teacher tried to speak to him. This pattern of behavior has been similar in the classroom during the first three weeks of school. When Carlos' mother drops him off at school, she has to carry him into the classroom and a teacher or teaching assistant has to take him and hold him while his mother leaves in order to prevent him chasing after her. He cries very loudly during these times and continues to cry periodically throughout the day until his mother picks him up in the afternoon. He refuses to eat his lunch, refuses to

use the restroom although he is potty trained, and spends most of his day in a corner of the classroom that is designated as the "Calming Corner," where he looks at a photo album of his family. The teacher and teaching assistant frequently sit with him and attempt to get him involved with the class, but have had very limited success in getting him engaged in any of the classroom activities. He is required to go outside with the rest of the class during recess, but once he gets to the playground he moves away from the other children and sits on the ground looking down. His teacher initially told his mother that most children have difficulties adjusting to a new environment and that they usually overcome those issues when given some time to adapt, but she has realized that Carlos is not adapting and his problems are not improving. His teacher and mother are meeting this week to discuss what might be done for Carlos.

Questions to Consider

- Is the behavior displayed by Carlos typical of young children when entering a new environment?
- Does Carlos need a few more weeks to adapt to the new expectations being placed on him?
- How might Carlos' teacher measure whether he is improving, remaining the same, or experiencing more issues?
- What can be done for Carlos?

Common Anxieties and Phobias Among Young Children

It is perfectly normal for young children to be afraid in some situations. Young children are just beginning to experience the world, which can be a scary place at times. The numerous novel experiences that children are exposed to increase the potential opportunities for them to be afraid. Adults, in general, have been exposed to a wide variety of experiences and the more they encounter certain situations, the more comfortable they become. When adults experience something completely new and novel, they may have some uncertainties, possibly some uneasy feelings, and in some situations be afraid or avoidant of the situation. Adults use some of their past experiences as a reference for new experiences. So if a new experience has some characteristics that are similar to a past experience the adult has had, it can be used to make the new experience more comfortable or, in some cases, more uncomfortable.

Young children have fewer background experiences than adults have, simply because they are younger and have not had the opportunity to come into contact with as many situations as adults. This means that young children are going to be facing many more novel situations than adults and thus have more opportunities to be afraid. This type of fear is a part of normal development and can be considered a survival mechanism (King, Heyne, &

Ollendick, 2005; Ollendick, King, & Muris, 2002; Westenberg, Gullone, Bokhorst, Heyne, & King, 2007). When young children do not display some level of fearfulness, this could be indicative of problems with socialization or general awareness of their surroundings.

While anxiety is a natural and adaptive quality that occurs in almost everyone, it can become problematic when it becomes excessive and begins to interfere with typical functioning. Anxiety that occurs frequently, is ongoing, and is overly severe may be considered maladaptive (American Psychological Association, 2013). Anxiety is fear that may be expressed by intense avoidance, increased heart rate, increased perspiration, increased respiration, increased adrenaline, excitability, etc. (Curtis & O'Keefe, 2002). It creates a bodily response known as "fight or flight." This occurs when a person prepares to either escape or defend themselves. A phobia is a type of anxiety that is excessive and is focused on specific objects, people, animals, or situations. Figure 10.1 provides some situations and objects that may be highly relevant to young children.

Assessment of Anxiety and Phobias in Young Children

The assessment and identification of anxieties and phobias in young children is less understood than it is with older children (Egger & Angold, 2004; Pine & Cohen, 2002). In addition, there is debate among researchers about whether or not young children should be diagnosed with psychiatric disorders. Reasons for this include: it being a period of rapid growth; the numerous individual differences during the early developmental period; and the future impact that such a label may have on the child (Egger & Angold, 2006). Owing to these concerns, there are few well-developed instruments for use in the diagnosis of anxiety disorders. Two instruments that have been developed for use with young children include the *Anxiety Disorders Interview Schedule for DSM-IV, Child and Parent Versions*

Water	Novel situations
Fire	Strangers
Loud noises	Socialization
Animals	Large groups of people
Heights	Separation from care-providers
Darkness	Insects

Figure 10.1 Situations and Objects of Potential Anxiety Relevant to Young Children

(ADIS-IV-C/P; Silverman & Albano, 1996) and the *Preschool Age Psychiatric Assessment* (PAPA; Egger, Ascher, & Angold, 1999). Both of these instruments involve parent interviews and may also include interviews of other significant individuals such as preschool teachers, etc. Sometimes these interviews are conducted through an oral interview and sometimes parents and teachers are simply asked to complete a questionnaire that asks them to rate various aspects of a child's behavior. Ollendick, Kind, and Muris (2002) reviewed numerous studies on childhood anxiety and determined that anxiety in children and adolescents frequently co-occurred with other disorders. They also determined that although there is a great deal of variation, factors such as child temperament, genetic influences, parenting practices, and environmental experiences can all come together and result in phobias and anxieties. They went on to recommend that any treatment should address all of these components. This chapter does not attempt to describe interventions that cover all of these potential factors that may influence anxiety and phobias. Rather, the remainder of the chapter attempts to describe some basic practices that can be implemented directly with a child in order to help the child overcome some of the anxiety he or she may be experiencing.

Collecting Data on Anxieties and Phobias

Data on anxieties and phobias can be collected in several different ways and may cover at least three different aspects of anxiety. The first aspect of anxiety or phobia is based on the statements that a young child may make about their anxiety. These self-reported statements from a young child may be collected as a summary of statements. For example, when a young child is confronted with a situation that produces anxiety, they make statements such as "My stomach hurts," "I don't like it," or "I'm scared." These statements can be used as indicators of the level of anxiety that a child may be experiencing, especially when compared to statements that the same child may make when they are not feeling anxious, such as "I feel good," "I like it," or "I'm happy."

Collecting data on and rating the self-reported feelings of a young child may involve developing a hierarchy of words, photos, or drawings that represent different feelings. Such a graphic might have a photo of a child who appears happy, a child who appears sad, and a child who appears scared. The child could then be asked to point to the photo that best represents how they are feeling. These self-report measures can be useful for quickly getting input from a young child about their anxiety.

Another aspect of describing anxiety that can be very useful involves collecting observations of how a child behaves when in an anxious situation. These observations might focus on how a child responds when presented with a situation or object that they find fearful. The child may display behaviors such as avoidance, attempting to run away, aggression, etc. These

behaviors can be defined, observed, and recorded to determine increases or reductions of these behaviors when attempting different treatments.

Similarly, data can be collected on how close a young child may get to an object that they are afraid of, or how long they might touch such an object. These types of observations and data are used frequently in behavioral avoidance tasks in which measurements are taken to determine the distance a person will get to a feared object or how long they are willing to stay in contact with such an object. A person receiving a successful treatment would be expected to decrease the distance from an object of fear or increase the amount of time that they are in the presence of a fearful object.

Another aspect of anxiety that can be measured is the physiological reactions that a person displays when in a fearful situation. Some of these reactions can be visibly observed, while others need specialized equipment to measure the reaction. For example, some people when presented with a fearful situation may visibly tremble, may perspire, may chatter their teeth, or may engage in some repetitive motions. These are physiological reactions that could be observed and documented. Other physiological reactions such as increased heart rate, increased respiration, changes in blood pressure, pain, etc. would require equipment in order to collect data.

Teachers and parents may be asked to collect data on some of these aspects of anxiety in order to make an accurate diagnosis or when a child has undergone treatment. If a child receives treatment for a phobia in a clinic setting, it may be beneficial to collect data on their phobic reactions in settings outside of the clinic. For a child who has undergone treatment it may be useful to collect data to determine whether the effects of the treatment remain after the treatment has been discontinued.

Treatment of Anxiety and Phobias with Young Children

The primary evidence-based treatment for anxieties and phobias for young children falls under the category of cognitive behavior therapy. Meichenbaum (1974) designed cognitive behavior therapy to include self-evaluation and proven behavior analytic techniques such as modeling, explicit instructions, graduated or successive approximation for learning, and reinforcement. Some of these techniques will be described for use with young children. These focus primarily on behavior analytic approaches. The self-evaluation component may not be as relevant for some very young children because they may need adults to help them recognize the situation and, in turn, their response to the situation. As children become older, the self-evaluation component can become more relevant as the child becomes more familiar with how their body is responding, the thoughts they are having, the feelings they are experiencing, and how to implement certain techniques for managing situations that result in anxiety.

Regulated Breathing

One very useful technique when managing anxiety is the regulation of breathing. An anxious person typically increases their respiration by taking very short, rapid breaths. Regulating breathing can result in feelings of calmness and lowered anxiety. This occurs when breathing is slowed down in a controlled manner. These breathing techniques can be very elaborate or they may involve very simple activities that focus on taking in air and releasing the air in a slow, regulated pattern. Table 10.1 provides a step-by-step instructional approach to regulate breathing in a young child. Children may not be able to model the breathing technique exactly and may make modifications to the breathing technique. Personal variations to the breathing technique should be welcomed as long as the child can demonstrate that they can slow their breathing. In addition, some children may be taught when to use the breathing technique in order to address their anxiety (self-evaluation), while others may need to rely on adult prompting on when it

Table 10.1 Steps for Regulating Breathing in a Young Child

Step #1	Have the child sit and focus their attention on you. Tell the child you are going to show them a special way to breathe that will help them relax.
Step #2	Tell the child, "First I breathe in for a count of three." Then demonstrate by breathing in while holding up one finger, then two fingers, then three fingers.
Step #3	Tell the child, "I then hold the breath for a count of three." Then demonstrate holding a breath by filling your mouth with air so that your cheeks expand, then hold up one finger, then two fingers, then three fingers.
Step #4	Tell the child, "I then let the breath out slowly for a count of three." Demonstrate this by blowing air out of your mouth while holding up one finger, then two fingers, then three fingers.
Step #5	Tell the child, "Now watch me do them all together." Repeat the breathing demonstration while holding up 1, 2, and 3 fingers.
Step #6	Tell the child, "Now I want you to try it with me." Repeat the breathing demonstration several times while holding up 1, 2, and 3 fingers.
Step #7	Provide the child with feedback to help them approximate the breathing technique. It is not necessary for the child to model the technique exactly; instead, emphasis should be on having the child recognize and learn how to breathe slowly and in a controlled way. Children may personalize the technique and this is appropriate as long as they can slow down their breathing.

may be most appropriate to use the technique. As children get older and can more readily recognize their feelings, emotions, and situations that may cause them anxiety, more emphasis should be placed on self-initiated regulation of breathing.

Muscle Relaxation

Another similar technique to regulated breathing is muscle relaxation. This is a technique that a young child can use to relax, and as a method for managing anxiety. Muscle relaxation typically involves tightening certain groups of muscles for a short time and then releasing the muscles. Groups of muscles in the body are tightened and released with a general progression from the top half of the body to the lower half of the body or vice versa. For example, a young child might be asked to tighten their facial muscles for approximately 2–3 seconds and then relax their facial muscles. Then the child would be asked to tighten and release their neck and shoulders, then their arms and hands, stomach and chest, then legs and feet. The child would be asked to focus on the feeling that they have in their muscles when they release the muscles. Some children may be capable of completing muscle relaxation techniques once they are provided with a model demonstration of how to use the techniques. Again, these techniques can be promoted by an adult or self-initiated by the child, depending on the individual characteristics of the child.

Systematic Desensitization and Cognitive Behavior Therapy

Joseph Wolpe (1958) developed a technique for treating phobias that was called systematic desensitization. This technique incorporated some muscle relaxation and repeated exposure to situations or items that caused fear in an attempt to alleviate the fear. These procedures vary, but are commonly a component of cognitive behavior therapy involving the use of imagery and exposure to the target of a phobia. A child would be engaged in a discussion about something that causes them fear and the child would evaluate their thoughts and feelings related to the target of their fear. In addition, the child would be exposed to the object of their fear by imagining contact with the object of their fear and then gradually coming into contact with the actual object of their fear. These procedures have been shown to be effective for decreasing phobic reactions in children during a single session and have been referred to as one-session treatment (Ollendick et al., 2009; Öst, Svensson, Hellström, & Lindwall, 2001). These one-session treatments have been demonstrated to alleviate a variety of specific phobias during sessions that last three hours or less.

Systematic desensitization may be useful for addressing very mild instances of separation anxiety. For example, in many preschools young children are first dropped off by their parents and the preschool teachers are expected to address the fears that the children may display from seeing their parent leave them. This is frequently considered as just part of the process of learning to be away from a parent. Preschool teachers often tell parents to just drop off the child, say a quick goodbye, and then leave quickly and don't return regardless of how the child reacts. The preschool teacher may then report back to the parent about how long it took the child to calm down. Another method for addressing these situations might involve systematic desensitization, in which a parent does almost the opposite of the previously described scenario. A parent could take their child to the new preschool, get the child involved in an interesting activity, and then tell the child that they are leaving but will return soon. The parent would then walk away from the child for just a few seconds and then return to the child and ask the child if they are enjoying the activity. The parent would then tell the child again that they are leaving but will return soon. They would then walk away from the child for a very brief, but longer, period of time before returning. This process would be repeated numerous times while gradually increasing the distance and time spent away from the child. The intent is to gradually expose the child to increased instances of being away from the parent. The time the parent is away from the child should be very brief at first and should be increased very gradually so that the child does not become upset. If the child becomes upset, then it may be because the time away has been increased too quickly. After repeated exposures to being away from the parent, the child should begin to adjust to the situation and respond with reduced anxiety. This type of technique can be difficult to implement and may not be something that all parents would be willing or capable of completing.

While these procedures have been shown to be effective for addressing several different types of phobias, the procedures have been used primarily with children over seven years of age (May, Rudy, Davis, & Matson, 2013). One highly probable reason for this age limitation is that cognitive behavioral approaches typically require that a person be able to discuss their emotions and feelings in an attempt to evaluate and change them. Younger children may not have developed the vocabulary to adequately discuss their feelings and emotions. In addition, younger children may not be capable of developing sophisticated analyses of their feelings and emotions because of their limited background experiences. To address these potential characteristics of young children, May et al. recommended two approaches that may be appropriate for use with young children. These approaches included participant modeling techniques and reinforced practice strategies.

Reinforced Practice

Leitenberg and Callahan (1973) described reinforced practice as involving several components such as graduated exposure, performance feedback, reinforcement for performance gains, and instructions that encouraged success. Allen, Stark, Rigney, Nash, and Stokes (1987) used reinforced practice to help reduce the fear of dental procedures for two three-year-old children. They gradually and repeatedly exposed the children to actual dental instruments, including the sounds the instruments made. The children were encouraged to approach the instruments and were reinforced for being cooperative while in the presence of the instruments. While this approach needs further validation, it incorporates several components that have proven effectiveness, such as graduated exposure, reinforcement, and performance feedback. These may be viable options for use with young children.

Participant Modeling

One method for reducing phobias can involve viewing others successfully interacting with a feared object. Participant modeling (Rimm, & Mahoney, 1969; Ritter, 1968) involves having a person with a phobia watch someone else engage with the feared object while not demonstrating any fear. The target of the treatment then attempts to replicate the behavior of the person who they observed appropriately interacting with the feared object. May et al. (2013) presented two case studies that combined participant modeling with reinforced practice for treatment of dog phobia among two young children of four and five years old. They allowed the children to view a dog handler who modeled non-fearful interactions with a dog throughout the treatment and then reinforced the children for increasing their appropriate interactions with a dog. They demonstrated that both children substantially reduced their fear of dogs after 10–13 sessions of the combined treatments. They recommended that these treatments may be an effective method for addressing the phobias displayed by young children.

Summary

This chapter has described some of the most common anxieties and phobias that may be displayed by young children. While anxiety is a normal part of development and can occur frequently among young children, it can become severe and result in detriments to how a child functions in their environment. Parents and teachers may help a young child with anxieties by being aware of how a child behaves when the child is anxious, and being able to collect data on the occurrence of anxiety. While more research is needed to determine the most appropriate practices for treating anxiety and phobias among young children, some strategies such as reinforced practice and participant modeling were described and may have potential for addressing such fears in this population.

Discussion Questions

- What are some common anxieties and phobias experienced by young children?
- How can parents and teachers participate in the assessment of anxieties and phobias in young children?
- How can data be collected on anxieties and phobias?
- Describe some different approaches to treatment of anxieties and phobias that are appropriate for young children.

Chapter 11

Putting It All Together

Connecting with Parents

Overview

This chapter will discuss the importance of parent participation in the child's development and ways teachers can encourage parent involvement. It will include a rationale for this connection in the early years between children and parents and overview the many roles parents can play. In conclusion, the chapter will highlight concepts across chapters 1–10 by providing strategies and hints to bring parents into the equation.

Materials to Learn

- Importance of parent–teacher–child triad
- Encouraging parent support
- Generalization of skills
- Maintenance of skills

Introduction

The importance of parental involvement in schools and the direct correlation to children's success has long been documented. In fact, over two decades ago, Epstein and Dauber (1991) cited research that indicated that if teachers build parent involvement into their teaching practices and routine, then several positive behaviors occur such as increase in interaction between children and parents at home, parents feel more positive in their abilities to assist in school work, parents report stronger ratings of teachers, and student achievement improves. These positive increases in both parent and student behavior hold true today too, as family involvement is referenced by the NAEYC, DEC, and BACB. According to the NAEYC's guidelines for developmentally appropriate practice, one of the five key aspects of the teacher's role is to establish reciprocal relationships with families. In addition, the Division for Early Childhood's (2014) recommended practices in early intervention/early childhood list family practices among their eight topic

areas for effectively working with young children and include family-centered practices, capacity-building practices, and family and professional collaboration. The BACB also devotes a section of the task list to client-centered responsibilities. This section includes items such as social validity (importance to the family and child/student/client), considering the environment and environmental constraints, collaboration with caretakers, and securing support from others in the client's natural environment. With family involvement being referenced in scholarly articles for decades and being cited by national organizations, the remainder of this brief chapter will provide ideas that teachers can add to their current repertoire to better connect with parents. The chapter will also offer strategies that teachers can share with parents to encourage school activities carrying over to the home.

Chapter 1

In Chapter 1, the focus was on an introduction to applied behavior analysis (ABA). This focus implies a shift from other theoretical models and may be new to many parents or in contrast to methods espoused in popular culture. One way to encourage parents to rely on the principles of ABA is through educating them and encouraging them that this method is tried and true, with years of support. One common myth surrounding ABA is that it is not personal, so in an effort to combat this at the outset the teacher may want to set up a meeting with the parent(s) and get to know the parent personally and share success stories about the utilization of the principles of behavior analysis in the classroom. While many teachers send home checklists and

Teacher Tips	Yes	No	Comments
Begin with a warm welcome			
Provide agenda			
Introduce yourself, including hobbies, family, etc.			
Ask parents to introduce themselves and talk about their family			
Begin initial conversations about your classroom management style			
Encourage questions			
Offer case scenarios illustrating times when behavior analysis worked well in the classroom			
Encourage them to come visit your class			
End by letting them know that you value their feedback and that, as a field, behavior analysis values social validity			

Figure 11.1 Flow of a Conversation

interviews to get to their future students, seldom are parent questions asked and rarely do teachers explain the rationale behind their classroom management or teaching style. This may be because it is a professional choice and viewed as academic freedom to run your classroom in the manner you wish, but if you view this as a sharing opportunity, not a defense, you can quickly get the parent to be on your team and then they will advocate and maybe even replicate at home what you have successfully started in the classroom. Suggestions to guide an initial conversation with parents can be found in Figure 11.1.

Chapter 2

Chapter 2 provides essentials for creating an encouraging environment for children. However, what is often not brought to schools' and teachers' attention is that the school environment needs to be encouraging and inviting to parents too. In an article by Graham-Clay (2005), a few environmental and staff/teacher strategies are mentioned to ensure the school and classroom are inviting and welcoming to all parents. One suggestion is to encourage office staff to greet parents, be personal, and not appear distracted. Another recommendation is to keep the areas clean and use children's artwork and awards to decorate the halls. Next, consider having professional developments specifically targeting how to have successful parent–teacher conversations that review the need to avoid educational jargon, come prepared, and have a

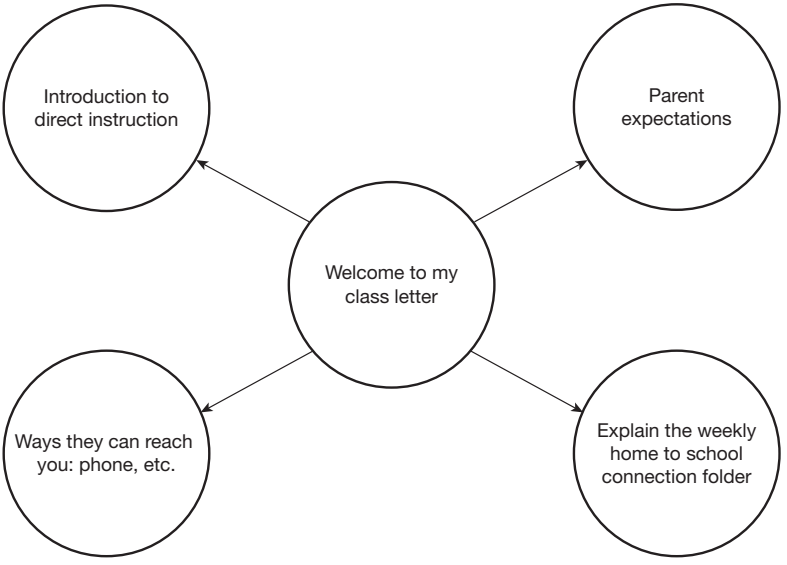

Figure 11.2 Guidance on What to Include in a Letter Welcoming Parents to a Classroom

positive for every negative, if negatives must be discussed, build rapport, be genuine, and stick to the agenda. Lastly, utilize technology as needed to communicate, but never underestimate the power of a personal approach. Environmental structure is a key to success for parents and students alike. Figure 11.2 provides some guidance on what to potentially include in a letter welcoming parents to a classroom.

Chapter 3

Communication is the focal point of Chapter 3. Several ideas are suggested to increase communicative skills, including picture exchange systems and increasing and facilitating joint attention. As a classroom teacher, your efforts are reinforced if parents continue these activities in the home, and the first step is getting parent participation. In Figure 11.3 there are some suggestions that you can share with parents if using a picture exchange.

Teacher Tips	Yes	No	Comments
Provide rationale			
Discuss the need to identify a reinforcer			
Provide pictures ready to be used			
Instruct parents on how to incorporate PECS			
Discuss the need for enthusiasm			
Provide the logic behind home to school consistency			
Discuss how to use prompts if needed			
Provide a system for data collection			

Figure 11.3 PECS with Parents

Chapter 4

Behaviors occur everywhere and all behaviors serve a function for the person exhibiting the behavior. Chapter 4 reminds us that behavior is sometimes managed nicely in one situation, while in other settings there seems to be nothing that can control it. There are many factors that contribute to the existence of behavior in one environment and not in the other, and frequently it can be traced to the environmental contingencies at play. For example, the trigger to engage in a certain behavior may be present in both scenarios, but if the aversive consequence does not exist or is inconsistently implemented in setting A over setting B, then the behavior is more likely to

Tips	Yes	No	Comments
Provide rationale for consistency across environments			
Discuss that all behaviors serve a function			
Review functions of behavior			
Provide a few quick examples of function-based interventions			
Discuss the need for a replacement behavior			
Ask parents what the desired replacement behavior would be			
Assist parents with creating a data collection sheet based on the appropriate measurement system			
Identify reinforcers			
Ask parents if they would like your assistance			

Figure 11.4 Utilizing a Behavior System at Home

occur in setting A. Because of the need for desired behaviors to generalize across settings, it is often necessary that parents follow through with similar consequences at home. Delivering consequences consistently can be difficult for parents, especially in dual-working households, homes with multiple children, and busy families trying to get each child to the practice, tutoring, music lesson they need to attend. In an effort to make this easier on parents, it is recommended that a meeting take place or a phone call occur where time is specifically devoted to explaining why behavior management must occur across all settings. Some tips to be sure to include in this meeting can be found in Figure 11.4. Also, providing the parents with practical strategies for data collection will greatly aid in the process.

Chapter 5

Chapter 5 is dedicated to academics, effective instruction, and enhancing opportunities to learn in the classroom. Similarly to Chapter 4 on behavior, academic skills can be idiosyncratic and thus more likely to occur in some situations than others. It is not uncommon for a teacher to hear from a parent, for example, that Robbie reads at home all the time so I am not sure why he is performing so low in the classroom, or vice versa with children who easily accomplish tasks at school and are unable to complete homework either accurately or timely. When these things happen, there is often a disconnect between home and school. For example, Robbie may have the books at home memorized or is relying on pictures but is expected to read on a second-grade level at school. However, these situations can be headed

Daily parent expectations

Daily expectations	Yes	No	Comments
Check folder with schoolwork			
Ask child about their "job" at school (e.g., line leader, helper, weather person)			
Talk to the child about each subject area			

Weekly home–school connection expectations

Teacher Tips	Yes	No	Comments
Initial each academic page that was done the week before			
Respond to the teacher comment in folder related to the child's progress			
Initial graph of the child's performance related to the previous week			
Set up conference if needed			

Figure 11.5 Daily Parent Expectations and Weekly Home–School Connection Expectations

off early in the year with a few items made clear from the beginning and some strategies for parents to use at home. Send a note home on the first day that explains your teaching style, rationale behind direct instruction, reviewing your expectations for parents to review work daily and then to initial graded work weekly. Explain to the parents that you will be creating a school–home connection folder that will contain all graded work for you to initial the week following the grades. This folder will also contain written correspondence. Monthly, you will add graphs for each subject area that you expect to be initialed as well. By starting off the year with clear expectations and duties for the teacher, student, and parent, the year will go smoothly. See Figure 11.5 for a checklist. Most importantly, be sure only to promise what you can provide. Do not over promise and under deliver. If the monthly graphing is too much for all subject areas or if bi-weekly checks would be better than weekly, pick what is best for you. The important thing is that data are collected, parents know what to expect, and that you communicate to the parents about their child's academic performance.

Chapter 6

Multi-tiered systems of support (MTSS) are relatively new to most schools; especially to the early childhood division. However, in the school districts

with documented success, parental involvement is fundamental. While parent meetings before the school year begins are one great way to kick off the MTSS, another option is to create a website that houses all documents related to MTSS, both academic and behavior. When creating a computerized system for communicating progress to the parent for their child, be conscientious of confidentiality and only use a secure database that requires a unique log-in per family. Also be mindful, when posting classwide goals and trends, that no names or other identifying information is used. Encourage parents to be active participants as they peruse the database and allow comments to be added and transmitted securely. Be sure to include criteria for moving between tiers and how decisions are made. Objectivity is a hallmark of MTSS, as well as transparency, and parents need to be aware of their child's current tier and be provided with ideas for supporting all school efforts at home.

Chapter 7

Mastering toileting is a milestone in the youngest years. In fact, achieving this level of independence is often a time of great celebration; however, reaching the diaper-free stage can be challenging for many parents. This chapter presents the research surrounding this topic and provides guidelines for making this adventure a success. Figure 11.6 highlights the strategies that are discussed in more detail in Chapter 7. Some tips for beginning any toileting program are as follows: look for the readiness signs between

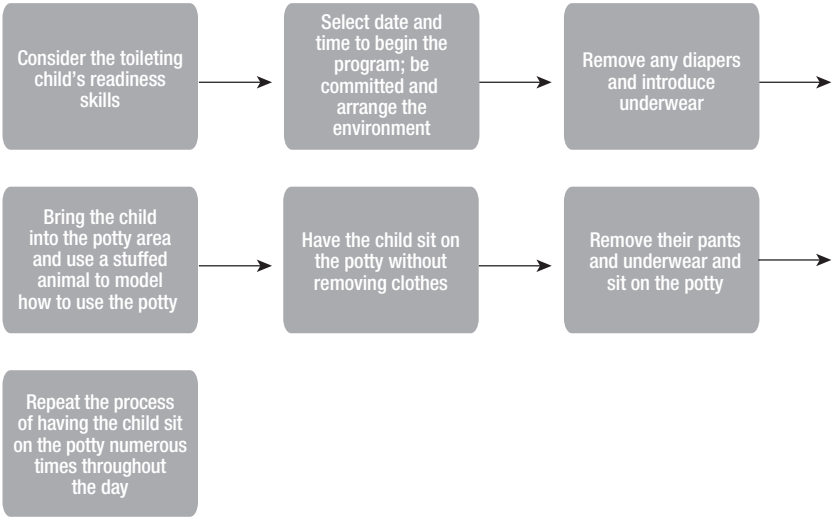

Figure 11.6 Toileting Strategies

approximately two and three years of age; commit to putting forth the time and effort required to implement the program; use rewards for demonstrated success; keep rewards near potty, only allowing access for compliance with the toileting program.

Chapter 8

Chapter 8 reviews feeding problems ranging from medical conditions to social factors. Because feeding issues can result in health issues, it is recommended that parents are advised to seek medical attention for the child prior to beginning a behavioral-based program. While feeding concerns can be cause for major alarm, there are some childhood eating problems that are environmentally controlled and learned over time. Once medical issues have been cleared, the checklist in Figure 11.7 can be a helpful guide for a parent in determining if the nuances are behaviorally based and amenable to applied behavioral interventions or if they are more serious in nature. However, as

Dinner/Cooking Environment: How Often Does the Following Occur?	**0 Never**	**1 Not so often**	**2 Sometimes**	**3 Somewhat often**	**4 Always**
Scheduled meal times					
Variety of food offered					
Manners encouraged					
Quiet time and no screens					
Children are an active part in preparation					
Children are an active part of cleaning					
Dinner at home: if my child refuses to eat what is prepared, I _____					
Prepare a new healthy choice					
Allow them to go straight to dessert					
Cut up into animal shapes					
Disguise as something else					
When eating out, my child will _____					
Only eat off the kids' menu					
I bring in food for him					
Refuse to eat					
Not applicable because we don't eat out					

Figure 11.7 Feeding Problems

a classroom teacher, first discuss all issues related to food selectivity, refusal, texture, and/or color directly with the parent with the intent to both educate them on the medical ramifications of poor nutrition such as growth, puberty (precocious or delayed), and even hospitalization, and encourage them to see a pediatrician if they suspect malnutrition. In addition to the advice in Figure 11.7, keeping a food diary and food inventory can be helpful (Williams & Foxx, 2007).

Chapter 9

Social skills, strategies, and recognition of delays in social communication are the pivotal concepts in the chapter. Social skills include all behaviors that are overtly social in nature, from non-verbal cues such as making eye contact to vocal greetings such as "hello" to proper interpretation of others' body language and tone of voice. As young children it is difficult to understand the importance of interacting with others, the reciprocity of a conversation, and the consequences of not engaging successfully with peers and adults. As a teacher, these skills are often taught, modeled, and reviewed with children; just as academic skills need to be reinforced at home, so too do social proficiencies. One way to have parents work with children is to give them some ideas of helpful tactics to use at home and outside of the school day. One concept to increase carry over into the home is using a reward chart that allows the child to earn points, stickers, or something tangible that can add up to a larger reward given at a later date. In other words, if the skill is asking politely for a snack, then a child could earn a smiley face each time he or she asks politely, and then once a preset amount is achieved the child earns access to the most preferred item. Denying access to the item until all points are reached aids in the success of the reward system working. The reward system described above is an example of a token economy. Figure 11.8 has a sample reward sheet for measuring multiple desired skills at home.

Skill Assessed	Morning Routine	After School	Dinner	Bedtime
Nicely asked for help	□☺ □☹ □ N/A	□☺ □☹ □ N/A	□☺ □☹ □ N/A	□☺ □☹ □ N/A
Shared my toys with brother	□☺ □☹ □ N/A	□☺ □☹ □ N/A	□☺ □☹ □ N/A	□☺ □☹ □ N/A
Said thank you or other appropriate response such as how are you or good night	□☺ □☹ □ N/A	□☺ □☹ □ N/A	□☺ □☹ □ N/A	□☺ □☹ □ N/A

Figure 11.8 Reward System

Chapter 10

Anxiety and phobias do occur in young children and can be very bothersome for both the child and the caretaker. As a teacher, you may learn of an anxiety and/or phobia by listening to the children share stories, or you may witness them in the classroom. The first step when you learn of a fear is to discuss this with the child and parent. However, if you believe that the anxiety or phobia is related to the child's parent or other adult caretaker, please immediately report this to your principal and follow the school rules for reporting suspected abuse or neglect. Young children have many fears that are unfounded and that can be worked on through appropriate modeling, discussions, and role play. In addition to the direct interventions, it is vital that both teachers and parents reflect on their own behavior and ensure that their reactions to normal events are within reason and not exacerbated. Children have a limited vocabulary and sometimes they hear us say one word and misinterpret it for another. For example, consider the case of Kat. Kat is a young child who is dropped off daily at day-care while her mother and father work full-time jobs. Kat is generally a well-adjusted child and smiles frequently. During the last week, you have noticed Kat crying when her mom drops her off and happy when dad drops off and picks her up. You, as the

Things to Consider	0	1	2	3	4	Description
Am I sure my child understands feelings?						
Does my child have appropriate vocabulary?						
Am I creating or adding to the stress?						
Does my child have appropriate reactions? (typical for age)						
Do I model appropriate responses?						
Am I providing enough time to work through unfamiliar situations?						
Does my child have a comforting object?						
Do I model appropriate coping skills?						

Figure 11.9 Parental and Teacher Behavior

classroom teacher, ask Kat what is going on and she tells you openly: "My mom always says to me, have a good day and I will be thinking about you all day long until I see you again!" This sounds fine so you ask Kat what it is that is bothersome and she tells you that she is sad that dropping her off at day-care makes her mom worry. You explain to Kat that thinking about someone does not equate to worrying about someone; however, Kat is not convinced. In Kat's mind, thinking equals worrying. Now that you understand the confusion, you now know what the conversation with the mom needs to entail and how you can better assist Kat in her understanding of the two words. While this example highlights a misunderstanding, it shows how something meant to be a sweet comment can unintentionally result in anxiety for the child. For further examples of how parental and teacher behavior can be misconstrued, refer to the checklist in Figure 11.9.

Summary

Working with parents is essential for all teachers, and creating a working relationship is the first step. Establishing from the outset that you are in your chosen field because of your desire to help and teach young children will make all conversations more efficient. It is often difficult for parents to have their children evaluated, graded, and sometimes not succeed. It is even more difficult for them to have someone else inform them of their child's shortcomings. Keeping in mind a few things will greatly assist you with parental encounters: (a) parents may be resistant to hearing that their child needs assistance; (b) all children have strengths and weaknesses; (c) start all conversations with a positive; (d) give explicit instructions on things they can do to help; and (e) end by letting them know that you are open to suggestions. This last step alerts parents to the fact that you are aware that they have great ideas too. Parents know their own child better than anyone else so it is always in the best interest of the teacher to not come across as arrogant or overbearing. If you suspect resistance, give it time and try again. In conclusion, the parent–teacher relationship is a meaningful element of the child's success.

Discussion Questions

- Why is parental involvement important to success in the classroom?
- What are some strategies for building a strong parent–teacher connection?
- What do you do if you suspect resistance?
- How can you engage the parents from the beginning?

Chapter 12

Creating an ABA Classroom

Working with Assistants

Overview

This chapter recognizes the need to train and supervise teaching assistants to create a classroom that emphasizes data-based decision-making. Instructions are provided for training teaching assistants how to gather several different types of data for the purposes of assessment, intervention development, and evaluation of ongoing student progress. In addition, instructions are given for completing several different types of data collection procedures.

Materials to Learn

- Assessing the skills of teaching assistants
- Providing instruction to teaching assistants on data collection
- Training teaching assistants to implement an intervention
- Providing feedback on teaching assistant performance

Introduction

An important issue faced by most teachers of young children is the supervision of teaching assistants. New teachers frequently note that they have not been prepared to supervise teaching assistants and find this to be difficult. It is essential for teachers to have a plan for working with teaching assistants so that the assistants can learn new skills and perform their duties as expected. The NAEYC, DEC, and BACB all emphasize the need for skill development among those working with young children and implementing procedures. NAEYC (2009) recommends that teaching assistants have training that focuses on modifying and adapting instruction to meet the needs of individual students. The DEC *Recommended Practices* (2014) promotes ongoing training to develop and maintain skills necessary to implement best practices for working with young children. In many cases the classroom teacher may be the primary person responsible for ensuring that teaching assistants have the specific skills needed to work with young children.

If properly trained, teaching assistants can be a valuable resource for developing a classroom that meets the needs of all students. Teachers need to have a method for training teaching assistants to collect data and implement intervention protocols developed for individual children. A method for training teaching assistants will now be described. This will be followed by the presentation of some data sheets and protocols that can be useful for training teaching assistants to carry out some of the more common procedures used with young children.

A Model for Training Teaching Assistants

Teachers need to utilize an effective method for training skills to teaching assistants. In addition, they need a method that can be completed quickly and that can be used for teaching a variety of different skills. Behavior skills training (BST) is a training approach that meets these criteria. Ward-Horner and Sturmey (2012) describe BST as having four components that include instructions, modeling, rehearsal, and performance feedback (see Figure 12.1).

The instruction component of BST consists of providing a verbal explanation of the skills that are being taught. The teacher would simply discuss the tasks involved in completing the activity using easy-to-understand terminology and follow the order in which the steps need to be conducted. Modeling consists of the teacher providing an actual demonstration of how to complete the activity. The teacher may choose to do this in a real situation, but usually this is conducted in a simulated situation. In addition, the modeling may also include a verbal description of the activities being performed. The rehearsal component involves having the learner attempt to perform the skill in a simulated situation. Performance feedback is composed of the teacher providing validation for each of the skills performed accurately by the learner and correcting any errors made by the learner. These steps can be repeated as necessary until the learner achieves a desired level of competence with the skill.

If teachers use this type of systematic method for training teaching assistants, the assistants will become familiar with an instructional strategy that can also be beneficial for their own use when offering instruction to young children in the classroom. One of the most important characteristics of a good classroom teacher is to serve as a model for delivering effective instruction for everyone they work with. This includes instruction they offer to young children, instruction provided to parents, and instruction for teaching assistants.

Step 1: Instructions
This step consists of verbally describing the skill that is being taught. Specific details should be discussed and descriptions provided about how the task begins and how the task ends. Details about any tools or materials that are necessary to carry out the skill should be provided. In many cases, instructions may be provided simultaneously with Step 2.

Step 2: Modeling
This step involves a demonstration of how the skill is performed. The trainer shows how the skill is utilized from beginning to end. Modeling may also include verbal instructions throughout the demonstration. The demonstration is usually a simulation rather than an actual utilization of the skill. Also, in some cases a peer may be recruited to serve as a model in instances where the trainer may not be the most appropriate model. For example, a teacher may not serve as the best model for demonstrating how a child should ask an adult for assistance.

Step 3: Rehearsal
This step offers the learner an opportunity to utilize the skill. The learner attempts to carry out the skill in a similar way to what has been described to them and as they have observed. This is usually conducted in a simulated situation which can be repeated as needed so that the learner can practice and refine the skill.

Step 4: Performance Feedback
This step consists of the trainer providing reinforcement for appropriate utilization of a skill by the learner and corrections for errors made by the learner. This step may be provided simultaneously with Step 3 in order to allow for more immediate feedback for the learner.

Each of these steps may be repeated as deemed necessary by the trainer. In addition, performance criteria should be established early on so that performance can be measured and it is clear when the learner has become competent with a skill. These performance criteria may vary depending on the type of skill being taught. For example, a skill such as turning off the water would require a performance criterion of 100% competence demonstrated several times. Other skills may have less rigorous performance criteria because no one is expected to implement certain less relevant skills with 100% competence at all times.

Figure 12.1 Steps for Conducting Behavior Skills Training

Collecting Data

Previously, in Chapters 4–6, data collection was specifically referenced as a basic set of teacher abilities. While it was not specifically referenced in the chapters focused on feeding, toileting, social skills, or anxiety, the ability to collect data spans all areas related to behavior change, regardless of the type of behavior. Thus, teachers and teaching assistants should be competent at collecting data in all areas of growth. In other words, assistants should be equally skilled in data collection and capable of collecting data for a number of different purposes, similarly to lead teachers. These purposes may include establishing a baseline of student performance, to determine the potential

Student Name:

Date	Time	Activity	Antecedent	Behavior	Consequence	Duration	Observer Initials	Comments

List of target behaviors with definitions

-
-
-

Figure 12.2 General Data Collection Sheet

function of a challenging behavior, to determine the effectiveness of an academic or behavior intervention, or to evaluate maintenance of student abilities. Once the teaching assistant learns to observe and collect data for one of these purposes, they can be taught to generalize these skills for each of the different purposes mentioned. While most teaching assistants will be quickly taught to observe and collect data, the actual analysis of the data collected should be completed by someone who has advanced training in how to interpret the data and make informed decisions using the data.

Figures 12.2 and 12.3 provide an example of a general data collection sheet and some basic instructions for completing the data sheet. These might be useful when training a teaching assistant to collect data. A teacher could use the components of BST to train a teaching assistant to collect data. Once teaching assistants are knowledgeable about data collection, the teacher may find it beneficial to use the data collected by teaching assistants. Because teachers are responsible for what happens in their classrooms, teachers should continually monitor the activities of teaching assistants and periodically conduct some inter-observer reliability or agreement (refer to Chapter 4 for an overview of this) monitoring to ensure that the data collected by teaching assistants are accurate.

Instructions:

1. Put the student's name at the top of the data collection sheet.
2. Review the target behaviors and definitions listed at the bottom of the sheet.
3. As soon as possible after a target behavior is observed, fill in the information requested under each column.
4. Use one row for each target behavior observed.
5. Under the "Activity" heading, list the general activity that was occurring when the target behavior was observed.
6. Under the "Antecedent" heading, write down what was happening immediately (less than one minute) before the behavior was observed.
7. Under the "Consequence" heading, write down what happened immediately (less than one minute) after the behavior was observed.
8. If it is an important component of the target behavior, under the "Duration" heading, write the length of time that the behavior lasted. This characteristic of the target behavior may be more relevant for some behaviors such as tantrums, which may continue for lengthy periods of time.
9. Under the "Comments" heading, write any other information that could be important.
10. When another target behavior is observed, repeat the process using a new row.

Figure 12.3 Instructions for General Data Collection Sheet

Preference and Reinforcement Assessment

Teaching assistants should be capable of conducting preference assessments and providing reinforcement based on the preferences of individual students. Reinforcers are items or activities that are presented after a behavior occurs. They increase the likelihood of that behavior occurring again in the future. Thinking back to Chapter 1 and the definition of reinforcement, if something doesn't increase the occurrence of a behavior then, by definition, it is not a reinforcer. Teaching assistants need to know the different types of reinforcers and how to identify these for individual students.

Reinforcers can be tangible items, social interactions, based in activities, sensory stimulation, or based on tokens. Tangible reinforcers can include food items, toys, drinks, or other items. Social interactions might consist of praise, pats on the back, smiles, hand rubs, etc. Activity type reinforcers could include free time, outdoor time, computer time, etc. Reinforcement in the form of sensory stimulation might involve smells (flowers, perfume, etc.), warmth, cold, vibrations, spinning, swinging, etc.

Chapter 2 described the process of conducting a paired-choice preference assessment. Preference assessments only identify items or activities that are likely to serve as reinforcers. In order to actually measure whether an item or activity will increase behavior, a reinforcer assessment can be conducted. Roane, Vollmer, Ringdahl, and Marcus (1998) described an easy-to-implement reinforcer assessment that can be conducted by teaching assistants with training. In general, the procedure provides a student with access to an item or activity in one location and to a different item or activity in a different location. It then measures the amount of time the student spends in either of the locations. Figure 12.4 provides some general instructions for conducting a reinforcer assessment.

- Section off two areas of a classroom with different colored tape or using some other method.
- Place one item in each of the areas.
- Tell a child that when they are in one of the areas they can interact with the item in that area.
- Show the child each area and each item available in the areas.
- Move the child away from both areas and tell them they can go to either of the areas.
- Also tell the child that they can't remove an item from either of the areas. An adult must make sure this is enforced.
- After five minutes, repeat the process.
- Measure the amount of time that the child spends in either of the areas.

Figure 12.4 Instructions for an Easy-to-Implement Reinforcement Assessment

Functional Communication Training

For a thorough review of communication, refer back to Chapter 3. However, with young children in an early childhood setting, the difficulty commonly centers on communicating their wants/needs. In an effort to understand the young child's desires, teachers are often faced with trying to facilitate vocal communication. As a result, teaching assistants are pulled in to support these activities. Thus, assistants also need the skills to help children learn to communicate. One procedure not referenced in Chapter 3 that can be very useful is functional communication training (FCT). Functional communication training is a procedure that provides children with a way to appropriately request what they want instead of engaging in challenging behaviors. The general procedures can also be valuable to help children learn to utilize their communication in order to let others know what they need or want. Figure 12.5 provides some general instructions and a data sheet for conducting functional communication training.

Instructions:

First, determine what the child wants. For this example we will say that the child wants juice.

Second, determine what the communication response should be for the child. Some children may be capable of more complex verbal responses while others may use sign language or pointing to pictures as their communication response. For this example we will use the communication response of "More juice, please."

Third, when the child indicates or appears to want something, provide the child with a general prompt by directing them to tell you what they want. For example, say "Tell me what you want."

If the child does not use an appropriate communication response within a few seconds, tell the child to use their communication response. For example, the teacher would say "Say, more juice, please."

Mark the data sheet to indicate whether the child used the communication response following a general prompt or if a specific prompt was required.

Student Name:

Date	Time	Communication Response	General Prompt	Specific Prompt

Figure 12.5 General Functional Communication Instructions and Data Sheet

Summary

This chapter compiled pertinent information from earlier chapters that was deemed the most beneficial in terms of training teaching assistants. The emphasis was on basic strategies that teaching assistants should be trained on across topical areas in order to best help the lead teacher. A model, BST, was described for training teaching assistants. In addition, several data sheets and instructions were provided to help with training some of the more essential activities to teaching assistants. The goal of this last chapter was to provide information to make assistants effective partners within a classroom that utilizes ABA strategies.

Discussion Questions

- How can a teaching assistant gain the skills they need to work in a classroom for young children?
- What are some strategies that a teacher can use to train teaching assistants?
- How can the competence of teaching assistants be evaluated?
- What are the most important skills that a teaching assistant needs?
- What are some of the most common duties of a teaching assistant?

Appendices

These appendices serve as a guide to understanding how the content from each chapter represents the standards, task lists, and best practice recommendations for NAEYC, CEC, DEC, and BACB. The charts indicate with a checkmark which book chapters fully or partially cover a standard or practice from the representative organization. These appendices are intended to offer assistance toward developing coursework sequences, syllabi, etc. that cover content recommended by each of the organizations.

Appendix A NAEYC Early Childhood Standards and Accreditation Criteria and Guidance for Assessment

NAEYC Standards 1–10	Ch. 1	Ch. 2	Ch. 3	Ch. 4	Ch. 5	Ch. 6	Ch. 7	Ch. 8	Ch. 9	Ch. 10	Ch. 11	Ch. 12
Relationships	✓	✓							✓	✓	✓	✓
Curriculum	✓		✓		✓	✓		✓	✓			
Teaching	✓	✓	✓		✓	✓						✓
Assessment		✓	✓		✓	✓						
Health		✓					✓	✓				
Teachers	✓											✓
Families											✓	✓
Community relationships						✓					✓	
Physical environment	✓	✓										
Leadership and management						✓		✓				

Source: NAEYC (2014). *NAEYC early childhood program standards and accreditation criteria & guidance for assessment*. Washington, DC: Author. www.naeyc.org/academy

Appendix B Council for Exceptional Children (CEC) Initial Level Special Educator Preparation Standards

CEC Standards 1–7	Ch. 1	Ch. 2	Ch. 3	Ch. 4	Ch. 5	Ch. 6	Ch. 7	Ch. 8	Ch. 9	Ch. 10	Ch. 11	Ch. 12
Learner development and differences			✓	✓		✓			✓			
Learner environments	✓	✓	✓		✓	✓			✓	✓		✓
Curricular content knowledge	✓	✓			✓	✓						
Assessment		✓	✓	✓	✓	✓				✓		
Instructional planning and strategies	✓	✓	✓	✓	✓	✓	✓		✓	✓		
Professional learning and practice	✓										✓	✓
Collaboration								✓			✓	✓

Appendix C Division for Early Childhood (DEC) Recommended Practices in Early Intervention/Early Childhood Special Education

DEC Recommended Practices 1–8	Ch. 1	Ch. 2	Ch. 3	Ch. 4	Ch. 5	Ch. 6	Ch. 7	Ch. 8	Ch. 9	Ch. 10	Ch. 11	Ch. 12
Leadership						✓						
Assessment		✓	✓	✓	✓	✓				✓	✓	✓
Environments	✓	✓	✓		✓							
Family						✓					✓	
Instruction	✓			✓	✓		✓	✓				✓
Interaction		✓				✓			✓	✓		
Teaming/ collaboration								✓			✓	✓
Transition	✓										✓	

Permission to use granted April 1, 2015 by the DEC.

BACB Task List Sections I–III	Ch. 1	Ch. 2	Ch. 3	Ch. 4	Ch. 5	Ch. 6	Ch. 7	Ch. 8	Ch. 9	Ch. 10	Ch. 11	Ch. 12
I. Basic behavior analytic skills												
Measurement (a)	✓			✓	✓	✓	✓					✓
Experimental design (b)												
Behavior change considerations (c)	✓			✓								
Fundamental elements to behavior change (d)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Specific behavior change procedures (e)			✓	✓			✓	✓	✓	✓		✓
Behavior change systems (f)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
II. Client-centered responsibilities												
Identify problem (g)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Measurement (h)				✓	✓	✓	✓	✓				
Assessment (i)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
Intervention (j)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

BACB Task List Sections I–III	Ch. 1	Ch. 2	Ch. 3	Ch. 4	Ch. 5	Ch. 6	Ch. 7	Ch. 8	Ch. 9	Ch. 10	Ch. 11	Ch. 12
Implementation, management, supervision (k)					✓						✓	✓
III. Foundational knowledge												
Philosophical assumptions of BA (FK 1–9)	✓			✓	✓							
Define/provide examples of key terminology (FK10–42)	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓		
Distinguish between verbal operants (FK 43–46)			✓									
Measurement concepts (FK 47–48)				✓		✓						

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