Cover, Copy, and Compare is an academic intervention that has been used for many years to help students improve their academic skills in multiple subjects, including spelling, geography, and mathematics. It is a simple, efficient, self-managed academic intervention that has been used to improve accuracy, fluency, and maintenance across students, curricula objectives, academic skill domains, and settings. In the Cover, Copy, and Compare intervention's simplest form, it requires students to look at an academic stimulus, cover the academic stimulus, respond by copying the stimulus, and evaluate the responses by comparing it to the original stimulus (Skinner, et al., 1997). There is a large research base on the effectiveness of the Cover, Copy, and Compare (CCC) intervention. This research includes studies that demonstrate the intervention’s use with multiple subjects and across several different groups of students.

**Theoretical support**

Several classical learning principles may account for the positive effects of CCC. First, the principle of contiguity states that shorter intervals between the presentation of a stimulus and the response results in a greater increase in performance. The short interval in CCC between observing an appropriate response (the stimulus) and responding increases the probability of responding correctly. The short latencies between correct sample responses and the students’ responses also occasion high levels of accurate responding (Skinner, et al., 1993). Several researchers have found that academic interventions with high rates of accurate, overt student responding tend to result in larger gains in learning than those with low rates of responding (Skinner & Belfiore, 1992).

The self-evaluation procedure may both provide immediate reinforcement for accurate responses and prevent students from practicing inaccurate responses (McLaughlin & Skinner, 1996) (Skinner, et al, 1997). This immediate self-evaluation component ensures that the last response within each CCC learning trial is correct and, in doing so, may prevent future errors due to recency effects (Skinner, et al, 1997).

Since CCC learning trials take up little time, students can complete many learning trials in a brief period of time, which has been associated with increases in accuracy, fluency, and maintenance (McLaughlin & Skinner, 1996). In a study conducted in 1991 by Skinner, Ford, and Yunker, one student was shown to be able to complete on average about 90 CCC learning trials in under two minutes (Skinner, et al, 1997). These rapid learning trial rates allow for many practice opportunities for students and also allow time for over-learning (Skinner, et al, 1997).
Empirical support

*Skinner & Belfiore, 1992:* This study was designed to evaluate the effects of a Cover, Copy, and Compare intervention in the academic domain of geography (specifically by working with students on identifying states on a United States map). Seven students with behavior disorders (social emotional disorders) in a self-contained classroom were administered the intervention. The students each received a map with the states correctly labeled, as well as a stack of index cards with the names of the states, a penny, and a map without the names of the states on it. After completing training on the CCC procedure, every morning for approximately five minutes, each student would work on the intervention. First, each student would turn over an index card and locate the state on the labeled map; then, the student would turn over the labeled map and place the penny on the same state on the unlabeled map. Finally, the student turned the labeled map back over and checked the response. The results of the study found that the intervention was effective in increasing the class mean accuracy level in identifying states. Furthermore, results of a student questionnaire found that students rated the CCC intervention as highly acceptable.

*Skinner, Bamberg, Smith, & Powell, 1993:* The purpose of this study was to evaluate the effects of a Cognitive, Cover, Copy, and Compare intervention on the division fact performance of three students in a self-contained classroom for students with behavioral disorders. For this version of the CCC intervention, students were trained to examine a division problem with the answer, cover up the answered problem, and then say the problem and answer to themselves (subvocally). The students would then uncover the answered problem and self-evaluate their subvocalizations from memory. The results found that two of the three students increased their rate of correct responding to the mastery level following the intervention. In order for the third student to reach mastery level, feedback and goal setting were provided. Each of the three students maintained increased rates of correct responding to division facts eight months after the intervention took place.

*Conley, Derby, Roberts-Gwinn, Weber, & McLaughlin, 2004:* As mentioned previously, the CCC intervention has been found to be effective in academic domains including spelling, mathematics, and geography. This 2004 study compared the effectiveness of the CCC intervention to a picture-word matching intervention for teaching sight word recognition. Five kindergarten students served as the test subjects for the experiment. The dependent variable for the study was the percentage of words read correctly. The results found that the CCC intervention, the word-level teaching method, led to better long-term effectiveness (better maintenance of word recognition) than the picture-matching intervention.
References


