Module: Task Analysis

Task Analysis: Steps for Implementation

Franzone, E. (2009). *Task analysis: Steps for implementation.* Madison, WI: The National Professional Development Center on Autism Spectrum Disorders, Waisman Center, University of Wisconsin.

Task analysis is the process of breaking a skill down into smaller, more manageable components. Once a task analysis is complete, it can be used to teach learners with ASD a skill that is too challenging to teach all at once. Other practices, such as discrete trial training, video modeling, and reinforcement, can be used to teach the individual components, building one upon another, until the skill is complete.

Step 1. Identifying the Target Skill

1. Teachers/practitioners identify the target skill that they want to teach the learner with ASD.

Using the learner's IEP/IFSP goals, teachers/practitioners should identify the skill that the learner needs to acquire. The target skill should consist of a series of chained discrete steps. A single discrete skill is not appropriate for task analysis, nor is a task with multiple variables and/or outcomes.

EXAMPLE #1

Too simple: Turning on the sink faucet (discrete skill)

Just right: Washing dishes

Too complex: Preparing, serving, and cleaning up dinner (multiple variables and multiple outcomes)

EXAMPLE #2

Too simple: Pushing the "on" button on the computer (discrete skill)

Just right: Logging onto the computer and starting a familiar program

Too complex: Logging onto the computer and creating a personal web page (multiple variables and multiple outcomes)

Of course, all instruction should be individualized. For example, a skill that may be too complex for one learner may be very manageable for another. Skills that require a task analysis typically consist of multiple components that comprise a larger skill (e.g., washing dishes, putting on a coat).

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Task analysis is frequently used to teach self-help and other adaptive skills. It also can be used to target social skills using social scripts. Research from the evidence base also demonstrates that task analysis can be used to decrease interfering behaviors. For example, teachers/ practitioners could teach a child what to expect and do at the dentist, thus reducing fears and related behavior problems.

Step 2. Breaking the Skill into Components

In Step 2, teachers and other practitioners break the skill down into smaller steps so that a learner can successfully demonstrate the skill by following the steps.

1. Teachers/practitioners segment the target skill into more manageable components by:

   a. completing the skill themselves and recording each step or

   b observing another person (in real time or via video) complete the activity and recording the steps.

2. Teachers/practitioners confirm that each component consists of a discrete skill.

TASK ANALYSIS EXAMPLE #1: Brushing Teeth (Matson et al., 1990)

a. Obtains materials
b. Takes cap off toothpaste
c. Puts paste on brush
d. Replaces toothpaste cap
e. Wets brush
f. Brushes left outer surfaces
g. Brushes front outer surfaces
h. Brushes right outer surfaces
i. Brushes lower right chewing surfaces
j. Brushes lower left chewing surfaces
k. Brushes upper left chewing surfaces
l. Brushes upper right chewing surfaces
m. Brushes upper right inside surfaces
n. Brushes upper front inside surfaces
o. Brushes upper left inside surfaces
p. Brushes lower left inside surfaces
q. Brushes lower front inside surfaces
r. Brushes lower right inside surfaces
s. Rinses toothbrush
t. Wipes mouth and hands
u. Returns materials

EXAMPLE TASK ANALYSIS #2: Setting the Table (Goodson et al., 2006)

a. Puts down the placemat
b. Places the large plate in the center of the placemat
c. Puts the small plate in the upper left hand side of the placemat

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d. Puts the butter knife on the small plate
e. Places the napkin to the left of the large plate
f. Puts the knife and spoon to the right of the large plate
g. Puts the fork to the left of the large plate on the napkin
h. Puts the dessert spoon and fork horizontally at the top of the large plate
i. Puts the glass to the upper right of the large plate near the tip of the knife

EXAMPLE TASK ANALYSIS #3: Play Activity with Trains (Liber et al., 2008)

a. Asks peer to play
b. Tells peer, “Let’s play trains”
c. Gives peer at least two tracks
d. Tells peer, “Let’s make a train”
e. Asks peer for train pieces
f. Puts train pieces together with peer’s pieces
g. Asks peer for animals to put on train
h. Moves train around track
i. Tells peer, “Your turn!”
j. Tells peer, “That was fun!”

Step 3. Confirming the Steps of the Task Analysis

In Step 3, teachers/practitioners confirm that the component steps of the target skill are demonstrated accurately and completely.

1. Teachers/practitioners confirm the steps of the task analysis by having someone follow the steps verbatim.

By having a colleague or another student follow the steps of the task analysis, teachers/ practitioners can make certain that all steps of the skill are included and that the end result is accurate and complete. Even if a skill is relatively simple, it is easy to leave out steps that we often take for granted or do without thinking. Having another person follow the steps exactly as written confirms whether the task analysis is accurate. If needed, teachers/practitioners revise the component steps based on the feedback obtained through the trial.

Step 4. Determining How the Skill Will be Taught

In Step 4, teachers/practitioners decide how the steps identified in the task analysis will be taught. Before selecting an evidence-based practice to teach the skill, it is important to consider learner qualities, goals, and experiences. Professional wisdom and an understanding of the learner are important when selecting the most appropriate evidence-based practice and implementation strategy.

1. Teachers/practitioners select the appropriate teaching method by matching the evidence-based strategy to:

    a. the learner’s temperament,

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b. the learner's learning style,

c. the history of what has and has not worked for this learner,

d. the learner's IEP/IFSP, and

e. the environments within which the learner functions.

2. Teachers/practitioners identify the evidence-based practice(s) that will be used to teach the steps of the skill.

A task analysis on its own does not teach learners with ASD how to use the target skill. Rather, completing the task analysis is the first step in teaching a skill. Many evidence-based practices include task analysis and/or can be employed to teach specific skills. Some of these include:

- structured work systems,
- video modeling,
- visual supports,
- social narratives,
- discrete trial training (DTT),
- pivotal response training, and
- time delay.

The NPDC on ASD is currently developing online training modules for all of the above practices, and evidence-based practice briefs are available for all of them. **Please refer to the Evidence-Based Practice Briefs on each of these practices for more information (National Professional Development Center on ASD, 2008).**

3. Teachers/practitioners identify the types of prompting and reinforcement procedures they will use in teaching the steps identified by the task analysis and/or that are appropriate for specific evidence-based practices.

Prompting and reinforcement are evidence-based strategies that are important in teaching the steps identified in the task analysis. Furthermore, prompting and reinforcement are used to teach new skills for virtually all other evidence-based practices. Knowledge of how to prompt effectively, using either least-to-most prompting or graduated guidance, is pivotal to teaching chained skills. Teachers/practitioners must also identify the kinds of reinforcers (for example, tangible, verbal, and/or natural) that will be used to teach the skill, and the schedule for providing reinforcement. Thoughtful planning and mindful implementation of prompting and reinforcement are integral components of teaching skills to learners with autism spectrum disorders.

Please refer to *Prompting: Steps for Implementation* (National Professional Development Center on ASD, 2008) and *Positive Reinforcement: Steps for Implementation* (National Professional Development Center on ASD, 2008) for more information about prompting and reinforcement.

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4. Teachers/practitioners present the steps of the task analysis to learners in an age and developmentally-appropriate manner.

Teachers/practitioners must decide how the steps of the task analysis will be represented for learners. A learner who reads may have the steps written out. Another learner may require pictures to represent the steps. Yet another learner may benefit from a video model. Regardless of the format, the steps should be provided in an efficient, clearly understood manner that does not attract undue attention to learners.

Step 5. Implementing Intervention and Monitoring Progress

As noted in Step 4, a number of evidence-based practices, including prompting and reinforcement, may be appropriate for teaching specific skills. Please use resources (steps, implementation checklists, and data collection sheets) developed by the National Professional Development Center on ASD to assist in teaching skills and monitoring learner progress.

1. Teachers/practitioners implement the evidence-based practices identified as appropriate to teach the target skills using the steps for implementation and implementation checklist for the selected practices.

2. Teaches/practitioners follow appropriate data collection procedures to monitor learner progress for the specific evidence-based practices chosen to teach the target skills.

References

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Liber, D., Frea, W., & Symon, J. (2008). Using time-delay to improve social play skills with peers for children with autism. *Journal of Autism and Developmental Disorders, 38,* 312-323.

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