

Grocery lists, alarms, post-its, calendar entries ... these strategies serve as daily prompts for most people. A prompt is a valuable tool for organization and success, but how one determines the effectiveness and efficiency of a prompt relative to a particular need is an individual decision.



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Prompting: A Cautionary Tale



Currently it appears that the use of prompting in the special education setting is farraginous, a confused mixture, a hodgepodge. This article explores definitions of words relative to prompting, the literature, implications of prompting for communication and assistive technology (AT), and the evaluation of the effectiveness of the selected prompt. While prompting is widely practiced as an educational strategy, application needs to be carefully considered, based on research evidence and with attention to the individual, the task, the environment and independence.

DEFINITIONS

For this article, prompting is being discussed as it is applied in educational programs for students classified as "low incidence" or as having "intellectual disability" (ID). IDEA defines ID as "significantly sub-average general intellectual functioning, existing concurrently with deficits in adaptive behavior and manifested during the developmental period, that adversely affects a child's educational performance." [34 CFR §300.8(c)(6)] These are the individuals for whom prompting is most often routinely included in programs to develop communication skills and assistive technology (AT) applications. This article challenges the traditional use of prompting and explores the broader issues related to routine inclusion of prompting in implementation strategies for atypical learners in the areas of communication and AT.

Prompt, cue, prod, nag, direct and instruct are terms that describe what one might use to elicit a "target" response. "Prompts are antecedent stimuli that are effective in getting responses to occur. Put another way, a prompt is a stimulus that controls a particular response (i.e., it is a discriminative stimulus). The prompt is added to a situation in which the naturally occurring stimulus does not yet control the response" (MacDuff et al, 2001) This is also referred to as a "supplementary cue." (Sailor & Guess, 1983) In this article, prompting is defined as an antecedent event that occurs after the environment has been arranged according to implementation strategies and before the target response occurs.

In recognizing prompts as "antecedent events," it is important to know that Brinker (1981) discusses learning as the result of the "consequent event" rather than the "antecedent event." He further stresses the importance of "timeliness

consequence" in supporting learning. Through the Contingency Intervention Project (Brinker, 1982) it was demonstrated that when infants were given switches that they were physically able to activate, sufficient opportunity to use the switches, and reinforcing consequences, they were able to learn control of the environment in the absence of prompting. The results concluded that given the appropriate switch, a motivating consequence (consequent event) and sufficient practice (opportunities to experience co-occurrence), infants were able to control their environment through purposeful switch use.

A prompt is considered "effective" when the prompt, along with the instructional strategy, has been successful in eliciting the target behavior. The "efficiency" of a prompt refers to the total instructional time necessary to elicit the target behavior. A prompt must be faded in order to be considered effective and efficient. The ultimate hope for most learning is that it will generalize across settings, people and time. "Train and Hope" refers to the strategy where "several persons engage in teaching a single action in hopes that the effect will transfer..." (Sailor & Guess, 1983) The "Train and Hope" paradigm (Stokes & Baer, 1977) can occur when instructional or prompting strategies are not analyzed and are not supported by research.

REVIEW OF LITERATURE

It is very difficult to meet the guidelines for "evidence-based" with respect to the research reviewed for this article. It is virtually impossible to have matched control groups when the individual needs of this population are so diverse, etiology so varied and the number of individuals in the target population so limited. Typically, single subject design for small groups makes extrapolation to a larger population unreliable. These concerns and others make it important to be knowledgeable about what is known and what is commonly practiced. Strategies regarding prompting are often based on professional preference rather than on knowledge of what the evidence actually suggests.

It is of interest to note that originally, prompting was used as a strategy for teaching new, gross motor, recreational/leisure skills to adults. Studies reviewed explored the impact of different prompting strategies to teach learning (Touchette, 1984), social interaction, word identification (Karsh, 1990), acquisition of signing (Thompson, 2004), behavior control (Camp et al 2009, Reeve et al, 2007), computer skills (Jerome, 2007), vocational skills (Bennett, 2009), chained food preparation behavior (Schuster, 1988), generalization

(Rincover, 1975, Reeve, 2007), recreational-leisure (Zhang, 2004) and play skills. (Bennett, 2009, Libby, 2008.) The subject designs varied as did the population included in the research. Studies included typical infants (Brinker, 1983, Thompson, 2004) as well as individuals with significant sensory motor differences, autism (Reeve, 2007, Schreibman, 1975, Rincover, 1975, Reeve et al, 2007, Libby, 2008), developmental differences (Jerome, 2007, Zhang, 2004, Schuster, 1988, Touchette, 1984, Biederman, 1998, Camp, 2009.), Down Syndrome (Brinker, 1981 & 1982) and birds (Terrace, 1963). Embedding prompting in instructional programs for individuals with significant sensory motor differences has expanded across skills and programs, however, it is not clear that prompting is always best practice.

In addition to the research focus above, any review of the literature regarding prompting would be incomplete without consideration of the impact of motor differences on the ability of some individuals to independently master a target skill. For some individuals, difficulty initiating, sustaining or terminating an action may impact the ability to be independent. If this is the situation, prompting may continue to be needed until and unless the underlying sensory and motor issues are resolved. For these individuals, prompts, cues, supports, accommodations, adjustments or adaptation of interactions, tasks, situations or environments that assist a person may be necessary. (Donnellan et al, 1995)

EVALUATION OF THE EFFECTIVENESS OF THE SELECTED PROMPT

Ultimately the selected prompt strategy is only effective when the target behavior is performed independently, that is without any prompts. Indicators 5 and 6 from Quality Indicators for Evaluation of Effectiveness (QIAT) have particular relevance when considering the appropriateness of a prompting strategy. Indicator 5 states, "Data are collected to provide teams with a means for analyzing student achievement and identifying supports and barriers that influence assistive technology use to determine what changes, if any, are needed." Indicator 6 states "Changes are made in the student's assistive technology services and educational program when evaluation data indicate that such changes are needed to improve student achievement." When an individual is not mastering a target skill, the prompt may be one of the "barriers" that may need to be "changed." This detail in the implementation strategies can only be identified through careful evaluation.

If a goal is realistic (achievable), criterion is appropriate and yet the goal is

PROMPTING FOR COMMUNICATION AND ASSISTIVE TECHNOLOGY

In reviewing the literature that addresses prompting, one discovers that different prompting types, strategies and/or hierarchies have been demonstrated effective in different situations. Nothing has been validated for all skills for all individuals and prompting works "with some (but not all) students." (Sailor and Guess, 1983) In other words, while "individualized educational programs" are team decisions, prompting strategies are often applied on a "one size fits all" basis. Research that relates specifically to prompting with respect to communication and/or AT is not as extensive as one might hope in light of the frequent use of prompting in teaching these skills. While prompting can be an effective tool, the wisdom of the indefinite, prolonged or sustained use of any particular prompting strategy is questionable. At some point, in some situations, a particular prompt may need to be acknowledged as an accommodation that is necessary to elicit a targeted response. Accommodations are arrangements, supports, changes made within the environment that are documented as necessary for atypical learners to access the general education curriculum. If a prompt is documented as necessary to elicit a target response, that prompt is no longer a prompt. It becomes an accommodation.

Prompt strategies with respect to communication and AT need to consider the independence aspect of the goal. If the goal is to communicate and/or control one's environment independently, then one must understand:

- **If one wants something, one must ask for it or activate the switch.**
- **If one does not ask or activate, one may not get what one wants.**
- **If one does not want something, one should not ask or activate the switch.**

Across the literature, the importance of fading prompts is universally recognized, although agreement as to which type of prompt is most easily faded is debatable. When prompting strategies are employed, the individual is taught to do SOMETHING when prompted, not wanting/not asking (declining) is not an option. In such situations, prompting may lead to prompt dependence (Kashman & Mora, 2005.; Korsten, Foss & Berry, 2007), contrary control and/or consequence confusion. (Korsten, Foss & Berry, 2007).

Prompt dependency occurs when the individual does not complete the task independently with only the natural cues. Contrary control occurs when the individual learns that the only control available lies in refusing to do what is asked. The desire to control is more powerful than the desire to receive. Consequence confusion occurs when the individual complies to please, even when there is no interest in the consequence.

DISCUSSION

The research regarding prompting does not provide absolute links indicating that a particular skill can be more efficiently and effectively taught to particular types of individuals using a particular prompting strategy. The concepts relative to prompting within the special education instructional strategies are so integrated it is difficult to separate them, and they do not stand alone in eliciting the target response. This discussion addresses the importance of these concepts in the big picture of communication and AT. It is a challenge to isolate prompting and its purpose while maintaining a mindful focus on each step of instructional strategies. Documentation of particularly effective prompts was difficult to locate due to the low incidence of this population and the wide variety of needs and abilities in the this population. Prompting is often the result of impatience and the learner is not provided with enough response time and sufficient opportunities to practice and learn.

In the literature, definitions of prompting were far ranging since prompts were referred to as cues, nags, hints, prods, instructions and stimuli that may be supplemental, artificial or natural. Prompts can create confusion, contrariness, dependency, avoidance, anger, as well as, closure, compliance, clarity and organization. Prompts can be delivered verbally, auditorally, gesturally, physically, visually, textually and tactually. In some situations, prompting may derail the opportunity to learn appropriate declining, that if one does not want something, one should not ask for it. If the absence of the desired response leads to prompting, then the opportunity to learn appropriate declining may be lost. Individuals with movement differences or dyspraxia may have an inability to plan, sequence and execute the actions. (Shoener et al, 2008) This individual may require a physical touch to enable execution of the desired motor task. (Donnellan, et al, 1995) In such situations, a carefully thought out prompting strategy may be necessary to compensate for the motor difference. When it appears that an individual relies on the prompt (due to praxis or any other barrier) consideration should be given to identifying the prompting required and documenting it as an accommodation.

Prompts are antecedents that are presented to an individual identified as having intellectual disabilities (ID) who does not respond correctly or independently to natural cues or general education instructions. Learning is the result of the "consequent event" rather than an "antecedent event." A prompt or cue may elicit a target response, but actual learning occurs when it is followed by an effective consequence. Prompts are effective and efficient if, when the prompt is faded, the target response follows the natural cues spontaneously and independently.

not mastered, several factors may warrant consideration. These considerations may include the evaluation of the effectiveness of components of the goal, student ability and interest, environmental arrangements/ supports and implementation strategies. Does the technology match the abilities of the user? Does the consequent event match the individual's interests? Does the goal address independence? Does the student have sufficient opportunities to practice or experience success? Does the implementation strategy take into account these critical elements (interests, abilities and independence)? "Data must guide decisions regarding teaching strategies! The purpose of designing and collecting data is to document progress and identify when and how strategies need to be changed." (Korsten, Foss & Berry 2007)

CONCLUSION

In conclusion, key concerns regarding prompting are the necessity, the selection, the implementation, the evaluation and the fading of the prompt and, ultimately, the independent target response to natural cues. It is universally accepted that prompts are to be faded, but often, fading is very slow to take place and independence is compromised. Continuous, on-going evaluation of implementation strategies, prompting strategies, student interests and abilities is essential in documenting progress or barriers to progress and the need for a change in strategies. Ongoing analysis of effectiveness diminishes the "one size (prompt) fits all" approach and identifies prompting that is contraindicated, is effective or is actually an accommodation.

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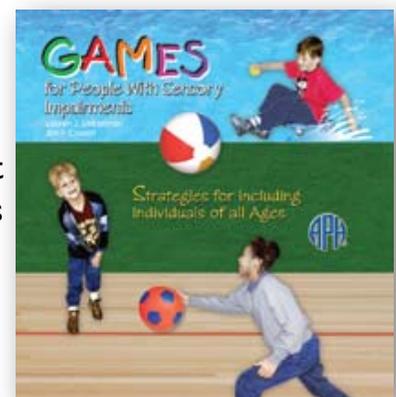
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