

Coaching Manual

Cogmed Working Memory Training™

Version 1.0.6

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Introduction

This is the Cogmed Coaching Manual, providing documentation for how to coach a user through his or her Cogmed Working Memory Training.

The manual is intended for Cogmed Coaches, working at Cogmed Qualified Practices. It should be used together with training documentation from your own Cogmed Professional Training (provided at the training and on the cogmedcoaching.com site), instructions from the Cogmed Quality Assurance person at your practice, your own training with the Cogmed software and your own exploration of the Cogmed Training Web.

The manual uses the following vocabulary for the various roles in supporting a user in doing Cogmed Working Memory Training:

User: The person actually doing the training, regardless of whether it is a child or an adult.

Training aide: A person supporting the user through training by helping to keep the structure and motivation up. This is often a parent, supporting a child, being present daily, and representing the client. Adults sometimes have a training aide.

Cogmed Coach: A professional supporting the user and the training aide, providing a professional service on behalf of the Cogmed Qualified Practice.

Quality Assurance Person: The person at each Cogmed Qualified Practice who is responsible for the screening, compliance and quality of the trainings at the practice. The responsibility is towards both the client and to Cogmed.

Primary Contact Person: The person stated in the contract as the main contact for Cogmed related communications. (Most times same as Q.A.)

What is working memory?



Working memory is the ability to briefly (a few seconds) remember information and use this information in your thinking. Your working memory is closely related to your ability to concentrate: you can remember information for a short while by concentrating on it, but it disappears from your memory if you are distracted. You use your working memory for a number of things, such as:

- remembering instructions about what to do next (ie. keeping a recipe or driving directions in your head while following through)
- keeping all the parts of a number in your memory while you calculate it
- reading and remembering what you read
- problem-solving

- sequencing a task, that is performing the various steps of a task in a certain order
- focusing on the task at hand, without being distracted by irrelevant stimuli
- planning, organizing and structuring your daily life

Cogmed Working Memory Training exercises your working memory. Leading researchers state that the human brain is more plastic than previously believed and research at the Karolinska Institute in Stockholm, Sweden has shown that when you train your working memory, activity in those parts of the brain that are associated with working memory increases (*Nature Neuroscience, 2004*). Almost all the research that has been conducted in this area has been performed using Cogmed Working Memory Training. Various studies have shown that you can improve your working memory by up to 20% by training it. But not only does your working memory improve; the improvements translate to other functions that are closely associated with working memory and executive functions.

Research using Cogmed Working Memory Training has shown improvements in non-verbal problem-solving, impulse control, reading comprehension and mathematical problem solving. Visit our website www.cogmed.com to read more about research findings.

Who can do Cogmed Working Memory Training?

Cogmed Working Memory Training is suitable for anybody, from the ages of four and up that want to improve their working memory.

Cogmed Training is about improving working memory, leading to better attention and impulse control. The effect has been shown in people of all levels of starting working memory, but is more marked in people with initially poor working memory. It is important to note that “poor” working memory is a highly individual metric: what is “normal” working memory for an individual will depend on factors such as age and general intelligence, but also the demands put on the person in his/her daily life.

There is no need for any medical diagnosis or assessment before starting training. What is needed is that the Cogmed Coach, using the guidelines provided by Cogmed and the instructions from the Cogmed Quality Assurance (QA) person of the practice, determines that the user has a profile where improved working memory will make a relevant difference for that user.

Cogmed Working Memory Training always starts with an Initial interview in which the Cogmed Coach makes a judgment whether the person is believed to have working memory deficits or not. Through analyzing differences in training effects between groups with and without a diagnosis, we have learned that people without a diagnosis benefit just as much.

During the initial interview the Cogmed Coach will make an analysis of the person’s ability to complete the training. There are three key areas of difficulties that are incompatible with starting training:

1. Severe conduct disorder
2. Severe depression
3. Severe anxiety

When the client has come through his or her depression, and anxiety is under control, then Cogmed Working Memory Training can successfully take place.

Cogmed has analyzed training effects for children who are on medication (methylphenidate) compared to children without medication. We have found that both groups benefit equally from training.

Cogmed Working Memory Training with mentally challenged children (IQ 55-70) has shown somewhat lower progress on the outcome measures described above. However, many of the people in this group are still significantly improving and a low IQ (55-70) should not prevent training if the person has the mental capacity to interact with the program.

Persons with photosensitive epilepsy should definitely not train. This is a form of epilepsy in which epileptic seizures may be triggered by the lights of a TV or computer screen.

Prerequisites for successful training

Motivation

Training your working memory is hard work. In order to achieve the best possible results, it is very important that the user is highly motivated. The ability to be highly motivated requires an understanding of why he/she is doing something that is being required. It is also important that the user feels involved in the decision to start the training. If the user has difficulty with perseverance and stamina, external rewards can be very helpful. You will find more information about these later in the Coaching manual.

Structure, time and space in everyday life

The user needs the right conditions in order to clearly structure and make room for the training in his/her everyday life. If you know that this is going to be a stressful period for the user with a lot of traveling or other activities, it may be better to postpone the start of his/her training.

Coaching

From research and experience with trainings, we know that everyone who undergoes this training needs to have someone supporting them. The knowledge that someone sees you and cares about how things are going is incredibly motivating for everyone. As a Cogmed Coach, you play an important role in helping the user to follow through with it and succeed.

Cogmed Working Memory Training

About the training

Cogmed RM, Cogmed QM and Cogmed JM are Cogmed's PC-based software programs for working memory training. Cogmed RM is designed for children and adolescents, while Cogmed QM is designed for adults and Cogmed JM for preschoolers from the age of four. All three software programs are based on the same research and principles.

The training consists of 25 sessions. A training session with Cogmed RM or Cogmed QM takes 30-45 minutes and a training session with Cogmed JM takes 15 minutes. Training should be planned as intensive as possible, ideally five days a week for five weeks. However it is not recommended to train more than one session per day. Our training plans have been carefully developed during seven years and analysis of all completed trainings to achieve the greatest possible effect.

The software contains a number of exercises that vary automatically during the training period. The user does one exercise at a time until all of the day's exercises have been completed. When an exercise has been completed, it can't be repeated that day. All of the exercises on the menu must be completed in order to finish the day's training session.

In order to train the working memory as efficiently as possible, the training must consistently be on a challenging level. We believe that always working at the upper limit of your working memory capacity is what makes it possible to improve it. In other words, whether an exercise is on level five or seven is not important, but what is important is that it stretches the limit for your capacity at that very moment. The difficulty level is adjusted automatically, click by click, and follows the user's capacity both up and down, so that he/she gets the best possible effect of his/her working memory training. Always working at the limit of one's capacity feels very demanding for the user. As a Cogmed Coach, it is very important that you explain this principle to the user and give extra motivation when things get tough.

Directly after each Cogmed RM training session, the user is allowed to play RoboRacing, the reward game that has proven to be very popular among most children. There is no reward game included in the Cogmed QM, but there is a function that allows the user to follow his/her own training statistics and progress, which is often regarded a reward in itself. When training with Cogmed JM the children do not get a reward game, instead the children have an aquarium in the program to which they can add a fish after each training session.

About the Cogmed Training Web

The Cogmed Training Web is a web site for the user/training aide where the development in the training program can be viewed from graphs. The Cogmed Training Web can be found at

<http://trainingweb.cogmed.com>. The user will use the same Training ID (username and password) for the training program and the Cogmed Training Web. The Cogmed Training Web is also where you as a Cogmed Coach can manage all trainings that you are coaching. You will receive a log in for access when you attend the Cogmed Professional Training.

How to start a new training

When the Initial interview is done and you have a candidate for the Cogmed Training, log in to the Cogmed Training Web and start a new training for that user. Make sure to enter the correct gender, birth date, birth year and product type. Print the user's unique Training ID and put it in the Starter kit before handing it to the user. The user's name is never entered in the Cogmed Training Web, so it is necessary for you to keep track of who the Training ID belongs to.

Effects of the training

Cogmed Working Memory Training improves your working memory. The general effects that have been shown after completed training include:

- better ability to concentrate
- increased impulse control
- improved stamina when performing mentally demanding tasks

After having completed their working memory training, children, adolescents and adults say that they find it easier to concentrate, that they are more successful in school-related tasks and that they find it easier to remember things.

Parents of children and adolescents who have completed working memory training describe them as more independent and with an improved ability to pay attention. Parents often report that their children are able to communicate better and are generally more focused than they were before the training.

Teachers who come in contact with students who have completed Cogmed Working Memory Training recount that these students are calmer and pay more attention after the training. They also report that their interest in schoolwork has increased and that their test scores improve.

80% of the people who have completed our Working Memory Training notice results directly after they have finished the program. Examples of these effects immediately after the training are improved concentration and the ability to remember instructions. Some of the training program's effects take more time to sink in and become noticeable by the user's surroundings. Reading comprehension and improved mathematical abilities are examples of these training effects. Cogmed has also shown to have long lasting results. We believe that the positive retainment of the training program's effects are due to the fact that people use their working memory more actively in everyday life after completing the program, thereby naturally developing and maintaining their capacity.

Reports from parents, adults, children and teachers also show that training effects will vary in size. 25% of the individual having gone through training show small but still noticeable training effects. 30% show average training effects and 30 % show large training effects. The reports also show that the training effects evolve gradually.

About the training aide

All children (and sometimes adults) should have a training aide to support and guide them throughout the training period. Adults may also need help with motivation and keeping the structure of training.

The training aide will participate in the Start-up session, coach calls and Wrap-up session, as well as sit with the user while training. A training aide can be any adult with whom the user has a good relationship, that can motivate and collaborate with the user, and that can set aside the time necessary.

It is recommended that the training aide sits with the user at least the first few training sessions, to see that the user is training as supposed and to be able to motivate and help the user get the best training possible. In the case of self-motivating users, the training aide can gradually phase out participation and maybe sit and do something else in the room. They should always be nearby, in case something happens during the session and the user needs help. After the session look through the results in the Cogmed Training Web together with the user and discuss how training was today. In the case of younger children and adolescents with greater difficulties, it may be necessary for the training aide to sit beside them the entire time, motivating them and helping them by reminding them to take breaks, etc. Adults are often fine with a Cogmed Coach only (no training aide necessary).

Rating scales as a pre and post measures

Cogmed recommends using rating scales in order to measure training effects. It is important to collect quantitative data on changes in the user's behavior. This should not be confused with an assessment.

The DSM-IV Rating Scale is the mandatory instrument for all trainings where users are aged 4-17. It has been used in research on Cogmed Working Memory Training and by all practices in the Cogmed practice network.

The Adult Self-report scale (ASRS) is the mandatory instrument for users aged 18 and above.

The Cogmed Coach needs to make sure that the rating scales are completed before training begins and 3-4 weeks after the training is completed. The DSM-IV is filled in by a parent of the user and the ASRS by the user itself.

Tools

-  Home
-  My Training
-  **Rating Scales**
-  F.A.Q.

The parent or adult user will find the rating scales, and information on how to fill it out on the Cogmed Training Web by logging in with their Training ID and password (the same login credentials as to their Cogmed Training). Rating Scales are found under Tools and Rating Scales.

When logging in to the Cogmed Training Web with a Training ID that belongs to a user aged 4-17, the DSM-IV rating scale will be found, and when logging in with a Training ID that belongs to a user that is aged 18 and above, the rating scale ASRS will be found. The pre ratings will show before the training begins and the post ratings when the training is completed.

Both the DSM-IV and the ASRS consist of 18 questions. The first nine questions measure attention deficits and the next nine questions measure hyperactivity and impulsivity. The DSM-IV on a scale from 0 to 3, and the ASRS on a scale from 0 to 4. The higher the ratings, the greater the difficulties.

The Cogmed Coach will find the rating scale scores on the Cogmed Training Web.

Training Details

The trained days are highlighted in the calendar, point the mouse over a highlighted day to see which training day it is. For more advanced statistics choose a statistics type below. "Training Statistics - Summary" - gives a good overview of the training, "Exercise Statistics - Summary" - gives an in-depth understanding of how the training has progressed for each exercise. You can also get statistics for each training day for an in-depth understanding of the training for that particular day, choose the wanted training day from the "Choose Training Day" drop down menu.

Trained Days		November 2007							December 2007						
25 / 25		Mo	Tu	We	Th	Fr	Sa	Su	Mo	Tu	We	Th	Fr	Sa	Su
Password	rnspiard	29	30	31	1	2	3	4	26	27	28	29	30	1	2
Birth year	1996	5	6	7	8	9	10	11	3	4	5	6	7	8	9
Start Index	84	12	13	14	15	16	17	18	10	11	12	13	14	15	16
Max Index	107	19	20	21	22	23	24	25	17	18	19	20	21	22	23
Index Improv.	23	26	27	28	29	30	1	2	24	25	26	27	28	29	30
									31	1	2	3	4	5	6

Teacher ratings

It is valuable that teachers also rate children before and after the training. Teachers see children in a very working memory demanding environment and see additional training effects that can be difficult for a parent to register. You are recommended to collect this information. It is not for any

research purposes: you will find it useful when discussing the training results with the parents. If you chose to have teachers fill out the rating scales you can print them from the Cogmed Training Web. You find them under Training Materials.

How to coach a Cogmed user

Overview of the coaching method

The coaching method consists of five important steps:

1. **Initial interview: Phone or face-to-face meeting** where the Cogmed Coach or the Cogmed Quality Assurance person, makes a judgment whether the user to be is a suitable candidate for training or not.
2. **Start-up session: Phone or face-to-face meeting** where the Cogmed Coach plans and structures the training together with the user and training aide.
3. **Weekly Coach Calls: Phone based coaching** when the user is training at home supported by the training aide, and the Cogmed Coach follows the training using the Cogmed Training Web and makes coach calls once a week.
4. **Wrap-up session: Phone or face-to-face meeting** about a month after the training is finished when the Cogmed Coach summarizes the training together with the user and training aide and gives feedback from rating scales and the Cogmed Training Web.
5. **Follow-up: Phone interview** where the Cogmed Coach documents training effects once again, with more time elapsed and the effects fully emerged.

Cogmed Coaching Templates, which consists of a checklist and templates for the five steps, can be found at the Cogmed Training Web site. This is a word document in order for the Cogmed Quality Assurance person to adjust it to better fit the practice where you work. Below follows a description of the five steps in more detail.

1. Initial interview

The Initial interview is the Cogmed Coach's first contact with the user or the parent. If the user is a child the interview is done with the parent. The main purpose of this interview is to be able to make a recommendation on the likelihood that a specific person will benefit from Cogmed Training and to make sure that all necessary prerequisites are in place. Another important purpose is to describe working memory and to clarify what training with Cogmed Working Memory Training requires in order for it to be successful. The interview is not a diagnostic assessment but a way for you to assess whether working memory training is an appropriate intervention for this user, at this time, or not.

It is not necessary to be a psychologist or medical doctor with psychiatric knowledge to perform these interviews, although backgrounds such as these are helpful in facilitating the process. It is the Cogmed Quality Assurance (QA) person at the practice who is responsible for the inclusion of a user and with whom the Cogmed Coach should discuss any complex cases.

The Initial interview template consists of 13 sections. You may use the template as it is but your practice may also choose to make changes to it. However, it is critical that you explain and discuss:

1. what working memory is, and why it is important
2. how Cogmed Training works: what it entails and what the effects are
3. expectations on the effects of the training, making sure they are set correctly

Under the section “Who can do Cogmed Working Memory Training” in this manual you can read more about exclusion criteria and what to think about when offering Cogmed Working Memory Training.

At the end of the Initial interview

If you together with the interviewee decide that training is suitable, you schedule a Start-up session.

2. Start-up session

Each Cogmed Working Memory Training should be preceded by a Start-up session where the Cogmed Coach meets with the user and the training aide (or talk to them over the telephone). If the user is a child, and someone other than a parent is the training aide, a parent should also participate in the Start-up session. Also, adults who are going to carry out the program may need the support of someone close to them at the Start-up session. Before the Start-up session the Cogmed Coach logs into the Cogmed Training Web and initiates a new Training ID, prints it and puts it in the Starter kit.

The Start-up session takes approximately one hour and is the time to establish a good relationship with the user and the training aide. The Start-up session is very important, as you together will decide how the training program is to be carried out. If you skip the Start-up session, you risk beginning the training program without gaining all of the stakeholders' commitment and understanding of the program's parts and goals. Don't skip it.

The object of this Start-up session is to educate everyone about working memory, about what working memory training is and what it implies. Furthermore, the goal of a Start-up session is to establish a common set of expectations on the training and to establish some guidelines for carrying it out. Finally, it is important that everyone who is present at the Start-up session and involved in the training agrees on their respective commitment through some form of agreement. It is important that the user takes responsibility for and actively participates in the training, as well as understands what working memory is, which results the training should lead to, and how it will be carried out.

The Start-up session template consists of six steps that you should go through:

1. Discuss what working memory is
2. Presentation of the software
3. Reward system
4. Expectations and goals for the training
5. Plan the training
6. Show the Cogmed Training Web and rating scales

In the Cogmed RM starter kit there are seven cards that you the Cogmed Coach can use for your own support during the Start-up session. Below follows a description of the six steps in more detail.

1. Discuss what working memory is

Working memory is the ability to briefly (a few seconds) remember information and to use this information in your thinking. Give some examples of working memory at the Start-up session and remember to adapt them to the user's situation and difficulty level. If the user is a child, you can give the example of using your working memory when the teacher gives instructions in several steps: "Open your math books and do the exercises on pages three and four. When you're finished, you can do the exercises on the photo copies I handed out, and if you still have time left over you can start reading the next chapter in the book." Make sure that everyone at the meeting has understood how working memory functions before moving on to the next item.

A more detailed presentation of working memory can be found in the first chapter of this manual. Even more is at www.cogmed.com and on www.aboutworkingmemory.org.

2. Presentation of the software

Try some of the exercises in the software together with the user by logging in using the **test** credentials (username: test, password: test). Make sure the user understands how the software works, for example the level meter, the importance of training at the limits of your capacity and the high score list (in the Cogmed RM). When training with Cogmed RM each day's training exercises are finished with a reward game (RoboRacing). A detailed instruction of the software can be found in the User Guide in each Starter kit.

This is an excellent opportunity to give feedback on the user's behavior while training. It is also a good opportunity to give feedback to the training aide on how to relate to the user in the training situation.

It is of great importance to explain the principle of stretching your working memory and the implications for this. The Cogmed Coach might say something like:

"There are different exercises in the program that train working memory in different ways. The more you train, the more difficult the exercises will get. The program will automatically adjust to your level. In order to get results you have to work hard. If you're doing the exercises at the peak level of

difficulty, you will make mistakes roughly half the time. In Cogmed Training, trying hard does not mean getting everything right, but focusing and trying your best.”

3. Reward system

The greatest reward from this training program is the user’s improved working memory. Unfortunately, this can seem a bit too abstract of a goal to keep the user’s spirits up through his/her daily training. For this reason, Cogmed recommends using a reward system. A reward system will help the user by:

- Providing immediate positive feedback on the task he or she just completed.
- Visualize the training in a concrete manner.
- Add clarity and structure to the training.

It is important that the user understands and is involved in setting up the reward system. The reward system should be a part of the training program from the very beginning, so that it becomes a part of the training and that the user feels accomplished and proud.

Each day, the user has trained and made a good effort, the training aide gives him or her a sticker to attach to the reward chart that you find in the Cogmed RM and Cogmed JM Starter kit. After each five days’ of training give the user a “special” star sticker. The “special” star sticker means the user gets a reward agreed upon in advance.

A user using Cogmed QM will not get the same reward system as a user using the Cogmed RM or Cogmed JM, but it is a very good idea for him/her to reward himself/herself for the extra work put into the training. To keep the structure of training it might be a good idea for the adult to mark days in the calendar that should be reserved for training

About rewards

If a child, it is important that the user and the parents together agree upon suitable rewards. These rewards do not need to be material things. They can be activities you agree to do together or a benefit the user will be granted.

A good rule about rewards is that they should be:

- Desirable – The reward should truly be a reward for the user. Not something that only the parent considers desirable
- Immediate – Rewards should be given in direct connection to the completion of a week’s training. Preferably rewards that could be easily handed out rather than rewards that need a lot of preparations and for that reason risk to fail.
- Reasonable – A good reward does not need to be expensive or complicated.

During the final two weeks of the program, the user may need extra support to keep up his/her motivation. We therefore recommend that you in anticipation of these two weeks plan rewards that are especially desirable.

Giving rewards

When an adult trains, he/she is usually also responsible for rewarding himself/herself. When children and adolescents train, the parent will be the one giving the rewards for completed achievements. Decide on a routine for when to give the rewards, to make it clear how these rewards are to be given after a completed week and by whom. It is important that these rewards are given as promised. The user should always know what he/she is working for. That is why it is a good idea to make a note of these rewards.

Examples of rewards for children and adolescents:

- renting a movie
- getting to decide what's for dinner
- not needing to make one's bed in the morning
- getting to stay up later than usual one evening
- having a party
-
- going on an outing
- spending special time with a parent
- having a friend sleep over for the weekend
- charging the child's pay-as-you-go cell phone with ten dollars
- computer time

Examples of rewards for adults

- taking a bath
- not having to do the dishes (someone else doing it obviously)
- treating oneself to something one have yearned for during the training period

4. Expectations and goals

For the training program to be experienced as meaningful, it is important that the user understands why he/she needs to train his/her working memory. Make sure to provide three examples of the kinds of working memory-demanding tasks the user wants to become better at, and write down three concrete goals in the Start-up session template.

Some effects of the training will be visible immediately after the training period. These effects are often related to the working memory, such as being able to remember more numbers, remember instructions and being able to focus on the task at hand.

Certain effects of the training program can become visible some months after the training period. These can include reduced impulsivity or better results at school, such as reading comprehension and math skills.

You can not exactly forecast which benefits a certain person will gain from the training program, but being aware of which effects other people have reported and studying the abilities that are associated with working memory makes it easier to discover the effects that do arise.

5. Plan the training

Schedule the training

Each training session takes a different amount of time, depending on how far the user has come in his/her training. Some people require more time, others less. Schedule an hour per day for the training (including breaks) using the schedule in the Starter kit and the Start-up session template.

Cogmed Working Memory Training is designed and tested to be an intensive training program. This means that the user needs to set aside a time for his/her training during the entire training period. The user may need a lot of support. Some people will find the training very rigorous and may need to reduce other tasks, such as homework and other activities, during this period.

For the training to be as effective as possible the user should train five days a week. He/she could train more days in a row, but most people need some days' rest to gather strength and to keep up their motivation throughout the training period. If the user does not finish all of the exercises in one session, one day's training can be divided into two sessions. The recommendation is that each training session completes in one day. Never forget that training set up can never be perfect due to various things that happen in everyday life and that a training that is completed in an OK manner is better than one that may not be completed at all.

For many students, various holidays, such as Spring Breaks, will interrupt the training program. Cogmed's studies have shown that users who take a break in the middle of their training programs have equally high success rates as children who don't. For many of them, such a break can actually be an advantage. If the break is going to last more than ten days, it is better to wait until after the break before starting the training period.

Choosing the right time of day for the training sessions is an important part of achieving optimal training results. Remember to also plan the training sessions so that they don't interrupt something that is important to the user, for example his/her favorite subject, a break or a hobby – otherwise, you may negatively bias him/her towards the training.

It is important to plan breaks in the training sessions themselves. A longer break that lasts a few minutes may be needed halfway through the session. It is also important that the user pauses a few seconds between each attempt and each exercise so as not to rush through the training session. A good way to achieve calm in the training sessions is to have the user let go of the mouse and put the hands on the lap in between trials.

Training environment

A disturbance-free environment is important for successful training. It should preferably be a quiet and isolated room. It may also be necessary to unplug or turn off the phone during training. If the training environment still feels too noisy, headphones can be a good idea.

Contact during training

As the Cogmed Coach, you must clarify for all involved parties how you expect your cooperation to work during the training period. The Cogmed Coach should contact the user and training aide once a week to give feedback on training results and motivate. Schedule times for weekly coach calls in the Start-up session template.

Agreement

The Cogmed RM Starter kit, contains a card titled My training promise. This is where all the parties involved in the training write down what they have agreed to do during the training period. It is important that everyone feels involved in the training and is given some responsibility to make sure that the user completes the training with the best possible results. You are all a team and you will carry out this training period together, keeping in touch before, during and after the training period.

6. Show the Cogmed Training Web and rating scales

Log in to the Cogmed Training Web with the user's Training ID. If the user is aged 4-17, the rating scale found under Rating Scales will be the DSM-IV and that should be filled out by a parent. If the user is aged 18 or above, the rating scale found is the ASRS that shall be filled out by the user him/herself. Either let the parent/adult user fill out the rating scale during the Start-up session, or inform them to do it before the training starts.

At the end of the Start-up session

Hand out the Starter kit and inform them to install the software (see Software instructions in User Guide in Starter kit) and that it is important that they test synchronization using test/test as log-in when it has been installed on the computer that will be used for training.



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COGMED Welcome to Cogmed RM!

Enter your username and password below:

username

password

Connect to Cogmed's server for synchronization

Skip synchronization. IMPORTANT!
Use only when absolutely necessary

This login can only be used to test the software. You can use the test/test as log-in each time you want to show the software to someone and during your Start-up sessions.

Note: When starting the real training program, the user must enter the user's assigned User Name and Password in the login dialog.

Inform the user to always make sure to synchronize before and after each training session by selecting the box "Connect to Cogmed's server for synchronization". During synchronization, data is sent to and from your session, which allows you as a Cogmed Coach to monitor the Cogmed Training Web. The user's computer must be connected to the Internet in order to synchronize with Cogmed's server. If the Internet is not working they can train for three days consecutively, but after that they must synchronize in order to access the training.

Note: At the first session you must synchronize or you will not be able to start the training.

3. Weekly Coach calls

Once a week the Cogmed Coach calls the user and the training aide to talk about how the training is progressing. This phone call takes about 15 minutes, and it is recommended to have a time set in advance every week. The purpose of this call is to encourage and reinforce both the user and training aide. It is also a follow-up to check that the user is doing his/her training as planned and that the training plan is working. A weekly phone call makes it possible to halt a decline in motivation before it is too late. It is also an excellent opportunity to problem solve around training.

The Cogmed Training Web

As the Cogmed Coach, you monitor a user's results using the Cogmed Training Web. It's a critical to continuously monitor your user's progress during the training period. Log into the Cogmed Training Web at least once a week, but preferably more often.

The address is <http://trainingweb.cogmed.com> and you log in with the username and password that you receive when you attend the Cogmed Professional Training.

Users and training aides can also follow their training over the Cogmed Training Web by logging in to <http://trainingweb.cogmed.com> with the same Training ID that they use for the training.

Calendar

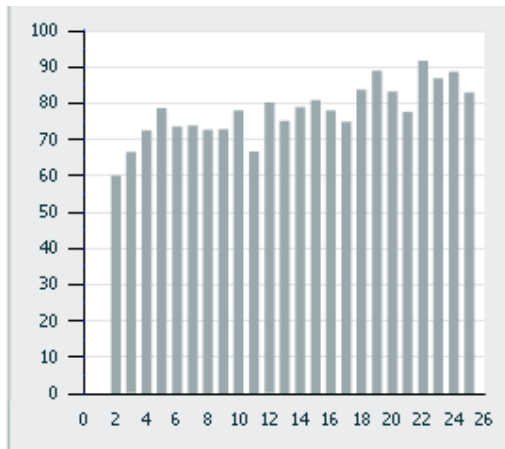
The days that the user has completed and synchronized a session are shown in blue in the calendar. Hold your mouse on top of one of these dates to see which training session was completed that day.



A calendar on the Cogmed Training Web

Training Index

The Training Index is a measure over the users improvement during the training period. The Training Index is based on the user's best results from selected exercises. The *Start Index* is calculated using the results from days two and three, while the *Max Index* is calculated using the results from the two best days during the training period. The *Index Improvement* is calculated by subtracting the Start Index from the Max Index. As a Cogmed Coach, you can monitor your user's Index Improvement on the Cogmed Training Web. The Index Graph can be found under "Training Statistics – Summary".



Index Graph on the Cogmed Training Web

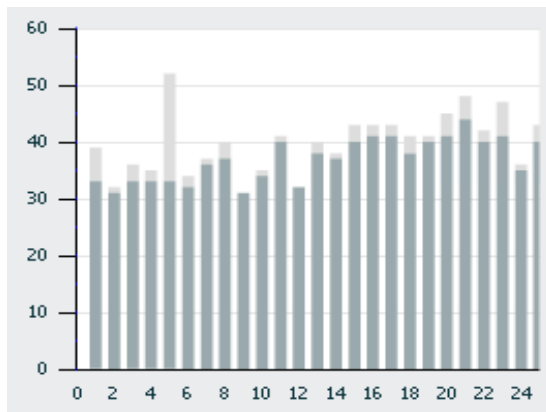
Each bar in the above Index Graph shows each specific day's Training Index. There is no bar for the first training day, since the Start Index is calculated from day 2. Training with a successively improving Training Index is successful training. You shouldn't expect an improvement every day, even if it is a good ambition.

The table below shows mean and normal range of the Start Index, Max Index and Index Improvement for children and adults that have done Cogmed Working Memory Training.

	Users aged 7-17	Users aged 18-65
Start Index	Mean: 75	Mean: 83
Max Index	Mean: 102	Mean: 111
Index Improvement	Mean: 27 Normal range: 15-39	Mean: 29 Normal range: 15-41

Time spent

The Overview Time Graph, which can be found under “Training Statistics – Summary”, shows how much time the user has spent using the software.



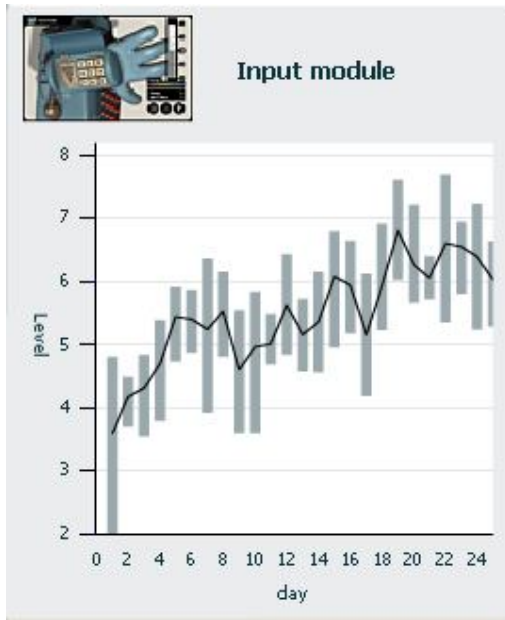
Overview Time Graph on the Cogmed Training Web

The darker portion of the bar shows the active training time, while the lighter portion shows the time spent on breaks. The active training time should be between 30 and 45 minutes per session. The amount of training time spent is usually shorter during the first few days of the training period, before you reach your maximum level. If the active training time, after the first few days, is less than 30 minutes or more than 45 minutes when training with Cogmed RM and Cogmed QM and less or more than 15 minutes when training with Cogmed JM, you should work on that together with the training aide (see Training pace below).

If the active training time, a week later, still remains too short or too long you should contact Cogmed Technical Support (support@kogmed.com or 1-888-748 38 28) and they will help you increase or decrease the number of trials to correct the active training time.

Exercise graphs

The results of each exercise are shown in their own separate graph; these can be found under “Exercise Statistics – Summary”.



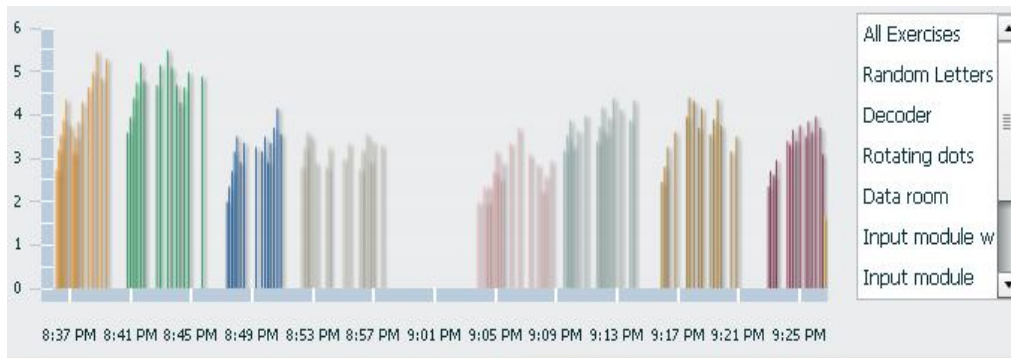
Exercise Graph on the Cogmed Training Web

The black line shows the user's average, day-to-day results. The bar begins at the lowest level the user achieved during the session and goes up to the highest result he/she managed to achieve.

Check to see which exercises the user has improved on and which ones show less progress. If the user is not developing on a certain exercise, it is a good idea to focus more on that one and do it at the beginning of the session. Don't forget to praise the user for all progress made! When reviewing the charts, it can feel like he/she hasn't progressed that much. But remember that even a small improvement makes a big difference. Research has shown that children and adolescents in the normal population who do not train their working memory on average improve their working memory by 0.3 levels (remembering visual dots) a year. So if your user manages a higher level than previously during the training period, that's great! Results will vary, as nobody will be able to achieve consistently better results during the training period. This is what can be expected.

Training day graphs

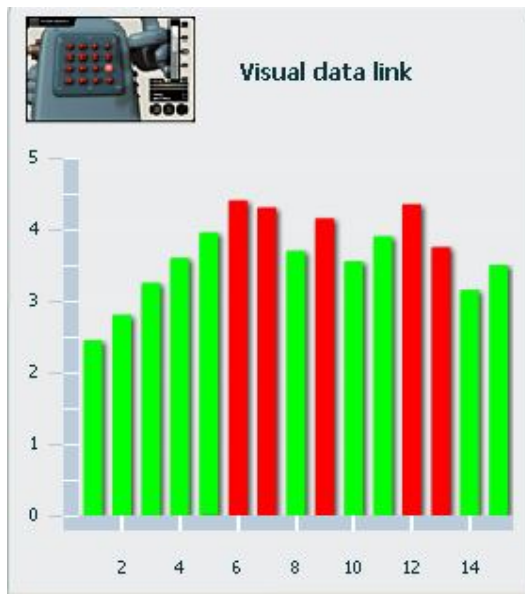
Under “Choose Training Day” the Cogmed Coach can choose to look at all exercises in more detail. The Detailed Time Graph shows the order in which the user has done the exercises on that specific day.



Detailed Time Graph on the Cogmed Training Web

This graph shows the time when an exercise was done on the horizontal axis, and the difficulty level on the vertical axis. Every exercise is represented by a color; hold your mouse on top of the colored bars to see what exercise it is and to get more detailed information. Each bar represents one trial. You can also observe the order in which the user has done the exercises on a specific day. It is possible to see when and where the user takes breaks when looking at the space between these bars. To the right of the Detailed Time Graph there is a list of all the exercises. Choose an exercise if you want to examine it closely on the time axis. You can also choose several exercises by holding down the SHIFT or CTRL key and clicking with the mouse.

Questions the coach needs to ask while observing the graphs of a training day: If the user takes no breaks, can he/she maintain the peak level throughout the training or is there a dip in the end? Does the user take too many breaks in a non-constructive way? Does the user spend an unreasonable amount of time on a specific exercise? Does the user miss many trials in a row on several exercises? Are these the same exercises every day?



Day Exercise Graph on the Cogmed Training Web

The Day Exercise Graphs show every trial on a specific exercise on a specific day. The vertical axis shows the difficulty level and the horizontal axis shows the number trials. A green bar means that the trial was successful. A red bar means that the trial was missed. Hold your mouse on top of each bar to get more detailed information. It is possible to see the exact pattern of successes and failures on each trained exercise. When it comes to the amount of successes and failures, a good rule of thumb is to observe if the user misses more than three or four trials in a row. That indicates the user has lost his or her concentration and needs a small break. When children and adults train at their peak, they will miss approximately half of the trials. The curves will be even, moving slowly upwards.

Cogmed Coaches often find it hard to give feedback from the graphs during the first week of training. When the user has trained a little bit longer, a pattern often emerges of how the training is proceeding. There are often differences (ups and downs) from day to day. This does not have to be a problem, although a positive development over time is desirable. The Cogmed Training Web is just one tool that is used in the coaching. It gives the Cogmed Coach a good picture of the training results and helps make sure that all users get enough training. At the same time it is important to view this feedback in the context of the entire Coach call.

Other aspects of the Cogmed Training Web

The Cogmed Training Web is used to start new trainings and to study ongoing and completed trainings. Each feature is described on the Cogmed Training Web. You will find answers to lots of coaching related and technical questions under FAQ on the Cogmed Training Web. Also, under Training Material you will find this Coaching manual, the Cogmed Coaching Templates, Rating Scales (DSM-IV and ASRS), the Cogmed Report Template, a diploma and the link to the Cogmed Satisfaction Survey to send to training aides/adult users upon completed training.

The Coach call

Structure

If training a child a structure that works for many users and training aides is for the Cogmed Coach to start with a brief summary together with the training aide. After that the Cogmed Coach gives full attention to the user and when that is done, a deeper analysis of the training is discussed with the training aide. You can track your coach calls in the Coach Call notes that can be found in the Cogmed Coaching Templates. You will also find a checklist to go through in the Cogmed Training Web before a coach call and a list of suggested questions for a coach call.

Speaking with a child

When asking a child open questions like "How is your training going?" you often only get very short answers like "good" or "OK." It might be nice to start with an open question, but if you want information of any value you need to ask very concrete and direct questions like, "What exercise is your favorite?" or "Are there any exercises that you don't like?" Asking concrete and quite simple questions might also make the child feel more comfortable

speaking to the Cogmed Coach over the telephone. It will then be easier to reinforce exercises/behaviors where the child is doing well. The focus for this call is to reinforce the child's positive behavior. It is, however, sometimes important to let the child know what they have to work harder on. This can include things like working more slowly or trying to cope with setbacks in a constructive way. Many children appreciate those calls tremendously even if they are not very long. If the child finds talking to the Cogmed Coach aversive in any way, the Cogmed Coach should only talk to the training aide.

Speaking with the training aide or adult user

One way of opening the conversation with the training aide/adult user is to simply ask how the last week's training has been. In that way the conversation starts from the training aide/adult user's perspective and the Cogmed Coach can later on give his or her comments and thoughts on the training. An important part of feedback given to the training aide/adult user is feedback on performance graphs. When user is not training at his/her peak, the Cogmed Coach can help the training aide/adult user solve the problem. "Is there anything in the training environment that the user is uncomfortable with? At what time is training carried out? What is the structure around training like? How is the reward system working? Does the user have unrealistic expectations of him/herself?" It is often possible to find one or more factors that are changeable and thereby change the user's motivation to training. Never forget that just listening is a great way for you as a coach to be a positive reinforcer for the user.

It may be valuable to ask how the training aide supports the user. Does the user appreciate verbal feedback? Is it helpful to have the training aide around? How is the user's motivation and how can the training aide help out with this?

Praise!

It is very important that you praise the user often, for example when he/she has managed a new level on an exercise, trained all five days in a week, been extra focused, etc. It is important for the Cogmed Coach to remember that going through the training program is tough for the training aide, too. Therefore, the Cogmed Coach needs to be generous with praise, not only to the user but also to the training aide.

Motivation

The user's motivation is of utmost importance throughout the training period. It is best to address reduced motivation as soon as you see signs of it. Here are some strategies you can use:

- ❑ Talk to the user about the training's benefits and remind him or her about the initial expectations on the training program. In order to reach your goals, you have to make an effort. "If you want bigger muscles, you need to do more than just lift a pencil every now and then."
- ❑ Modify the reward system if the user does not find it rewarding enough. Are the promised rewards really being given? Is there some other kind of reward that would work better? Does the user need some form of reward every day? If the user doesn't

find RoboRacing to be rewarding, you should allow him or her to do something else that he or she finds rewarding immediately after each day's session. You could split the session into two halves, with a smaller reward given at half-time (e.g. reading together, playing a game for a few minutes, etc).

- ❑ If necessary, you can help the user and training aide to set up small goals for every training session. For example, if the user does not miss more than three trials in a row during a training session a smaller reward can be given.
- ❑ Remind the user that he or she signed an agreement and review it together.

Training pace

- ❑ If the user is training too fast, try to get him or her to slow down. The most common problem is that a user will click "Go!" before he or she has taken the time to re-focus. If the user is talking, not looking or still thinking about the previous attempt, he or she risks missing the first part that is said or shown in the sequence. In this case, the user should practice pausing for a few seconds before he or she starts the next attempt. A good idea is to do something during this pause to make sure it really happens, for example the user putting both hands on the lap or taking a deep breath.
- ❑ The exercise Space Whack in Cogmed RM is the only exercise that is time-limited, otherwise the user has all the time he or she needs. However, if the user takes too much time, he or she risks dropping the sequence from his or her working memory (since working memory is limited to a few seconds). Therefore, he or she can make mistakes by trying to be careful and not working fast enough. In these cases, try getting the user to work a little faster.

Pauses

- ❑ Most people who train find taking pauses during a session to be helpful, especially when they find it harder to concentrate towards the end of a session. If the user fails several times in a row, it may be a good idea to take a shorter break. He or she may need to get away from the computer for a while to break the cycle. However, some people can get into a "flow" when they are training and for them a pause would be disturbing. In those cases, it is better to let them go through all the exercises in a row.
- ❑ Some users will want to take frequent breaks. This isn't a problem for the training itself, but it does make the training session last much longer. If there is enough time, then it's OK. Otherwise, you may need to reduce the number of breaks. It can be a good idea to establish some rules, e.g. only allowing breaks after every three completed exercises. For users that take a long time because they talk a lot during the session, you can also establish rules about when it's OK to talk, for example only when he or she is at the main menu between exercises.

At the end of the last Coach call

Schedule a time for Wrap-up session about four weeks after the training is finished. Ask user's parent/adult user to make a note in calendar 3-4 weeks after the training is finished when the post rating scale shall be filled out at the Cogmed Training Web.

4. Wrap-up session

About four weeks after the training is finished, and when the post-rating scale is filled out, all the involved parties have a Wrap-up session. The purpose of this session is to make the user feel that he/she has achieved a major accomplishment, to evaluate the training together and understand how the user and training aide have perceived the training. This session can be done over the telephone but some practices chose to meet in person.

As the Cogmed Coach, you should summarize the user's results before the Wrap-up session. Look at the pre and post rating scales (including those completed by teachers), the users Index Improvement and study his/her development on all the exercises in the Cogmed Training Web. Think about how the training period has been. What worked well and what worked less well? Think about which direct effects of the training are noticeable in the user.

During the Wrap-up session you can use the Wrap-up session template (can be found at the Cogmed Training Web/Training Materials/Cogmed Coaching Templates). Discuss the user's Index Improvement and how the training went. Discuss his/her improvement on those exercises that went especially well. Allow everyone present to give their impressions of how the training has been. The same thing goes for its effects. Ask about any effects that are noticeable in everyday life, at home and/or at school/work. Remember to look at the three goals that you set up at the Start-up session.

You should also discuss any effects that can be expected in the coming months. It is important to pay attention to these, so that the user can associate them with his/her achievements from the Cogmed Working Memory Training.

At the end of the wrap-up session

Schedule a time for the Follow-up six months after the training was completed. Make sure that rating scales are completed.

Cogmed Report

The Cogmed Coach can choose to prepare a Cogmed Report after the Wrap-up session. The purpose of the report is to give parents, training aides and users immediate feedback in the form of a written document. It is important to keep in mind that this is only a training report and not a full assessment report.

Cogmed has a Cogmed Report Template (can be found at the Cogmed Training Web/Training Materials). The template is a word document; you can save it on your own computer and make any changes you like. Where the template is marked in yellow you need to enter specific information on a user.

Send the Cogmed Report to the user together with the diploma (can be found at the Cogmed Training Web/Training Materials/Cogmed Coaching Templates), or as hardcopy, shipped to your practice by Cogmed.

User Satisfaction Survey

An important step in the training process is the online User Satisfaction Survey that all clients should fill out. A link and password for the survey can be found under Training

Material at the Cogmed Training Web. The Cogmed Coach emails link and password to user's parent/adult user. The online survey should not take more than 5-10 minutes to complete. The survey will offers a reward for completing the survey: a \$10 gift card from Starbucks or Barnes & Noble. The gift card will be sent by regular mail directly to the user, at the address he/she enters in the survey (one per Training ID).

The name and address information collected by the survey in order to send the reward will NOT be saved or used by Cogmed.

The survey is critical for your practice and for Cogmed to better understand how your clients think about the training they have just completed.

5. Follow-up

Six months after training is completed, the Cogmed Coach will make contact again to do a Follow-up interview over the telephone. The Cogmed Coach interviews the user's parent, or the adult user him/herself.

The primary purpose of this interview is to document training effects. You use the Follow-up template (can be found at the Cogmed Training Web/Training Materials/Cogmed Coaching Templates).

Support from Cogmed

Technical support

If your clients experience technical issues, they should stop the training immediately and contact Cogmed Technical Support by phone or e-mail directly and right away. They should never train while experiencing technical difficulties. If the Internet is not working they can train for three days consecutively, but after that they must synchronize in order to access the training.

If you or your clients have any technical issues with the Cogmed Training Web you should also contact Cogmed Technical Support. You can also contact technical support if you need to make changes in the Training Plan, for example if the effective training time is too short or too long (see Coaching), or if an exercise is too difficult for a user, it can be removed.

Cogmed Technical Support can be contacted at support@kogmed.com or by calling **1-888-748 38 28**. Office hours are 8am to 5pm CST Monday-Friday.

You should provide Cogmed Technical Support with the following information:

- Training ID
- Name of clinic /Cogmed Qualified Practice
- Description of the problem

Clinical support

If you need any help with any steps in the coaching method, how to use the Cogmed Training Web or any other clinical matters related to Cogmed, you should talk to the Cogmed Quality Assurance person at your practice.

If your clients have trouble with understanding the Cogmed Training Web you should help them at the Start-up session and during the Coach calls.