

www.TeachingLD.org

Teaching Tutorial 2: Self-Monitoring of Attention



*By Daniel P. Hallahan and Kimberly G. Hudson
University of Virginia*



Teaching Tutorial 2: Self-Monitoring of Attention

Table of Contents

About the authors	1
1. What is self-monitoring of attention?	2
2. How do we know that self-monitoring is effective?.....	3
3. When should one use self-monitoring of attention?	4-5
4. What does one need to prepare to use self-monitoring of attention?.....	6-7
5. How do I implement self-monitoring of attention in my class?.....	8-11
6. How does one know that using self-monitoring of attention is working?	12-13
7. Where can one get additional information about self-monitoring of attention? ..	14-15
Appendix A: Creating Cues.....	16-17
Appendix B: Self-Monitoring Cards.....	18-24
Appendix C: Teacher Observation Card.....	25



Teaching Tutorials are produced by the Division for Learning Disabilities (DLD) of the Council for Exceptional Children (CEC). Visit the DLD Member's Only section of www.TeachingLD.org for additional Teaching Tutorials and in-depth audio interviews with tutorial authors. ©2002 Division for Learning Disabilities of the Council for Exceptional Children. All rights reserved. DLD grants permission to copy for personal and educational purposes.

About the Authors

Daniel P. Hallahan

Daniel P. Hallahan, Professor of Education and Chair of the Department of Curriculum, Instruction, and Special Education at the University of Virginia's Curry School of Education, is a former president of DLD. He has been studying many aspects of learning disabilities for over 30 years; this tutorial represents his work on attention and cognitive-behavioral modification.

Kimberly G. Hudson

Kimberly G. Hudson, B.A., M.T., is a doctoral student in special education at the University of Virginia. Her research interests include reading interventions for students with LD and assessment and identification of LD.

www.Teaching**LD**.org

1. What is self-monitoring of attention?

Self-monitoring is a method included in the category of cognitive-behavior modification. That is, it “involves the manipulation of internal or covert events as a method of behavior change” (Hallahan, Lloyd, & Stoller, 1982, p.4). Self-monitoring of attention involves self-control procedures that encourage students to take greater responsibility for aspects of their own academic or behavioral programs. In essence, self-monitoring of attention is a technique whereby individuals record or rate their own behavior in order to increase their ability to manage their own behavior.



***Self-assessment—
examining your
own behavior and
deciding whether
or not you have
performed a
specific behavior***

Self-monitoring combines self-assessment and self-recording of any type of behavior (e.g., attention). The technique can be used with students with learning disabilities, emotional disturbance, behavior disorders, attention deficit disorder, and mental retardation, as well as with non-disabled students. A student’s categorical label is unimportant; whether the student has problems attending to task during self-directed activities

is the important variable. Teachers who have students use self-monitoring of attention can expect the students to increase their time-on-task and, often, their academic productivity.



***Self-recording—
objectively
recording the
frequency of your
performance of
a given behavior***

The general procedures for implementing self-monitoring of attention are:

1. Creating materials;
2. Training the student to distinguish between paying attention and not paying attention;
3. Having a student assess his or her own behavior every time a cue (tone or beep) occurs in the classroom, asking him- or herself, “Was I paying attention?”;
4. Having the student record by marking “yes” or “no” on a self-recording sheet; and
5. Keeping data on improvements in time on task and academic productivity.

The student is gradually weaned from using the external cues (tones) and eventually from the self-recording system as attention to task and academic productivity increase. Learning to use self-monitoring of attention, using it regularly (practice), and weaning away from the supports (removing the scaffolding) can be completed over a period of 4-8 weeks.

A great deal of research has documented the effectiveness of self-monitoring procedures in increasing student’s on-task behavior. The technique is not only effective, but also feasible to implement in a variety of classroom settings, both in special and general education. Teachers often find it difficult to find time to monitor individual student’s behaviors while providing instruction to groups of students. Self-monitoring is practical for teachers because students are taught to monitor and record their own behavior.

2. How do we know that self-monitoring is effective?

Webber, Scheuermann, McCall, and Coleman (1993) reviewed 27 studies involving self-monitoring with students with disabilities in public schools. They found that these studies confirmed the effectiveness of self-monitoring for managing disruptive behaviors, learning-related behaviors, and social behaviors. Table 1 summarizes some of the research documented in Webber et al.'s (1993) review, as well as some additional studies not included in their review. The studies listed here demonstrate that teachers can effectively implement self-monitoring with students of various ages and disabilities and in a variety of settings.

Table 1: Selected Studies of Self-monitoring

Study	Subjects (gender, age/grade level, disability)	Setting	Findings
Blick & Test (1987)	10 males, 2 females 15-18 years, LD/EMH/EH	Resource room	Self-recording improved on-task behavior of all students. After audible cues were faded, positive effects were maintained.
Brodin et al. (1971)	1 male, 1 female grade 8, non-disabled	General education classroom	Self-recording of studying during class resulted in an increase in study behavior for subject 1; self-recording of "talk-outs" resulted in a decrease talking out behavior for subject 2.
Christie et al. (1984)	3 males, grades 3-4, hyperactive	General education classroom	Self-recording of inattentive and inappropriate behaviors resulted in increased time-on-task and decreased inappropriate behaviors.
Dalton et al. (1999)	2 males, middle school, LD	Various school rooms	Self-management decreased off-task behavior dramatically.
Glynn et al. (1973)	7 males, 1 female 6-7 years, non-disabled	General education classroom	Self-recording of off-task behaviors when cued by tones resulted in increases in levels of on-task behaviors for all subjects.
Hallahan et al. (1979)	1 male, 7 years 1 mos. LD	Self-contained classroom	Self-monitoring with tape-recorded cues resulted in significant increases in on-task behavior. Effects were maintained when external controls were faded.
Hallahan et al. (1981)	3 males, 10-11 years, LD	Self-contained classroom	During treatment phase (self-monitoring), all subjects had substantial gains in % of time-on-task. These improvements were maintained during 2-month fading phases.
Lloyd et al. (1989)	3 males, 2 females 1 SED, 2 SED/LD, 2 LD Elementary age	Resource room	Attending and academic productivity improved for all students with self-monitoring .
McLaughlin (1984)	9 males, 4 females 10-12 years, BD	Self-contained classroom	Significant increases were found for both on-task behaviors and assignment completion for students in self-recording and self-recording + reinforcement groups.
Maag et al. (1993)	5 males, 1 female (4) 4th graders, (2) 6th graders, LD	General education classroom	Students completed more assignments in less time when self-monitoring either accuracy or productivity than when self-monitoring attention.
Rooney et al. (1984)	2 males, 2 females 7 years, 2 LD, 2 general ed. (non-disabled)	General education classroom	All subjects demonstrated an increase in on-task behaviors. Self-recording + reinforcement resulted in most significant gains.
Shimabukuro et al. (1999)	3 males, grades 6-7, LD/ADD/ADHD	Self-contained classroom	Self-monitoring of academic performance resulted in increased academic productivity and accuracy, as well as on-task behavior during independent class work.

Note: LD = learning disabilities; BD = behavior disorders; MR = mental retardation; EMH = educable mental handicaps; EH = emotional handicaps;
SED = serious emotional disturbance; ED = emotional disturbance; ADD = attention deficit disorder; ADHD = attention deficit hyperactivity disorder

References for the research documenting the effectiveness of self-monitoring of attention are provided at the end of this tutorial.

3. When should one use self-monitoring of attention?

Self-monitoring of attention appears to work best with students whose primary problem is attentional. In other words, self-monitoring of attention works best with students who have the skills required for an assignment, but who do not apply these skills because of attentional problems. Students who do not know how to complete the assigned task independently will probably not be able to use self-monitoring successfully. Put another way: Self-monitoring works best when teachers have students use it for independent practice, not when the students are acquiring a skill or concept.

Students often have difficulty staying on task when they are assigned independent or “seatwork” tasks. Self-monitoring procedures are therefore very suitable for these types of activities. However, self-monitoring can also be implemented during small-group and whole-group instruction.

Criteria for determining whether an activity would be appropriate for self-monitoring of attention should be:

- Does the student have difficulty with attention to task during the activity?
- Is it possible to incorporate the self-recording component in an efficient way? (In other words, you do not want the student to have to leave a group activity to go back to his desk to self-record each time he hears a tone.)
- Is there a need to improve a student’s ability to regulate his or her own attention during an activity so that the teacher can do other things?

Note: Experience has indicated that others in the same classroom as the student who is self-monitoring attention quickly learn to tune out the cue (tone or beep); it does not cause a disruption. There is no need to use headphones; in fact, using headphones makes it more difficult to promote independence and generalization, because it adds one more external support that has to be faded.

Other students in the classroom quickly learn to “tune out” the beep.

Self-monitoring works best when used for practicing skills, not learning new ones.

Teachers can implement self-monitoring with a wide range of students in a variety of settings. Teachers should consider the following:

1. The age and cognitive level of students may affect the decision about whether to implement self-monitoring. Maag et al. (1993) found that the effectiveness of self-monitoring of attention varies across age groups, suggesting that development may influence its efficacy. However, Workman, Helton, and Watson (1982) used self-monitoring with a preschool student.

2. For self-monitoring of attention procedures to be successful, students must be able to understand the distinction between paying attention and not paying attention. (This understanding is established through direct instruction and teacher modeling of on- and off-task behaviors.)
3. Younger children or those with lower levels of cognitive functioning can benefit from self-monitoring if teachers increase the intensity and frequency of the training procedures before implementing the technique.

Summary

Self-monitoring has improved the attention-to-task behavior of students with a variety of disabilities in independent, small-group, and whole-group instruction in both special and general education classrooms.

4. What does one need to prepare to use self-monitoring of attention?

The materials teachers will need for self-monitoring are:

- Self-monitoring cues tape,
- A self-monitoring card or other means of recording, and
- Appropriate tasks to complete while self-monitoring.

Teachers can create all of these materials fairly easily.



Teachers can create all of these materials fairly easily.

Self-Monitoring Tape

The self-monitoring cue tape is a 45-minute audiotape that includes tones or beeps at irregular intervals to cue students when to assess and record their behavior. When a student first begins using self-monitoring, the pre-recorded tones are essential for success. A downloadable sound file is available at the Teaching Tutorial section of TeachingLD.org. Teachers can use it on their computers or even transfer it to a CD or tape and use it to cue students about when to monitor their behavior.

Example of a Variable Interval List

45	15	55	50	10	75	20	15	15
25	50	55	60	35	60	75	30	80
35	75	90	15	10	20	30	55	50
85	40	65	30	55	10	20	15	50
60	60	30	45	35	90	10	30	50
40	30	15	50	75	15	25	55	35
70	80	75	15	55	20	85	65	30

Figure 1 Intervals for Cues

Teachers can also create tapes for self-monitoring by using a piano or keyboard tone, a beep produced by an Audiometer, or a clicking noise. Teachers may also program a personal computer to make the tones and record them onto compact discs. Appendix A provides directions about how to make a cueing tape, including a reproducible Figure 1.

Self-Monitoring Card or Sheet

The second item needed to prepare a self-monitoring system is a self-monitoring card or other type of recording sheet. This paper should include the self-assessment question and spaces in which the student can indicate if he or she was on- or off-task when the self-monitoring tone sounded. Teachers may want to add a student's name and the date but, because there is no need to save these sheets, doing so is optional. Figure 2 is an example of a self-monitoring card. Appendix B provides several self-recording sheets that teachers may reproduce.

Was I paying attention?

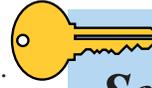
	Yes	No		Yes	No
1			21		
2			22		
3			23		
4			24		
5			25		
6			26		
7			27		
8			28		
9			29		
10			30		
11			31		
12			32		
13			33		
14			34		
15			35		
16			36		
17			37		
18			38		
19			39		
20			40		

DLD © 2002 Division for Learning Disabilities <http://TeachingLD.org>

Figure 2 Example of a Self-Monitoring Sheet

Self-Monitoring Task

As discussed in previous sections, students may engage in a variety of activities while self-monitoring. For example, students may work on math problems, handwriting, or reading comprehension activities. Self-monitoring appears to be most applicable in those situations in which students are in the early stages of practicing skills that they have recently demonstrated that they can perform, but which they are unable to perform when they are required to work under less supervision (e.g., during seatwork).



*Self-monitoring
can be used
during whole
group or small
group instruction.*

5. How do I implement self-monitoring of attention in my class?

Some of the research on self-monitoring has assessed the importance of various parts of the procedures. In general, these studies have shown that it is important to use all of the parts of the procedure—tones, self-recording sheet, careful training—described in this tutorial. However, once students have become proficient with the procedure, parts of it (e.g., the tones and the recording requirement) can be removed.

Step 1: Introducing Self-Monitoring to the Student

(15-20 minutes, first day only)

1. Tell the student that you want him or her to be more attentive. Explain that one way to increase attention is to have a student keep track of when he or she is paying attention and when he or she is not.
2. Define and provide examples for the student of paying attention.
3. Present the student with the self-monitoring card and tape recorder. Explain that the tape to be played has tones on it. Every time the student hears a tone he or she is to ask him- or herself the question, “Was I paying attention when I heard the tone?” and mark the self-monitoring card appropriately.
4. Describe and model the use of the self-monitoring card and ask the student to give examples of paying attention and to repeat the self-monitoring instructions.
5. Have the student demonstrate the self-monitoring procedure when provided with trial tones.



It is important to use all parts of the procedure—tones, self-recording sheet, and careful training.

Script for Teacher Introduction of Self-Monitoring

“Johnny, you know how paying attention to your work has been a problem for you. You’ve heard teachers tell you, ‘Pay attention,’ ‘Get to work,’ ‘What are you supposed to be doing?’ and things like that. Well, today we’re going to start something that will help you help yourself pay attention better. First we need to make sure that you know what paying attention means. This is what I mean by paying attention.” (Teacher models immediate and sustained attention to task.) “And this is what I mean by not paying attention.” (Teacher models inattentive behaviors such as glancing around and playing with objects.) “Now you tell me if I was paying attention.” (Teacher models attentive and inattentive behaviors and requires the student to categorize them.)

“Okay, now let me show you what we’re going to do. While you’re working, this tape recorder will be turned on. Every once in a while, you’ll hear a little sound like this.” (Teacher plays tone on tape.) “And when you hear that sound quietly ask yourself, ‘Was I paying attention?’ If you answer ‘yes,’ put a check in this box. If you answer ‘no,’ put a check in this box. Then go right back to work. When you hear the sound again, ask the question, answer it, mark your answer, and go back to work. Now, let me show you how it works.” (Teacher models entire procedure.)

“Now, Johnny, I bet you can do this. You’ve shown me how to do it. Tell me what you’re going to do every time you hear a tone.... Correct! Ask yourself, ‘Was I paying attention?’ Let’s try it. I’ll start the tape and you work on these papers.” (Teacher observes student’s implementation of the entire procedure, praises its correct use, and gradually withdraws her presence.)

Important Points to Remember

- It is crucial that the student understand what you mean by “paying attention.” When modeling off-task behavior, it is wise to tailor your choice of off-task behaviors so that they closely approximate the kinds of off-task behaviors the student typically displays.
- Teacher attitude is important to any new technique tried in the classroom. Treat self-monitoring in a positive way and as a desirable activity for the student rather than as an added chore. Create a positive expectation by conveying the attitude that self-monitoring will really help the student.

Step 2: Reviewing Self-Monitoring with the Student

(2-5 minutes for a few days after the initial introduction)

1. Review the definitions of on-and off-task behaviors. Ask the student to quickly demonstrate what it looks like when he or she is on- and off-task.
2. Review the recording procedure. Ask the student what he or she is supposed to do when the tone sounds.
3. Provide praise and corrective feedback (if necessary).

Script for Teacher Review of Self-Monitoring

“Johnny, you did a great job yesterday of using our new system to help you pay attention. We are going to use the system again today, but before we begin, I want to review a little bit. What does it mean to be paying attention?” (Teacher allows student to respond, provides feedback.) “Great job! Now can you show me what it looks like when you are paying attention?” (Student demonstrates on-task behavior.) “Johnny, you did a nice job of showing me what it looks like when you’re paying attention. Now, what does it mean to not be paying attention? Can you show me what it looks like when you’re not paying attention?” (Teacher allows student to respond and demonstrate off-task behavior.) “You’ve got it, Johnny.”

“Now let’s review what you do when you hear the tone. When the tone sounds, what are you supposed to do?” (Teacher waits for student response.) “Excellent, first you quietly ask yourself, ‘Was I paying attention?’ Then you mark ‘yes’ or ‘no’ on the sheet. And what do you do as soon as you mark ‘yes’ or ‘no’?” (Teacher allows student to respond.) “That’s right- you get right back to work. And what do you do the next time you hear the tone?” (Teacher waits for student response.) “Very good- you quietly—even silently, in your own head—ask yourself, ‘Was I paying attention?’ and then you mark ‘yes’ or ‘no’ on your sheet.”

Important Points to Remember

- Make sure there is ample time for the self-monitoring session. However, do not run the independent self-monitoring session too long; about 30 minutes is probably right.
- You may have to provide feedback if the student does not appear to discriminate between on- and off-task behavior. For example, on the first day or two you may need to correct the student if he or she makes what you believe to be an incorrect judgment.
- Don't worry if the student sometimes assess inaccurately. Your aim is not to make the student a highly accurate recorder, but rather to make him or her think about when he or she is on and off task.
- Check the tape daily to make sure there is ample tape for the self-monitoring session. You do not have to start the tape at its very beginning.
- Keep the sessions the long enough that the student gets lots of practice managing his or her own behavior, but not so long that they become bothersome. 30-40 minutes is plenty. The idea is to have the student become accustomed to doing a good job of working independently.
- Incorporate self-monitoring into the student's regular classroom work so that the student doesn't feel as if he or she is missing out on a special activity. Use it when other students are also assigned to work independently.
- To aid generalization of the new on-task behavior, incorporate self-monitoring when the student is engaged in a variety of activities at different times of the day.

Step 3: Weaning Procedures

PHASE I- Remove tape or card

1. Once the student's level of on-task behavior has increased, it is desirable to wean him or her from reliance on the external aspects of the procedure (i.e., the tape and card).
2. You can either remove the tape or the recording card first.
3. Tell the student that he or she has been doing really good work (on whatever subject you're using self-monitoring with) lately, and that he or she doesn't need the (tape, card) anymore.
4. If removing the tape, instruct the student to ask him- or herself the question, "Was I paying attention?" whenever he or she thinks about it and to record yes or no on the card.
5. If removing the card, instruct the student to ask him- or herself the question, "Was I paying attention?" when he or she hears the tone and to decide 'yes' or 'no.'

Script for Weaning of Self-Monitoring (PHASE I)

Removing tape:

"You've been doing really good work on (math, reading, etc.) lately, don't you think? You've been doing so well that I don't think you need to use the tape-recorded tones anymore. Today, whenever you think about it, ask yourself the question, 'Was I paying attention?' and then mark your card. Do you have any questions?"

Removing card:

"You've been doing really good work on (math, reading, etc.) lately, don't you think? You've been doing so well that I don't think you need to use the card anymore. Today, when you hear the tones on the tape, ask yourself the question, 'Was I paying attention?' If the answer is 'yes,' say to yourself, 'Yes, good job.' If the answer is 'no,' say to yourself, 'No. I'd better start paying attention.' Do you have any questions?"

PHASE II- Remove tape and card

1. Once the student has been successfully weaned from the tape or the card, you will want to wean him or her from the other component.
2. Tell the student that he or she has been doing really good work (on whatever subject you're using self-monitoring with) without the (tape, card), and that he or she doesn't need the (tape, card) anymore.

Script for Weaning of Self-Monitoring (PHASE II)

“You’re doing really good work on (math, reading, etc.) without using the (tape, card), don’t you think? You’ve been doing so well that I don’t think you need the (tape, card) anymore. I think you can do a really good job without using the tape-recorded tones or the self-monitoring card. Today, whenever you think about it, ask yourself, ‘Was I paying attention?’ If the answer is ‘yes,’ say to yourself, ‘Yes, good job.’ If the answer is ‘no,’ say to yourself, ‘No. I’d better start paying attention.’ Show me how you would do that. (Provide feedback.) Great! Do you have any questions? O.K., then, go to it.”

Important Points to Remember

- There are not any hard and fast rules about when to start the first phase of the weaning process and when to start the second phase. Once the student’s attentional behavior and academic productivity have been at what you consider to be acceptable levels for *five or six days*, then you can begin the weaning process.
- During the first phase of the weaning process you should again look for a period of five or six days of acceptable levels of attentional behavior and academic productivity before removing the second component.
- It’s okay to re-implement one of the components after you have removed it if you feel it is necessary. For example, if you find that the student has two good days but then two or three days of poor performance after removing the self-monitoring card, then you should re-introduce the self-monitoring card.

Using Self-Monitoring of Attention in Group Settings

When implementing self-monitoring in the general education classroom, you may find it necessary to adapt the implementation procedures somewhat. For example, Maag et al. (1993) successfully trained the target students on the self-monitoring procedures in the resource room and then implemented the procedures in the general education classroom. Teachers interested in using self-monitoring in this way can obtain additional guidance by reading the article by Maag and his colleagues.

Accuracy

Though you are always striving for accuracy in recording, research has indicated that even if the student overestimates his or her attention, increases in on-task behavior are still observed (Hallahan et al., 1982).

6. How does one know that using self-monitoring of attention is working?

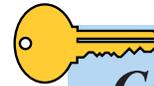
It is important to evaluate whether or not self-monitoring is working in order to make modifications (if necessary) and to determine when to begin weaning a student from the external cueing features. You can evaluate the effectiveness in a **simple and practical** way.

The basic procedures involved in evaluating the effectiveness of a self-monitoring program are:

1. Gather some data on the student's attention to task *before* the self-monitoring program is implemented (baseline data).
2. Compare the baseline data to the data collected during the implementation of the self-monitoring program (intervention data).
3. It is also helpful to collect data on another student considered to be average in attending to task.

By collecting these data, you can determine (a) whether the target student's attention improves relative to him- or herself and (b) whether the target student's attention improves to the levels of attention of normal peers.

The following plan describes the materials and procedures needed to evaluate the effectiveness of a self-monitoring program.



Collecting data about a student's on-task behavior is important before starting self-monitoring.

Evaluating the Effectiveness of Self-Monitoring

Materials

1. Timer that beeps or rings after a set period of time.
2. Recording sheet (Example in Figure 3, reproducible sheets in Appendix C).
3. Clipboard (optional).

Procedure

Getting Set Up

- a) Prepare materials.
- b) Decide on a definition of "paying attention." Generally a student is considered to be attending to task when he or she is sitting in his or her seat, looking at the assigned materials (papers, chalk board) or the teacher's face. You may need to alter this definition to meet the unique situation in your classroom.

Teacher's Observation Card

When the timer rings, MARK the appropriate entry for the interval observed.

Student:	Date:		
Set the timer for:	Mark		
2 mins.	+	-	0
6 mins.	+	-	0
2 mins.	+	-	0
4 mins.	+	-	0
4 mins.	+	-	0
6 mins.	+	-	0
2 mins.	+	-	0
4 mins.	+	-	0
3 mins.	+	-	0

<http://TeachingLD.org>

Figure 3 Teacher observation card

Collecting Baseline Data (Before Self-Monitoring Begins)

- a) Choose a time when attending to task is a problem for the student.
- b) Choose at least one other student who is approximately average in attending to task.
- c) Prepare two recording sheets (one for the target student, one for the average student).
- d) Have the timer and recording sheets handy.
- e) When the timer sounds, quickly look at the target student and record whether he or she was on-task (+), off-task (-), or whether there was no chance to observe (0) (e.g., the student was out of the room).
- f) Then quickly look at the average student and record whether he or she was on-task, off-task, or whether there was no chance to observe. (You do not need to provide praise, rewards, or any other form of consequences at the times of each of your observations.)
- g) Return to whatever you were doing prior to the ring of the timer.
- h) Repeat this procedure the next time the timer sounds.
- i) Continue this procedure for a minimum of six intervals (as indicated on sample recording sheet).
- j) Collect baseline data on at least two students (target student and average student) for at least *three days* prior to the onset of the self-monitoring program.



Collecting data on an “average” student helps to set goals for target students.

Collecting Intervention Data (During Self-Monitoring)

- a) Repeat the procedures described in Step 2 (collecting baseline data) for at least three days in a row after self-monitoring has been implemented.
- b) Compare the target student’s levels of attending (a) before self-monitoring and with self-monitoring and (b) to the levels of attending of the average student.

If the program is having the desired effects (i.e., the target student’s levels of attending are improving), you should then conduct observations once or twice a week to make sure that the positive effects of the program are continuing and to help you determine when to begin the weaning process.

Important Points to Remember

- Evaluating the effectiveness of self-monitoring can be done in a simple and practical way. It is important to evaluate the program’s effectiveness so that modifications can be made if necessary and to determine when the weaning process should begin.
- Make sure you have a clear and consistent definition of what will be judged as paying attention and what will be recorded as off-task.
- Conduct observations during the time when attending to task is a problem for the target student. Plan to observe at approximately the same time of day and activity rather than skipping around from one time to another.
- Collect baseline and intervention data for at least three days each. Once the self-monitoring program is having the desired effects, conduct observations every-so-often (e.g., once or twice a week).

7. Where can one get additional information about self-monitoring of attention?

- Blick, D. W., & Test, D. W. (1987). Effects of self-recording on high-school students' on-task behavior. *Learning Disability Quarterly*, 10, 203-213.
- Broden, M., Hall, R. V., & Mitts, B. (1971). The effect of self-recording on classroom behavior of two eighth-grade students. *Journal of Applied Behavior Analysis*, 4, 191-199.
- Christie, D. J., Hiss, M., & Lozanoff, B. (1984). Modification of inattentive classroom behavior: Hyperactive children's use of self-recording with teacher guidance. *Behavior Modification*, 8, 391-406.
- Dalton, T., Martella, R. C., Marchand, Martella, N. E. (1999). The Effects of a Self-Management Program in Reducing Off-Task Behavior. *Journal of Behavioral Education* 9, 157-176.
- Glynn, E. L., Thomas, J. D., & Shee, S. M. (1973). Behavioral self-control of on-task behavior in an elementary classroom. *Journal of Applied Behavior Analysis*, 7, 105-113.
- Hallahan, D. P., Lloyd, J. W., Kosiewicz, M. M., Kauffman, J. M., & Graves, A. W. (1979). Self-monitoring of attention as treatment for a learning disabled boys' off-task behavior. *Learning Disability Quarterly*, 2, 24-32.
- Hallahan, D. P., Lloyd, J. W., & Stoller, L. (1982). *Improving attention with self-monitoring: A manual for teachers*. Charlottesville, VA: University of Virginia Learning Disabilities Research Institute.
- Hallahan, D. P., Marshall, K. J., & Lloyd, J. W. (1981). Self-recording during group instruction: Effects on attention to task. *Learning Disability Quarterly*, 4, 407-413.
- Kubany, E. S., & Sloggett, B. B. (1973). Coding procedure for teachers. *Journal of Applied Behavior Analysis*, 6, 339-344.
- Lloyd, J. W., Bateman, D. F, Landrum, T. J., & Hallahan, D. P. (1989). Self-recording of attention versus productivity. *Journal of Applied Behavior Analysis*, 22, 315-323.
- Lloyd, J. W., & Landrum, T. J. (1990). Self-recording of attending to task: Treatment components and generalization of effects. In T. E. Scruggs & B. Y. L. Wong (Eds.), *Intervention research in learning disabilities* (pp. 235-262). New York: Springer-Verlag.
- McLaughlin, T. F. (1984). A comparison of self-recording and self-recording plus consequences for on-task and assignment completion. *Contemporary Educational Psychology*, 9, 185-192.
- Maag, J. W., Reid, R., & DiGangi, S. A. (1993). Differential effects of self-monitoring attention, accuracy, and productivity. *Journal of Applied Behavior Analysis*, 26, 329-344.
- Rooney, K. J., Hallahan, D. P., & Lloyd, J. W. (1984). Self-recording of attention by learning disabled students in the regular classroom. *Journal of Learning Disabilities*, 17, 360-364.

- Shimabukuro, S. M., Prater, M. A., Jenkins, A., & Edelen-Smith, P. (1999). The effects of self-monitoring of academic performance on students with learning disabilities and ADD/ADHD. *Education and Treatment of Children, 22*, 397- 414.
- Webber, J., Scheuermann, B., McCall, C., & Coleman, M. (1993). Research on self-monitoring as a behavior management technique in special education classrooms: A descriptive review. *Remedial and Special Education, 14*, 38-56.
- Workman, E. A., Helton, G. B., & Watson, P. J. (1982). Self-monitoring effects in a four-year-old child: An ecological behavior analysis. *Journal of School Psychology, 20*, 57-64.

Appendix A: Creating Cues

Creating Cues for Self-Monitoring

The amount of time between tone or cues for students to assess and record whether they were paying attention is an important aspect of the self-monitoring system. The cues should be unexpected, so the interval between each tone must be variable, not predictable. For most students, intervals that average about 45 seconds, and range from 10 seconds to 90 seconds are appropriate. Some students may require shorter intervals; other students may be able to use longer intervals. Teachers should use their professional judgment to determine the appropriate interval for individual students. We found cueing tapes with 45-second (average) intervals to work fine. (One study actually tested different inter-tone intervals and did not find any differences.)

TeachingLD.org has provided a downloadable audio file that can be used to create a cueing tape. It is in WAVeform audio format (WAV) that can be played by most audio devices; an audio-video expert can help teachers who have difficulty working with the file. Download the file from www.TeachingLD.org, copy it from your computer onto an audio tape or CD, and play it on a small tape or CD player. It will fit onto a 45-minute audio cassette and provides cues on average every 43 second. There is a double-beep near the beginning to tell you where to start playing the tape.

Making a Tape

If you cannot use the audio file, you can make your own tape. To make a tape with a 45-second average and a 10- to 90-second range, teachers can refer to a series of random numbers representing the time intervals between tape-recorded tones. Figure 1 provides an example of an interval list; the numbers in the cells of represent the seconds between tones.

Example of a Variable Interval List

45	15	55	50	10	75	20	15	15
25	50	55	60	35	60	75	30	80
35	75	90	15	10	20	30	55	50
85	40	65	30	55	10	20	15	50
60	60	30	45	35	90	10	30	50
40	30	15	50	75	15	25	55	35
70	80	75	15	55	20	85	65	30

Figure 1: Intervals for Cues

Steps for recording the self-monitoring tape

1. Decide upon the average interval between tones.
2. Generate a random list of variable intervals (like the one shown in Figure 1).
3. Gather together the variable interval list, a watch or clock with a second hand, a writing instrument, a blank tape, and a tape recorder.
4. Find a quiet room.
5. Start the tape recorder and let the tape run for the number of seconds indicated on the variable interval list.
6. Sound the self-monitoring signal for two seconds.
7. Let the tape recorder run for the number of seconds indicated by the second number on the variable interval list and sound the self-monitoring signal again. Check off each interval on the variable interval list after you have recorded it.
8. Continue recording until the end of the tape.

Teachers may want to create several tapes, each with a different sequence of inter-tone intervals, so that students will not anticipate the sequence of tones. If you have only one tape (whether you've made it yourself or are created it from the TeachingLD.org audio file), you can simply start the tape in a slightly different place on different days so that the pattern of cues does not become familiar to the student.

One of the most difficult aspects of making a self-monitoring tape can be finding a noise-free area. Here are some simple recommendations for making a noise-free tape:

1. Select a quiet time (e.g. early in the morning).
2. Unplug the telephone or take it off the hook.
3. Close all windows.
4. Leave a "Do Not Disturb" sign on the door.

Appendix B: Self-Monitoring Cards

Appendix B includes examples of self-recording sheets that may be reproduced for use in the classroom.

Self-Monitoring Card 1	page 19
Self-Monitoring Card 2	page 20
Self-Monitoring Card 3	page 21
Self-Monitoring Card 4	page 22
Self-Monitoring Card 5	page 23
Self-Monitoring Card 6	page 24

Self-Monitoring Card 1



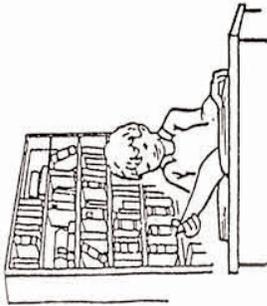
Was I
paying
attention?

	Yes	No
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

	Yes	No
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		



Self-Monitoring Card 2



Was I paying attention?

	Yes	No
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		



© 2002 Division for Learning Disabilities
<http://TeachingLD.org>



Was I paying attention?

	Yes	No
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		



© 2002 Division for Learning Disabilities
<http://TeachingLD.org>

Self-Monitoring Card 3



Was I
paying
attention?

	Yes	No
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

	Yes	No
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		



Self-Monitoring Card 4



Was I paying attention?

	Yes	No
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		

	Yes	No
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		



© 2002 Division for Learning Disabilities
<http://TeachingLD.org>



Was I paying attention?

	Yes	No
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		

	Yes	No
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		



© 2002 Division for Learning Disabilities
<http://TeachingLD.org>

Self-Monitoring Card 5



**Was I
paying
attention?**

	Yes	No
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

	Yes	No
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		



Self-Monitoring Card 6



Was I paying attention?

	Yes	No
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		



Was I paying attention?

	Yes	No
1		
2		
3		
4		
5		
6		
7		
8		
9		
10		
11		
12		
13		
14		
15		
16		
17		
18		
19		
20		

	Yes	No
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		

	Yes	No
21		
22		
23		
24		
25		
26		
27		
28		
29		
30		
31		
32		
33		
34		
35		
36		
37		
38		
39		
40		



© 2002 Division for Learning Disabilities
<http://TeachingLD.org>



© 2002 Division for Learning Disabilities
<http://TeachingLD.org>

Appendix C: Teacher Observation Card

The teacher observation card is to be used to collect data about a student's on task behavior.

<u>Teacher's Observation Card</u>			
<i>When the timer rings, MARK the appropriate entry for the interval observed.</i>			
<i>Student:</i>		<i>Date:</i>	
<i>Set the timer for:</i>	<i>Mark</i>		
2 mins.	+	-	0
6 mins.	+	-	0
2 mins.	+	-	0
4 mins.	+	-	0
4 mins.	+	-	0
6 mins.	+	-	0
2 mins.	+	-	0
4 mins.	+	-	0
3 mins.	+	-	0

<http://TeachingLD.org>