

*BEHAVIORAL CUSPS: A MODEL FOR
SELECTING TARGET BEHAVIORS*

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A *cusp*, as defined by Rosales-Ruiz and Baer (1997), is “a behavior change that has consequences for the organism beyond the change itself, some of which may be considered important” (p. 537). For example, when a child learns to walk, that child gains access to environmental stimuli and contingencies (interactions with siblings or with the family pet) that would be otherwise unavailable. These contingencies may shape other behaviors such as social play, running, and dancing. From the standpoint of application, it might be especially useful to construct guidelines for the a priori identification of potential cusps. Just as with reinforcement, cusps are identified by their effects. A priori identification of potential reinforcers can take the form of a reinforcer assessment or a stimulus preference interview, but no analogous methods exist to identify possible cusps.

We have integrated some criteria for cusps proposed by Rosales-Ruiz and Baer (1997) with some of our own as a suggested starting point for the a priori identification of cusps. Articulating preliminary criteria for assessing a cusp may be an initial step to developing a system for prioritizing target behaviors based on their potential for long-term benefits for the learner. Suggesting the need for a more systematic method of prioritizing target behaviors does not imply that the target behaviors reflected in current behavior-analytic research fail to qualify as cusps. However, the process we are suggesting might allow a more systematic selection and prioritization of target behaviors in behavior-analytic

research and practice. We propose the following criteria as a preliminary set of guidelines for the a priori identification of important behavior changes: (a) access to new reinforcers, contingencies, and environments; (b) social validity (both proposed by Rosales-Ruiz and Baer); (c) generativeness; (d) competition with inappropriate responses; and (e) number and the relative importance of people affected.

What follows is a brief elucidation of the above criteria along with questions that might be posed to evaluate whether a behavior fulfills these criteria. It may prove to be possible to develop rating scales or other means to quantify the extent to which a behavior meets these criteria. Presumably, a behavior would qualify as a cusp if it met one or more criteria. Furthermore, it may be possible to prioritize among responses based on a combination of factors including the number of criteria met, the relative importance of the criteria, and the strength of the rating within a criterion.

*Access to New Reinforcers, Contingencies,
or Environments*

Will the response have the potential to contact new reinforcers? Or, will the response give the learner access to new environments? We may conclude that an apparently insignificant behavior, such as pushing a button, qualifies as a cusp and is therefore worthy of high priority as a target for change if button pushing allows the learner access to new reinforcers such as listening to music, watching television, or getting soda from a vending machine. Note that the concept of a cusp encourages us to consider the future far-reaching implications of the behavior

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rather than focusing exclusively on proximal environmental effects. This involves two extrapolations: first, that the behavior will indeed produce the projected consequences (a prediction based on observing others engage in the target behavior and a detailed knowledge of the physical and socially mediated contingencies in the host environment) and, second, that the consequence will indeed function as a reinforcer. An example of access to new contingencies and environments may be when individuals learn to cross the street (Neef, Iwata, & Page, 1978). Street crossing may allow access to the mall, the movie, or the coffee shop, thus opening environments that may support further behavioral changes. However, we should not teach individuals to cross the street if that response is subsequently punished or if the caregiver weakens the establishing operation for the response by providing the reinforcers that are typically found at the mall, the movie, or the coffee shop.

Generativeness

Does the response facilitate subsequent learning by being either a prerequisite or a component of more complex responses? This criterion refers to the potential for recombination of minimal repertoires into more complex response classes. For example, learning to read phonemes (a relatively small set of textual responses) may allow reading of an infinite number of words. Learning phonemes has great generative potential because their recombination will allow reading without having to learn each word separately. Thus, initially teaching reading as recognition of whole words (i.e., sight-word reading) may be less desirable than teaching textual responses under control of smaller functional units (i.e., phonemes) because of the potential to decode novel words by phonetic reading. However, in some rare situations, learning to read specific words or symbols may have important implications. Reading

“danger” from a toxic container may qualify as a cusp because it prevents some life-threatening situations. But, if taught as a sight word, it would have little generative power and poor validity according to this criterion. Ultimately, the new reader should also be provided with “interesting” (based on a reinforcer assessment) or “valuable” (in the sense that reading alters behaviors that contact other reinforcers) reading material for the behavior to achieve its cusp potential.

Competition with Inappropriate Responses

Inappropriate behaviors are those that have a negative impact on welfare, learning, and performance. When selecting a response, one could ask, “Is the behavior interfering with or replacing inappropriate behaviors?” For example, teaching mands may decrease the frequency of inappropriate behaviors (e.g., Vollmer & Vorndran, 1998) in contexts in which the inappropriate behavior was maintained by access to items or activities that can now be accrued via the mand. Moreover, teaching a child to ask another person to open a bottle, or to open a bottle on his or her own, may replace inappropriate behaviors such as throwing the bottle. Because inappropriate behavior occurs on a continuum of severity, competing behavior also occurs on a corresponding continuum of importance as a cusp. For example, chewing food with one’s mouth closed may be a cusp in certain social circles but may fail to qualify as a cusp with less socially refined friends or when eating alone.

Number and Relative Importance of People Affected

Does the response benefit others? Teaching siblings of children with autism basic skills that promote social interaction may affect their impaired sibling as well as the whole family (e.g., Lee & Odom, 1996). Similar arguments can be made about the importance of selecting health behaviors that

prevent high-incidence illnesses (e.g., sexually transmitted diseases) and about the relative merits of training research versus direct-service skills (Skinner, 1972). All other things being equal, selecting potential cusps based on their impact on the people who control reinforcers and punishers in a specific environment (e.g., parents, teachers, police officers) is more important than the impact on those who lack such control.

Social Validity

Does the behavior have social validity in that the response meets the demands of the social community of which the learner is a member (Wolf, 1978)? This criterion is especially important in presenting behavior-change programs to parents and other consumers. Parents' indifference towards the target behavior may undermine the other criteria that might have identified the behavior as a potential cusp.

In conclusion, the concept of a cusp may help in the selection and prioritization of behavior-change goals. It reminds us that some apparently insignificant behaviors of questionable face validity may dramatically affect the learner. For example, Staats (1996) describes the way in which he learned to tap his fingers and make different sounds. A seemingly insignificant (or annoying) behavior such as finger tapping could be a cusp for a percussionist or for the development of keyboard skills!

We hope that this paper provides a preliminary set of guidelines for the selection and prioritization of potentially important target behaviors (i.e., cusps). Although behavior analysts may, in practice, already consider some or all of these issues in selecting target behaviors, we propose a set of criteria that may facilitate the development of a

more systematic process to evaluate the importance of target behaviors. In addition, although behavior analysts are familiar with the technology used for establishing and maintaining behaviors, the process of selecting and prioritizing target behaviors remains controversial and in need of systematic development. The concept of a behavioral cusp provides a promising model for targeting some behaviors because it emphasizes the far-reaching implications of selecting a target behavior. The clarification of a priori dimensions for determining if a behavior might be a cusp is an important step in realizing the potential of the cusp concept as well as a way to improve the effectiveness, acceptance, and durability of applied interventions.

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