



## Early Childhood Personnel Center

### Cross Disciplinary Competency Area Case Studies

#### Case Study: Intervention/Instruction as Informed by Evidence

##### Key Indicators

The story of Robert, his family, and professional team illustrates key indicators of the cross disciplinary competency area of Intervention/Instruction as Informed by Evidence:

- Demonstrates knowledge of typical and atypical child development (including risk factors) throughout the intervention process;
- Uses valid, reliable, nondiscriminatory procedures and instruments during the assessment process for: a) identification and eligibility, b) diagnostic evaluation, c) individual program planning, d) documentation of child progress, family outcomes, and program impact;
- Uses evidenced based practices when developing the intervention plan (IEP/IFSP) with others including the family;
- Demonstrates applications of evidenced based practices during interventions with a child and family, including the use of accommodations, modifications and adaptations of developmentally appropriate curriculum;
- Collects data to monitor child and family progress and document evidence of intervention effectiveness; and
- Uses evidence-based practices across different service delivery models.

##### Robert and His Family

Robert was born full-term, weighing 6 pounds. Down syndrome (DS) was confirmed at birth and 2 days later he went home with mother, Tracey, father, Terrell, and 9-year-old sister, Sara. His paternal grandmother lives in the neighborhood and many friends and extended family members regularly visit. As recommended during discharge from the maternity unit, the family contacted the Part C, Infants and Toddlers with Disabilities program (early intervention) in their

community and requested a “general checkup of his development.” They requested suggestions for how they can help him “learn and develop as best he can.”

### Initial Evaluation

The initial evaluation took place in the family home Tracey, Robert (3 weeks old), and Sara present. An interview was used to learn about the family’s typical activities and routines and their priorities and concerns. Tracey showed other team members some of the ways they carry and position Robert in his infant seat while he is awake after feeding. She reported he was a good baby, enjoyed being held and liked his pacifier. He was breast-fed, waking 2-3 times during the night for feeding. During the daytime, he nursed every 3 hours, napping for about 90 minutes between feedings. He liked to lie on his mother’s chest and was beginning to lift his head. The family reported that they did not experience any challenging activities since coming home from the hospital. The evaluators noted that Robert responded to his mom’s voice and alerted to sounds in the room. The Developmental Assessment for Young Children, Second Edition (DAYC-2) was administered to provide a baseline of Roberts’ development. The results were shared with the family.

### Initial IFSP Meeting

Because of his diagnosis of DS, Robert was eligible for early intervention (EI) services. The evaluation team reviewed assessment findings with the family to ensure they understood the results. Evaluators and the family worked together to develop an Individualized Family Service Plan (IFSP) that reflected the family’s desire for Robert to gain the strength needed to lift his head and begin to look around, interact, move, and play. The community EI program uses a team-based primary service provider (PSP) model for service delivery. Each child and family is supported by a core team made up of the service coordinator, a special instructor, an occupational therapist (OT), physical therapist (PT), and speech language pathologist (SLP). The professional(s) to interact with Robert and his family on a regular basis was decided upon based on the IFSP outcomes and other factors such as those described in the Worksheet for Selecting The Most Likely Primary Service Provider by Dathan Rush and M’Lisa Shelden. ([https://des.az.gov/sites/default/files/21\\_Selecting\\_the\\_Most\\_Likely\\_Team\\_Lead.pdf](https://des.az.gov/sites/default/files/21_Selecting_the_Most_Likely_Team_Lead.pdf))

After a discussion about which discipline could support the family to achieve their goals, consideration of whether other disciplines were needed to help plan and implement interventions, and how frequently home visits should be scheduled, the team agreed the family’s EI services

would begin with the OT, as the PSP, making home visits, once every other week for one hour. The OT had experience serving young children with DS and saw another family in Robert's neighborhood. The selection of a PSP respected Tracey's worry that multiple visitors into her home would overwhelm her, especially while the family was adjusting to life with an infant.

The IFSP contained 3 main outcomes that were to be accomplished over the next 3-6 months:

1. Robert will participate in playtime with his sister by lifting his head when placed on his tummy and follow a rattle she will shake from side to side.
2. Robert will participate in stroller walks by sitting upright with support at his hips.
3. Robert's parents will maintain a record of developmental skill acquisition using a calendar system.

### Home Visits

During the OT's initial visits, session activities focused on helping the family address their concerns and priorities. The OT focused her visits on:

- identifying the learning opportunities within the family's everyday activities and routines, then discussing, demonstrating and reinforcing how and what Robert learns from these experiences
- teaching Robert's parents individualized strategies to respond to Robert's cues and help him engage with people and toys
- coaching parents to foster extended family members' interaction with Robert to support his development
- monitoring Robert's developing participation in learning opportunities and his performance skills according to developmental expectations,
- discussing any pediatrician and other medical specialty visits and surveillance check-ups, reviewing the family's questions and concerns.

The OT discussed the importance of supervised "tummy time" to help Robert develop strength and practice head control. She explained that spending time in a prone position while awake and supervised was an evidence-based approach to promote his motor development. Tracey practiced different ways she could position Robert on her lap, on her chest, and on a blanket on the floor. During visits, parents and Sara practiced various ways to hold and position

Robert and arrange toys during their floor play to promote social, cognitive and motor development.

Family members used these methods within their caregiving and play activities, embedding multiple opportunities to stimulate Robert's visual, motor, oral-motor, cognitive and social skills during routine activities with him every day. For example, they sang songs to Robert while dressing him, moving his arms and legs in rhythm with the words, and gently spoke about what was happening during bathing.

The OT helped the parents develop simple ways to record new things that Robert accomplished on the kitchen calendar, so they could review this data at the start of each visit, track progress over time, monitor progress to goal attainment, and adjust interventions based on the data. The OUNCE Scale Developmental Profile was completed through the OT's ongoing discussions with Tracey about Robert's performance, together with observation of his activity with Tracey during home visits. At 4 months, he rated as "Developing as Expected" in social and emotional, communication and language, cognitive and physical development.

As weather warmed, the family took Robert outdoors more often. He was a socially engaged baby and the OT and Tracey discussed ways to use this strength to enhance other developmental areas. During a home visit, the OT went with grandmother on one of her regular trips with Robert to the community playground. The OT demonstrated how to position Robert in the stroller, using a roll to provide lower trunk support, so he practiced developing sitting balance during the walk, and how to locate the stroller in the playground areas so he could listen, watch, point and vocalize to the children on play equipment. The OT provided feedback as the grandmother practiced these strategies and interacted with Robert.

While Robert was pointing to family members when asked, saying "da da" and stringing together vowel sounds "ah," "oh," the family began practicing baby signs: more, eat, drink, mommy., Tracey and the OT regularly discussed whether they needed expertise from other early childhood professionals to add perspective and build the family's confidence and competence to support Robert's development and learning.

#### Involvement of Other Team Members

Tracey was very appreciative of the services provided by the OT, and was developing a collaborative relationship with her. She was told by her pediatrician, however, that Robert was delayed in all areas of development and should also be served by the PT, SLP, and a special

educator. Although Tracey initially was concerned about so many people coming into her home, she wanted to follow the “doctor’s orders” and told her service coordinator to arrange for the other providers. With Tracey’s permission the team discussed the recommendations with Robert’s pediatrician and the evidence-based service delivery system used by the EI program. A follow-up meeting with Tracey was arranged and during that meeting the team developed a plan that a PSP would continue but other disciplines would be brought in as Robert developed.

When Robert was eight months old, they requested a physical therapy consult to evaluate Robert’s physical mobility and performance and to address Tracey’s specific concern about whether Robert would walk “on time”. The PT attended a regularly scheduled visit with Tracey and the OT. The team discussed Robert’s developmental trajectory to date and the PT reviewed strategies to stimulate gross motor development. Tracey practiced ways to help him kneel and stand against the sofa with support. The PT shared information about gross motor milestones for children with DS and explained that it would be helpful to compare Robert’s skills to those norms to understand how he was progressing.

The PT offered feedback and wrote a report to document the consultation with recommendations for a follow-up visit in preparation for the annual review of Robert’s IFSP and to complete the Gross Motor Function Measure (GMFM). The PT selected the GMFM because it is validated for use with children with DS and can be used to determine Robert’s gross motor performance compared to other children of the same age who also have DS.

The DAYC-2 was administered at 12 months, with all domain standard scores within “average” except Physical Development which rated “below average.” Robert was actively playing with toys, initiating mouth/vocal games with family, waiting for another to respond and engaging in simple turn-taking games, such as rolling a ball. He went with his parents to Sara’s weekend sports games and enjoyed trips to the grocery store. He was beginning to pull himself to stand and had increased his play in standing at the sofa and with his parents. Robert’s score on the GMFM indicated that his gross motor skills were average compared to children with DS of the same age. However, Tracey continued to have concerns about when Robert would walk and that his ankles “rolled in” during standing. The PT shared information about research showing that treadmill training for infants with DS can reduce delays in walking and might benefit Robert’s overall development as related to independent mobility. The team discussed whether treadmill training was a feasible option for Robert and his family and with permission, the PT

provided Tracey the contact information of another family who used treadmill training with their child. The PT also evaluated the positioning of Robert's feet and ankles in standing and discussed the option of acquiring flexible supramalleolar orthoses to improve his stability. The team reviewed the family's priorities, the services and supports he is receiving and his developmental changes since initiating EI services. Because walking was a priority for the family, a PT home visit every other week was added to Robert's IFSP. Following this visit an additional IFSP outcome was created: Robert will walk around the house by himself. The PT introduced a child-sized treadmill and taught Robert's parents how to safely use the treadmill on a daily basis to promote walking.

At 16 months, the SLP assessed Robert's communication by having Robert's parents complete the MacArthur-Bates Communication Development Inventories (MCDI) and using the Early Language Milestone Scale, 2<sup>nd</sup> edition (ELMS-2). Robert understood and used gestures as expected for his age. Robert's babbling and jargoning, however, were delayed and he did not yet use words. At 18 months, Robert began using 5 words consistently, but intelligibility was limited with few consonant + vowel combinations that could be understood. Expressive language on the ELMS-2 and on the MCDI was delayed as Robert should have approximately 50 words and be putting words together.

Tracey was interested in exploring group activities for Robert so he could start meeting some children his age. The team told her that the special instructor conducted a community-based playgroup at their neighborhood library. The group was open to all children under the age of three and families could just drop in. As attending a variety of different developmentally appropriate activities helps young children to learn through different experiences, the team also shared information on community music and creative movement classes sponsored by the recreation department.

## **Discussion Questions**

1. Robert has a diagnosis of Down syndrome that will result in overall developmental delays. Describe how to address the pediatrician's concern that Robert should receive services from a variety of service providers?
2. Robert's team decided upon a PSP model. Using evidence from the literature and disciplinary position statements, defend the system that Robert's team created?
3. Discuss the advantages and disadvantages of Robert attending a neighborhood play group.

4. Explain how your state decides upon the PSP and the billing and other logistics you use to support the PSP, especially for children with needs in many areas of development.
5. Identify the evidence to support the strategies discussed in Robert's story.