Evidence Based Intervention Network
EBI Brief

Error Monitoring Strategies[1]

Overview

Error Monitoring Strategies' (EMS) was originally created to increase fluency and improve accuracy in students by having them create a written expression and apply editing strategies to it. The main use for EMS was to practice fluency and accuracy in writing. A student takes a passage, either provided by instructor or written themselves, and is asked to use editing skills to self-correct any errors they might have made. Error Monitoring Strategies is now being used to help students with a wide variety of academic areas such as math or reading comprehension and also, with students who have a wide variety of ability levels. Students can use error-monitoring strategies during independent work time so that they are not completely dependent on teacher instruction. Self-monitoring has been used to modify a range of skills and has been taught to, and successfully used by, students with moderate to severe disabilities (Dunlap & Dunlap, 1989).

Empirical Support

Dunlap & Dunlap (1989) performed a study with three students who met the criteria for a learning disability. Casey was 10-years old and in 5th grade, Billy was 12-years old and in 6th grade, and Carrie who was 13-years old and in 6th grade. The students were evaluated on their ability to complete subtraction problems. During daily sessions, students were presented with subtraction problems, which they were expected to complete independently. The experiment consisted of multiple baselines. The first phase was done in a traditional manner in which verbal feedback and explanation was provided. Students were verbally informed on how to solve the problems and then worksheets were handed out. After each child completed his or her worksheet, the teacher provided praise for correct responses and explained any errors. The second phase was conducted similarly except that two points were given for each correct answer. The points could later be exchanged for different reinforcers such as pencils and notebooks.

After these two phases, the self-monitoring strategies were put in place. This phase began with an analysis of the errors that the students had previously made and then checklists were developed for each student. Students were given worksheets and required to observe their checklists. They were to place a check if they performed a step and a minus if they did not perform the step. If a minus was recorded, the student was required to re-do the problem. After the completion of the work sheet, students were given one point for each correct

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response and one point for each problem that all of the steps on the checklist were completed. The self-monitoring strategies were removed once a stable rate of occurrence was reached and students returned back to working as they did before the self-monitoring strategies were put in place. A maintenance phase was also implemented in this study after the students reached a stable, high level of responding in the self-monitoring phase. In this phase, checklists were removed and students returned to working as they did in the second baseline with points being given for correct answers. During baseline one (verbal instruction and praise) all students were performing at low levels. The self-monitoring phase showed significantly positive data for all three participants. All students did not respond at the same rates but all students' performance increased dramatically. When the checklists were removed, students continued to perform at high rates. An important aspect of this investigation is that it demonstrates the effectiveness and efficiency of an instructional package that was relatively easy to implement and fade (Dunlap & Dunlap, 1989).

Gilberts, Agran, Hughes, & Wehmeyer (2001) performed a study in which five middle school students, with severe disabilities. All students were assigned to an older peer tutor who received training in delivering cues, praise, and error corrections in relation to the classroom skills. The teachers identified classroom survival skills that they felt encouraged participation in the classroom and then ranked these skills from very important to slightly important. Skills were then operationally defined to ensure reliability. The survival skills ranged from being in class when the bell rang to asking questions. It also included what to do when addressing the teacher, such as, sitting up straight and acknowledging her. Data were collected in many different ways. The peer tutors recorded survival skills when the students in class displayed them. Two paraprofessionals were also trained on data collection and collected data to insure reliability with the peer tutors and the student's self-reports. Students collected data on themselves during the training and maintenance phases. During the training and retraining phases students were prompted to record their performance but were not prompted during maintenance. Students decided if they had accomplished the skill and became aware of how often they performed the classroom survival skill (Dunlap & Dunlap, 1989). During baseline all students were performing at significantly low rates, but during training and maintenance the occurrence of survival skills was at a notably higher rate.

Summary

Error monitoring strategies (EMS) main purpose is to increase fluency and improve accuracy. It can be used with students who have a range of skills and to teach a wide range of skills. Dunlap & Dunlap (1989) showed the success of using error-monitoring strategies with students who had a specific learning disability. These students were able to use EMS to while

doing subtraction to make sure that they had completed all the steps necessary to have a correct answer. Gilberts, Agran, Hughes, & Wehmeyer (2001) also used EMS successfully to teach survivals skills to middle school students with severe disabilities. The students successfully learned to use survival skills in their daily lives by using a checklist to insure that they were completing the tasks they needed to. These studies show that when child use EMS they have increased task accuracy and task completion.

References

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