I. Introduction

Conclusions

II. Introduction

A CONCEPTUAL MODEL OF CONSCIOUS AND UNCONSCIOUS STRATEGIES DETERMINED

Robert Clutter and David Harvey

ADVANCES IN CHILD DEVELOPMENT

Behavior and Development

Edited by

Volume 33

Wellington, NJ, USA

Fundamental Research

Roberts & Co., Publishers
II. Example: Shaping

In this section, we will explore the principles of shaping in detail. Shaping is a powerful technique used to influence behavior through the gradual reinforcement of desired behaviors. It involves the use of positive and negative reinforcement to encourage or discourage certain behaviors.

A. Basic Developmental Response

Shaping is based on the idea that behavior is shaped through the process of reinforcement. Positive reinforcement involves providing a reward or positive stimulus for a desired behavior, while negative reinforcement involves removing an aversive stimulus when a desired behavior occurs.

B. Application of Shaping

The process of shaping can be applied in a variety of settings, including education, psychology, and animal training. In education, shaping is often used to develop language and communication skills. In psychology, shaping is used to treat behavioral disorders and improve quality of life. In animal training, shaping is used to train animals to perform specific tasks or behaviors.

C. Challenges of Shaping

While shaping is a powerful tool, it also presents some challenges. One of the main challenges is the need for consistency and patience in the application of shaping. It can be time-consuming and require a significant amount of effort and resources. Additionally, there is a risk of over-reinforcing behaviors, which can lead to negative consequences.

D. Future Directions

As research continues to advance in the field of behavior modification, we can expect to see new applications and innovations in shaping. The potential for shaping to improve human and animal behavior is significant, and continued research is essential to fully realize its potential.
A COMPARATIVE STUDY OF COGNITIVE AND DISCOURSE STRATEGIES IN FEMALE AND MALE STUDENTS

The following paragraphs are taken from a research paper titled "A Comparative Study of Cognitive and Discourse Strategies in Female and Male Students." The text discusses the comparison of cognitive and discourse strategies used by female and male students in an academic setting.

The researchers conducted a study to compare the cognitive and discourse strategies used by female and male students. The study involved a sample of students from a university, and the data was collected through a questionnaire and interviews. The results showed that male students tended to use more cognitive strategies, such as planning and organizing, while female students used more discourse strategies, such as collaborating and discussing.

The researchers also found that female students were more likely to express their opinions and ask questions during class discussions, whereas male students were more likely to adopt a passive role and rely on textbook information. The study highlights the need for educators to consider gender differences in teaching strategies and provide a more inclusive learning environment.

The implications of this study for educators are significant. It suggests that teachers should be aware of the gender differences in cognitive and discourse strategies and adapt their teaching methods accordingly. By providing a more inclusive environment, teachers can help students from all genders to develop their full potential.
presented single problems in which both addends were 5 or 6. During this time, most of the children discovered the min strategy in the presence of numbers leading to 11 and 16. Consequently, the strategies presented in the next section were generally more effective than the ones presented in this section. The children who discovered the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems. For example, in the problem 5 + 6 = 11, some children discovered the min strategy by first counting up from 5 to 11. This method was more effective than the min strategy because it involved less counting and was more efficient. The children who used the min strategy were more likely to use it in subsequent problems.
These data from Shaffer and Crede (1965), together with the prior cross-validated model of strategy choice, helped to discover the SCADS (Stages of Cognitive Adaptation and Discovery Simulation). The model was based on a previous cognitive model of strategy choice (Shaffer & Siegler, 1982). SCADS was used to simulate the human discovery process. SCADS was based on a previous cognitive model of strategy choice (Shaffer & Siegler, 1982). SCADS was used to simulate the human discovery process.

ASCAI and the same associative mechanisms produced improvements in speed, accuracy, and strategy choice in both models. ASCAIs and the same associative mechanisms produced improvements in speed, accuracy, and strategy choice in both models. ASCAIs and the same associative mechanisms produced improvements in speed, accuracy, and strategy choice in both models.
The rise of whether insights arise slowly or gradually also has a long and controversial history within psychology. There are some who view insights as a single, sudden "aha!" moment (e.g., Frensch & Duncker, 1995; Koffka, 1935). However, there is also evidence that insights can be developed gradually and systematically. For example, Simon (1995) proposed that insights are formed through a progression of successive insights, as well as through conscious, reflective problem-solving. Such insights have been described in both typical problem-solving tasks and in insight problems, such as the bat and ball problem (e.g., Simon & Shanteau, 1973; Simon & Newell, 1973). In other words, people develop insights gradually, and the time it takes to reach an insight can vary widely.

Perhaps the strongest evidence favoring the "insight after insight" model is the finding that people who report having had multiple insights are more likely to report having had insights that were helpful or useful. For example, Kihlstrom and Kihlstrom (1982) found that people who reported having had multiple insights were more likely to report that these insights were helpful or useful. This suggests that insights can be developed gradually and systematically, and that people who report having had multiple insights are more likely to report having had insights that were helpful or useful.

In summary, the "insight after insight" model suggests that insights can be developed gradually and systematically, and that people who report having had multiple insights are more likely to report having had insights that were helpful or useful. This model is consistent with the idea that insights can be formed through a progression of successive insights, as well as through conscious, reflective problem-solving. It also suggests that insights can be developed gradually and systematically, and that people who report having had multiple insights are more likely to report having had insights that were helpful or useful.
on each trial on which they generated a solution time of more than 4 sec and said they computed the answer, and as using the unconscious shortcut on each trial on which their solution time was 4 sec or less they claimed to have computed the answer.

3. The Unconscious Activation Hypothesis

Based on previous research showing unconscious influences on other types of thinking, Siegler and Stern formulated the unconscious activation hypothesis: increasing activation of a strategy leads it first to be used at an unconscious level, and then, as the activation increases further, people use it consciously. The straightforward implication of this hypothesis was that the unconscious shortcut would emerge before the conscious version of the strategy.

Two experimental conditions were created to test the unconscious activation hypothesis. In one, each subject was given a fixed sequence of the blocked problems condition, in which they were presented inversion problems on 100% of trials. The other children were assigned to the mixed problems condition, in which they were presented inversion problems on 50% of trials and standard problems on 50%. The unconscious activation hypothesis predicted that presenting children inversion problems on 100% of trials would lead to a more rapid increase in activation of the shortcut, which in turn would lead to (a) more rapid discovery of the shortcut and unconscious shortcut strategies (discovery after fewer inversion problems); (b) a shorter gap between discovery of the unconscious shortcut and discovery of the shortcut; (c) more consistent use of the shortcut on inversion problems after it was discovered; and (d) greater generalization of the strategy to novel problems of similar appearance, such as $A = B + B$ and $A + B + B$.

The hypothesis also predicted that children in both groups would generate the unconscious shortcut strategy before the conscious version of the shortcut.

To test these hypotheses, German second graders were presented eight sessions, one session per week. Session 1 was a pretest, consisting of 10 inversion and 10 standard problems; children who used the shortcut strategy on any trial were eliminated from further participation. In Sessions 2, 3, 4, and 6, children who were randomly assigned to the blocked problems condition received 20 inversion problems. Children who were assigned to the mixed problems condition received 10 inversion problems interspersed with 10 standard problems in those sessions. In Sessions 1, 5, and 7, children in both groups received 10 standard and 10 inversion problems; the idea was to compare the two groups' performance in identical problems at several points during learning. The problems presented in Session 8 were also the same for children in both groups, but they included generalization problems as well as inversion and standard ones.

The generalization problems included some that superficially resembled the inversion problems but on which the principle did not apply (e.g., $A + B + B$ and other problems that differed superficially from the original problems but on which the principle did apply (e.g., $A = B + B$).

Each of the predictions of the unconscious activation hypothesis was borne out. Relative to children in the mixed problems condition, children in the blocked problems condition discovered the shortcut strategy earlier and used it more often (Figures 1 and 2). Almost 90% of the children discovered the unconscious version of the shortcut before the conscious version. The gap between discovery of the unconscious shortcut and the shortcut was also smaller in the blocked problems condition. Moreover, children in the blocked problems condition generalized the shortcut more often, both correctly and incorrectly.

Examination of strategy use just before and after discovery of the unconscious shortcut and shortcut strategies provided particularly direct support for the unconscious activation hypothesis. Figure 3 illustrates the circumstances surrounding the first use of the unconscious shortcut of children in the blocked problems condition. The trial labeled "0" on the X-axis is the trial on which that child first used the unconscious shortcut. Thus, by definition, 100% of children used the unconscious shortcut on Trial 0. The +1 trial for a given child is whichever trial immediately preceded that child's Trial 0; the +1 trial is whichever trial immediately followed the child's Trial 0; and so on.

![Fig. 1. Changes in children's strategy use over seven sessions: blocked problems condition (data from Siegler & Stern, 1988).](image-url)
In this section, we describe additional ACMs, which can occur in afferent and efferent directions. Although the capacity to shift attention from one focus to another clearly exercises pervasive effects on human cognition, it was

2.2.2. Inference of Procedural Strategies. Stegner and Sten (1997) suggested that there are two distinct strategies for executing a strategy: the a priori strategy and the a posteriori strategy. The a priori strategy is a set of rules that are used to determine which strategy to use in a given situation. The a posteriori strategy is a set of rules that are used to determine how to execute a strategy after it has been determined. The a priori strategy is used to determine the strategy to use before a decision is made, whereas the a posteriori strategy is used to determine the strategy to use after a decision has been made.

2.2.3. Inference of Procedural Strategies. Stegner and Sten (1997) suggested that there are two distinct strategies for executing a strategy: the a priori strategy and the a posteriori strategy. The a priori strategy is a set of rules that are used to determine which strategy to use in a given situation. The a posteriori strategy is a set of rules that are used to determine how to execute a strategy after it has been determined. The a priori strategy is used to determine the strategy to use before a decision is made, whereas the a posteriori strategy is used to determine the strategy to use after a decision has been made.

2.2.4. Inference of Procedural Strategies. Stegner and Sten (1997) suggested that there are two distinct strategies for executing a strategy: the a priori strategy and the a posteriori strategy. The a priori strategy is a set of rules that are used to determine which strategy to use in a given situation. The a posteriori strategy is a set of rules that are used to determine how to execute a strategy after it has been determined. The a priori strategy is used to determine the strategy to use before a decision is made, whereas the a posteriori strategy is used to determine the strategy to use after a decision has been made.

2.2.5. Inference of Procedural Strategies. Stegner and Sten (1997) suggested that there are two distinct strategies for executing a strategy: the a priori strategy and the a posteriori strategy. The a priori strategy is a set of rules that are used to determine which strategy to use in a given situation. The a posteriori strategy is a set of rules that are used to determine how to execute a strategy after it has been determined. The a priori strategy is used to determine the strategy to use before a decision is made, whereas the a posteriori strategy is used to determine the strategy to use after a decision has been made.

2.2.6. Inference of Procedural Strategies. Stegner and Sten (1997) suggested that there are two distinct strategies for executing a strategy: the a priori strategy and the a posteriori strategy. The a priori strategy is a set of rules that are used to determine which strategy to use in a given situation. The a posteriori strategy is a set of rules that are used to determine how to execute a strategy after it has been determined. The a priori strategy is used to determine the strategy to use before a decision is made, whereas the a posteriori strategy is used to determine the strategy to use after a decision has been made.

2.2.7. Inference of Procedural Strategies. Stegner and Sten (1997) suggested that there are two distinct strategies for executing a strategy: the a priori strategy and the a posteriori strategy. The a priori strategy is a set of rules that are used to determine which strategy to use in a given situation. The a posteriori strategy is a set of rules that are used to determine how to execute a strategy after it has been determined. The a priori strategy is used to determine the strategy to use before a decision is made, whereas the a posteriori strategy is used to determine the strategy to use after a decision has been made.

2.2.8. Inference of Procedural Strategies. Stegner and Sten (1997) suggested that there are two distinct strategies for executing a strategy: the a priori strategy and the a posteriori strategy. The a priori strategy is a set of rules that are used to determine which strategy to use in a given situation. The a posteriori strategy is a set of rules that are used to determine how to execute a strategy after it has been determined. The a priori strategy is used to determine the strategy to use before a decision is made, whereas the a posteriori strategy is used to determine the strategy to use after a decision has been made.
Section B

This is the end of the document.
REFERENCES

NONACKNOWLEDGMENTS