



Manual

Wheel of Sound Listening Lab

from 6 to 99 years

Learning tool for attentive and precise listening

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1. General



Wheel of Sound is a learning program for the development of listening skills. Its focus lies on the distinction of non-verbal sounds.

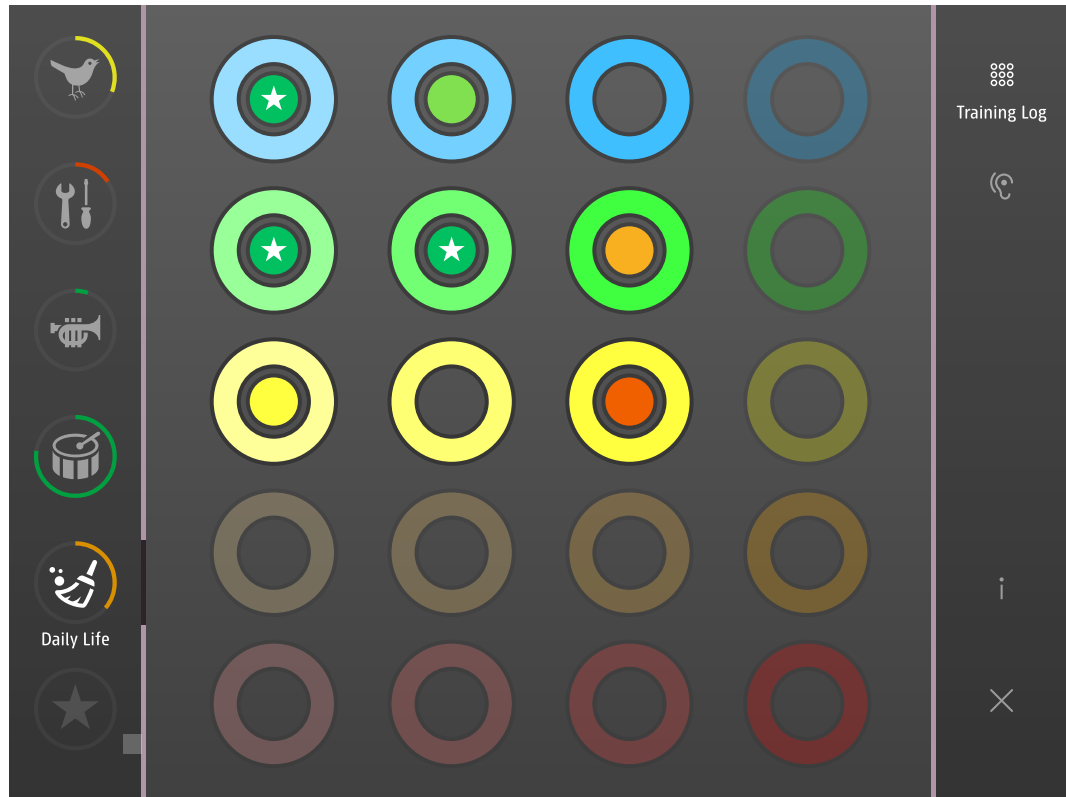
Wheel of Sound stimulates abilities and skills essential for daily life as well as educational learning. Precise listening and the distinction of sounds are trained in a closely targeted way. Simultaneously, it requires a high degree of attention, auditory memory and concentration.

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2. Training Log



2.1. General

The landing page is both **exercise selection** and **Training Log**. Here, students select the desired exercise set and have an insight into their work status.

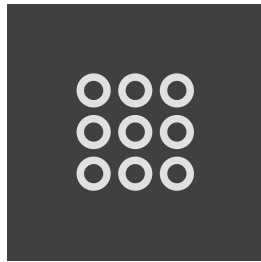
Wheel of Sound offers five sound topics that cover different listening interests: birds, technique, melody, rhythm and daily life. Each topic contains twenty exercises of increasing complexity.

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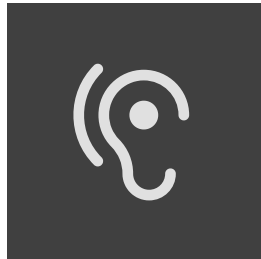
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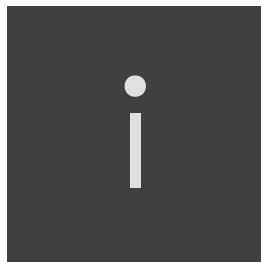
2.2. Navigation



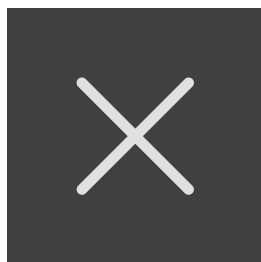
To the Training Log



To the Sound Library



Explanations of the module
(Select the language)



Exit module

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5 Topics



Birds



Technology



Melody



Rhythm



Daily Life



Bonus

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20 Exercises

Increasing difficulty from left to right:

The sounds become more and more similar. Requires precise listening and the ability to distinguish.

Increasing difficulty from top to bottom:

more sounds to be identified. Requires attention, memory and concentration.

Light blue: simplest exercise

Red: most difficult exercise

Higher difficulty exercises are unlocked, depending on the results of the exercises that have already been processed. → [Competency Model](#)

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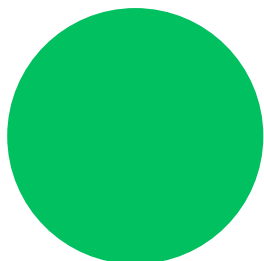
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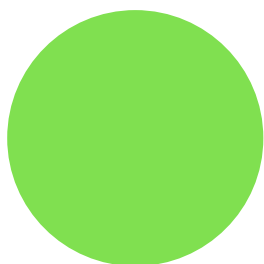
Evaluation of the completed exercises



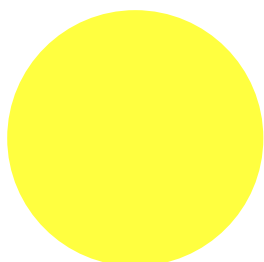
Perfect



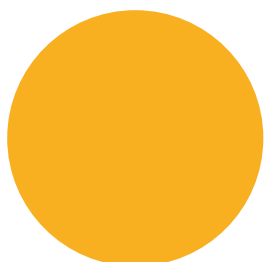
Very good



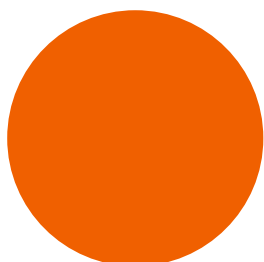
Good



Not bad



You can do better



Try again or choose a different exercise.

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2.3. Bonus exercises

If just over half of the exercises are solved well or even perfect, the bonus rider will be unlocked. It includes twenty additional exercises on different topics with a constant high level of difficulty.

Animals	Daily Life	Music	Miscellaneous
Carnivores	Writing	Melody	Fantasy I – High Frequency
Wildcat	Pen	Ringtone	Shimmer
Wolve	Typewriter	Synthetic Bass	Radio signals
Tiger	Computer Keyboard	Clarinet	Very high signals
Pets	Sport & Games	Timbres	Fantasy II – Low Frequency
Cow	Billiards	Harry Potter	Synthesizer
Cat	Ping-Pong	Pirates of the Caribbean	Underwater - Sonar
Dog	Basketball	Skyfall	Roaring monster
Aquatic animals	Humans I	Chords	BOING! WHAM!
Whale	Baby - Laughter	Arpeggio - Piano	Boing!
Sea lion	Baby - Talking	Arpeggio - Cimbalom	Signal - Fall off
Frog	Baby - Crying	Arpeggio – Accordion	Breaking glass
Desert, Steppe & Jungle	Humans II	Scales	Squeaking
Elephant	Laughter - Theater	Piano - Upwards	Metal
Camel	Stadium - Fans	Marimba - Downwards	Toys
Wildebeast	Applause - Cheering	Synthesizer with Echo - Upwards	Tires
Insects & bats	Humans III	Structureless sound sequences	Tools
Cricket	Coughing	Wind Chimes	Hammer
Bat	Sneezing	Organ	Handsaw
Cicada	Snoring	Synthesizer	Power Drill

3. Course of Exercise

3.1. General

One exercise includes three tasks. Initially, students listen to one up to three sounds per tasks and will have to memorize them well. The sounds are then played back in sequence with a maximum of three additional sounds and have to be recognized by the students.

The more sounds are required, the greater the demands on memory, attention and concentration. Increasing similarity of sounds requires increasingly precise listening and better discrimination skills.

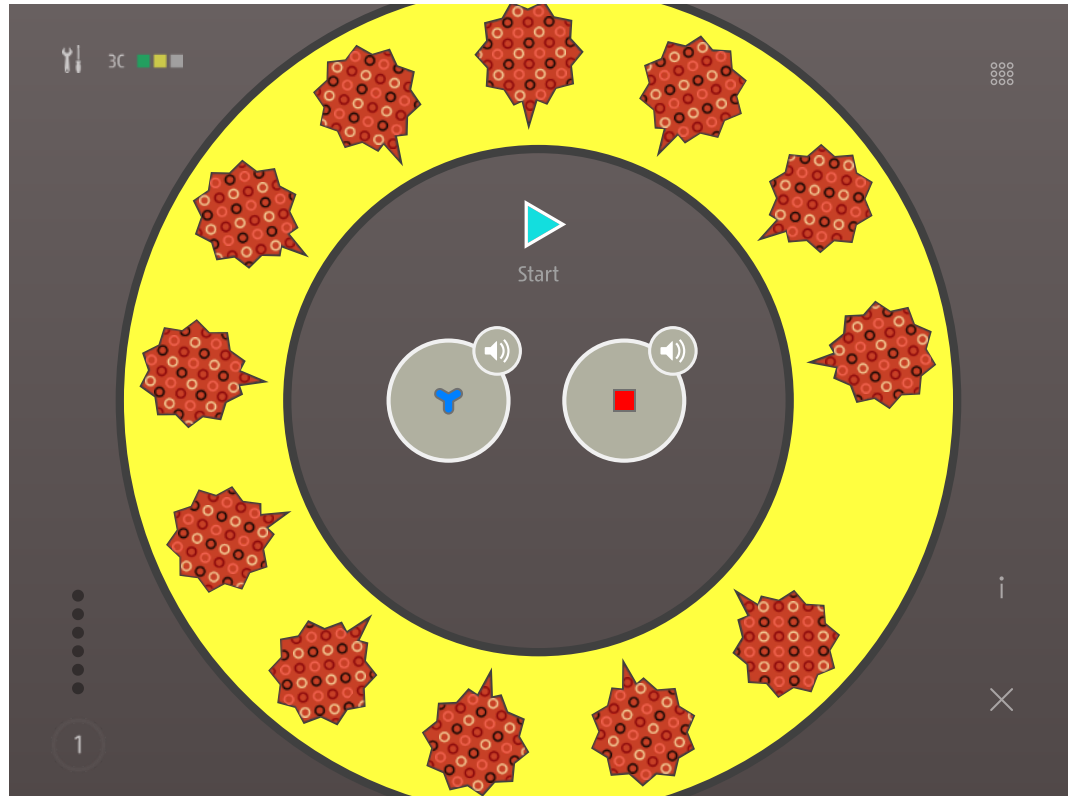
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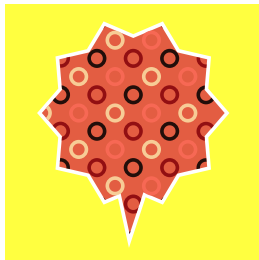
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3.2. Task

3.2.1. Pre-listening

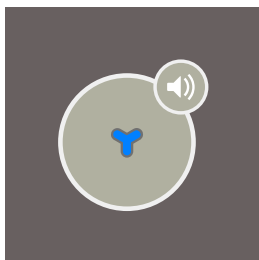


All sounds on the wheel



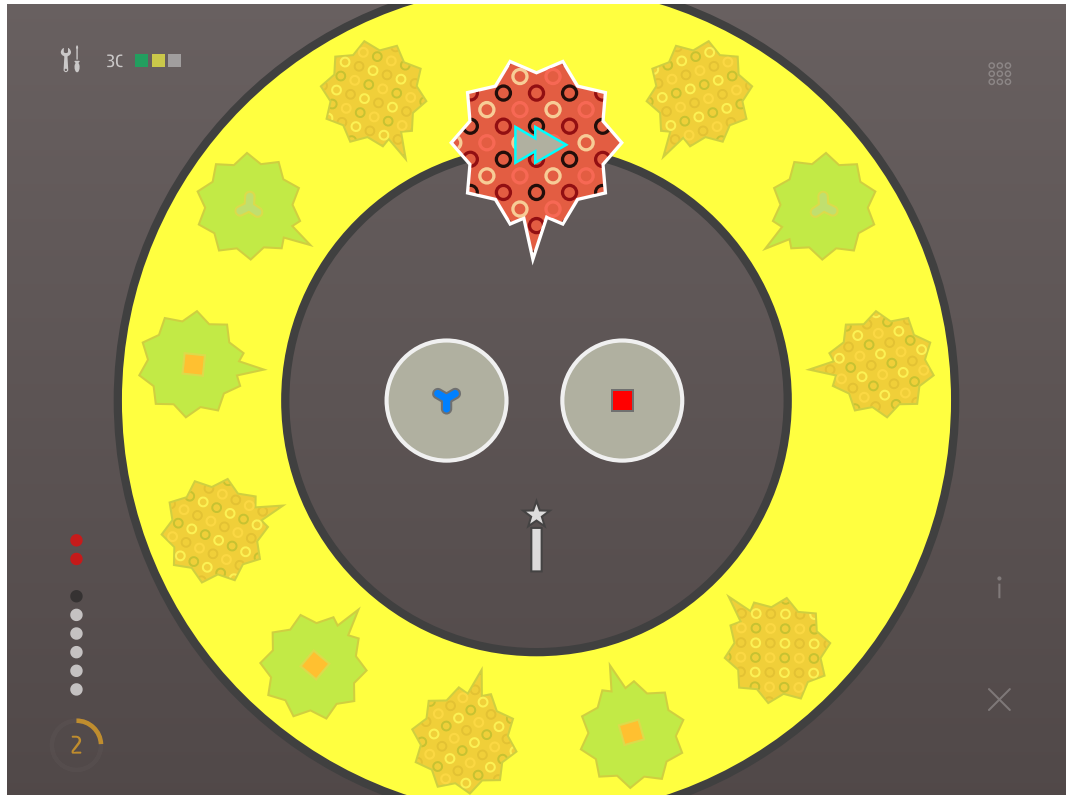
The speech bubbles of the Wheel of Sound conceal a maximum of five different sounds.

Wanted sounds in the center of the wheel



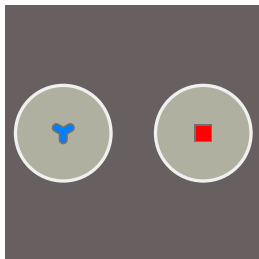
At the beginning the wanted sounds are played. They can be heard any number of times before starting the task.
Depending on the difficulty level of the exercise, one up to three sounds are wanted.

3.2.2. Distinguish sounds



After clicking on **Start** the wheel turns and the sounds are reproduced.

A **wanted sound** is reproduced:



Confirm by clicking on the matching circle in the middle of the wheel.

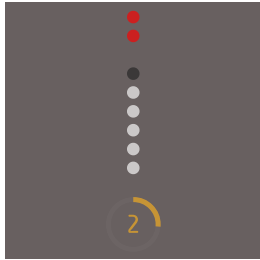
An **sound not wanted** is reproduced:



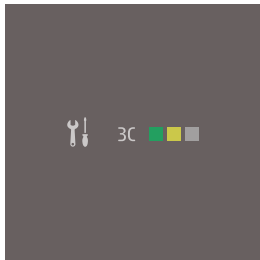
Wait until the wheel continues to turn or click on the double arrow to pass quickly to the next bubble.



Clicking on the **magic wand** interrupts the playback of the sounds. The wanted sounds can be heard again. Depending on the difficulty level of the exercise, magic wand can be used once or twice per task



The Working progress task on the bottom left-hand side shows the current result with colored dots.
Example: Wanted sounds: 6 | Recognized sounds: 5 | Errors: 2 | Round: 2.



Exercise orientations | Rating tasks are displayed in the top left-hand corner.
Example: Technology, exercise 3C.
Rating task 1: very good | Rating task 2: not bad | Task 3 is currently in progress.

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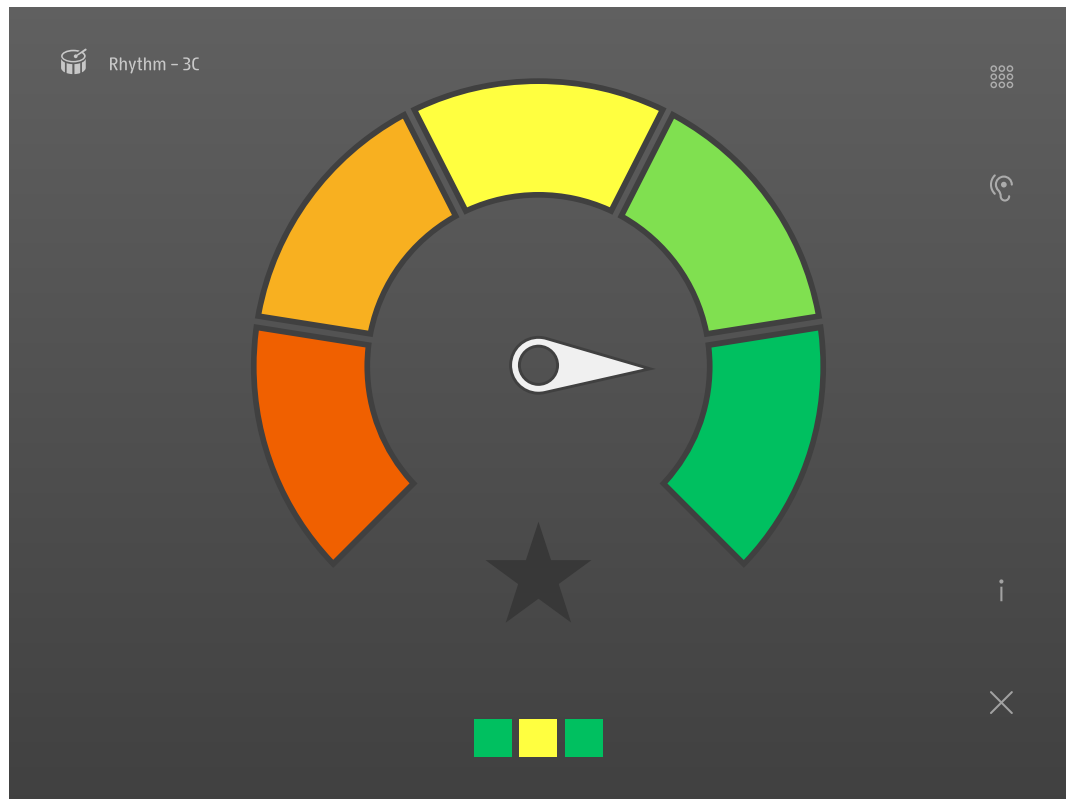
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3.3. Evaluation exercise

At the end of each exercise the performance is evaluated. These ratings will then be listed in the exercise overview. This overview and landing page serves as a training log, that continuously captures the individual working progress and success of the students.

The final evaluation displays the rating of the single tasks and the evaluation of the entire exercise.



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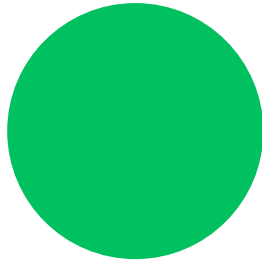
Rating exercise

This display shows the rating of the exercise just completed.

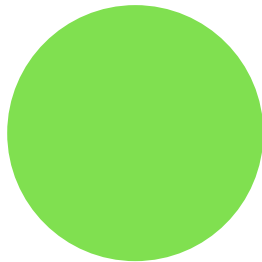
«Perfect» means: No mistakes and just one turn of the wheel per task. You are rewarded with a star.



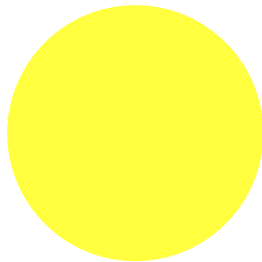
Perfect



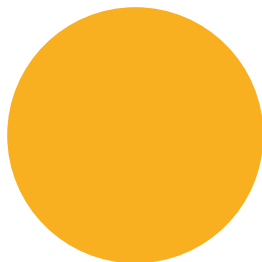
Very good



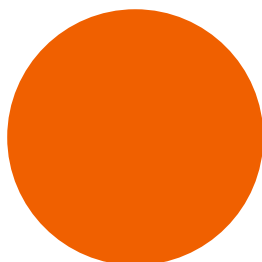
Good



Not bad



You can do better



Try again or choose a different exercise.

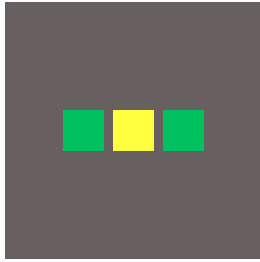
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The rating will then be listed in the training log. It appears as a colored circle (with star) in the exercise wheel.

Evaluation tasks



The colored bars show how well the individual tasks have been solved.

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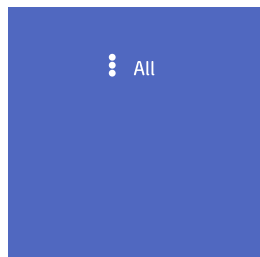
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4. Sound Library

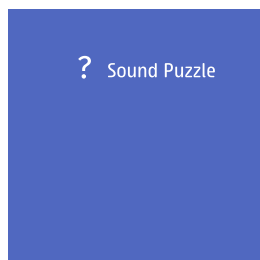
4.1. General



The sound library contains all sounds of the learning program, sorted by sound category, ready for listening and gives students the opportunity to rummage in sounds and puzzle over what they hear.

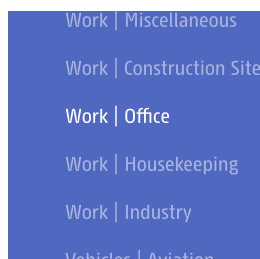


All / Last displays all the sounds or the sounds of the exercise in progress.



Sound puzzle

Listen to ten randomly chosen sounds and puzzle about what you hear.



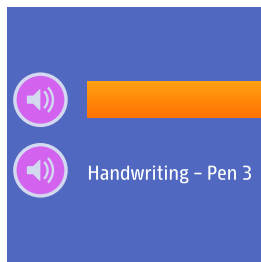
Sound categories

Click on a sound category|subcategory to display all sounds in the selected category on the right.

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Browse through the sounds

Click on the speaker to hear the sound. Click on the bar opens the sound drawer and displays the name of the sound.

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5. Work plan / Progress profaxonline

The **Progress** area allows the teacher to accompany students on their individual learning path.

Teachers only see students from groups to which they themselves belong. To do this, the administrator must assign the responsible teacher to the corresponding groups. A teacher can be responsible for several groups.

In the gray column on the left, click on **Progress**.

Groups

Group	Users
All Users	10
No Group	0
remedial teaching	3
class 1A	4
class 2A	2
class3A	3

Users

User
John Smith
Jonas Smith
Lina Smith
Max Smith
Nele Smith
Sofia Smith
Yanis Smith

Teachers

Teacher
T. Curative education
T. Elementary school
Admin profaxonline

Work plan / Progress

☒ only worked exercises

Wheel of Sound MINI

Exercise 1 - Level 1

Exercise 1 - Level 2

Exercise 7 - Level 1

Exercise 7 - Level 2

Wheel of Sound

Birds: Exercise 1A

Rhythm: Exercise 2B

LOGO 1

Exercise 1 - Level 1

Exercise 1 - Level 2

Exercise 7 - Level 1

Exercise 7 - Level 2

tempo60 - basic arithmetic

6: + up to 20 $x + y = \square$ Test

6e: + up to 20 $x + y = \square$ Training

8: + up to 20 Double Sum 10, ...

64e: * Series 2 $x + 2 = \square$ | $x = \square + 2$ Training

65: * Series 3 $x + 3 = \square$ | $x = \square + 3$ Test

7 Days Stats

01. Nov. 2020

Wheel of Sound MINI

Daily Life: Exercise 2A

12:38, 0 min 1✓ 0x

Wheel of Sound MINI

Daily Life: Exercise 1A

12:36, 1 min 4✓ 1x

Wheel of Sound MINI

Daily Life: Exercise 2B

12:36, 1 min 4✓ 1x

Wheel of Sound

Rhythm: Exercise 2B

12:13, 1 min 9✓ 0x

Wheel of Sound

Rhythm: Exercise 2B

12:12, 2 min 10✓ 0x

31. Okt. 2020

LOGO 1

Exercise 1 - Level 2

15:05, 4 min 20✓ 0x

30. Okt. 2020

LOGO 1

Exercise 2 - Level 1

20:37, 5 min 6✓ 0x

LOGO 1

Exercise 1 - Level 1

19:34, 3 min 5✓ 0x

LOGO 1

Exercise 7 - Level 1

19:34, 3 min 5✓ 0x

Select a person.

All learning modules assigned to the person are displayed in the *Progress* column. Show or hide all exercises of a learning module by clicking on the title of the learning module.

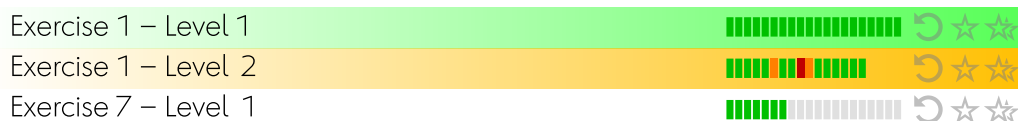
If you activate the checkbox for **only worked exercises**, only the exercises in which the student is currently working or whose training has been completed are displayed.

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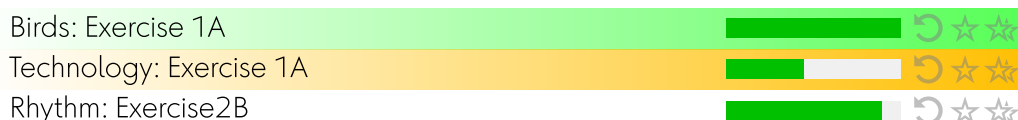
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5.1. View learning progress



For exercises with individual tasks, the learning status is displayed with a colored field for each task.



For exercises with a flashcard, the learning status is displayed as a progress bar.

They mean:

- green** Answer correct
- red** Answer incorrect
- orange** the task is currently under revision
- gray** not worked on it

5.2. Reset the exercise

Exercises can be reset by clicking on .

5.3. Work plan

By clicking on , exercises can be added to or removed from the work plan of the selected student, by clicking on  of the selected group. If an exercise is in the work plan, the name of the training module and the progress indicator are highlighted in yellow. If the line is green, the training work is complete.

5.4. 7 Days Stats and Timeline

If you work with a *weekly plan*, you will receive feedback on how long you have worked with the individual learning modules in the last seven days under **7 Days Stats**.

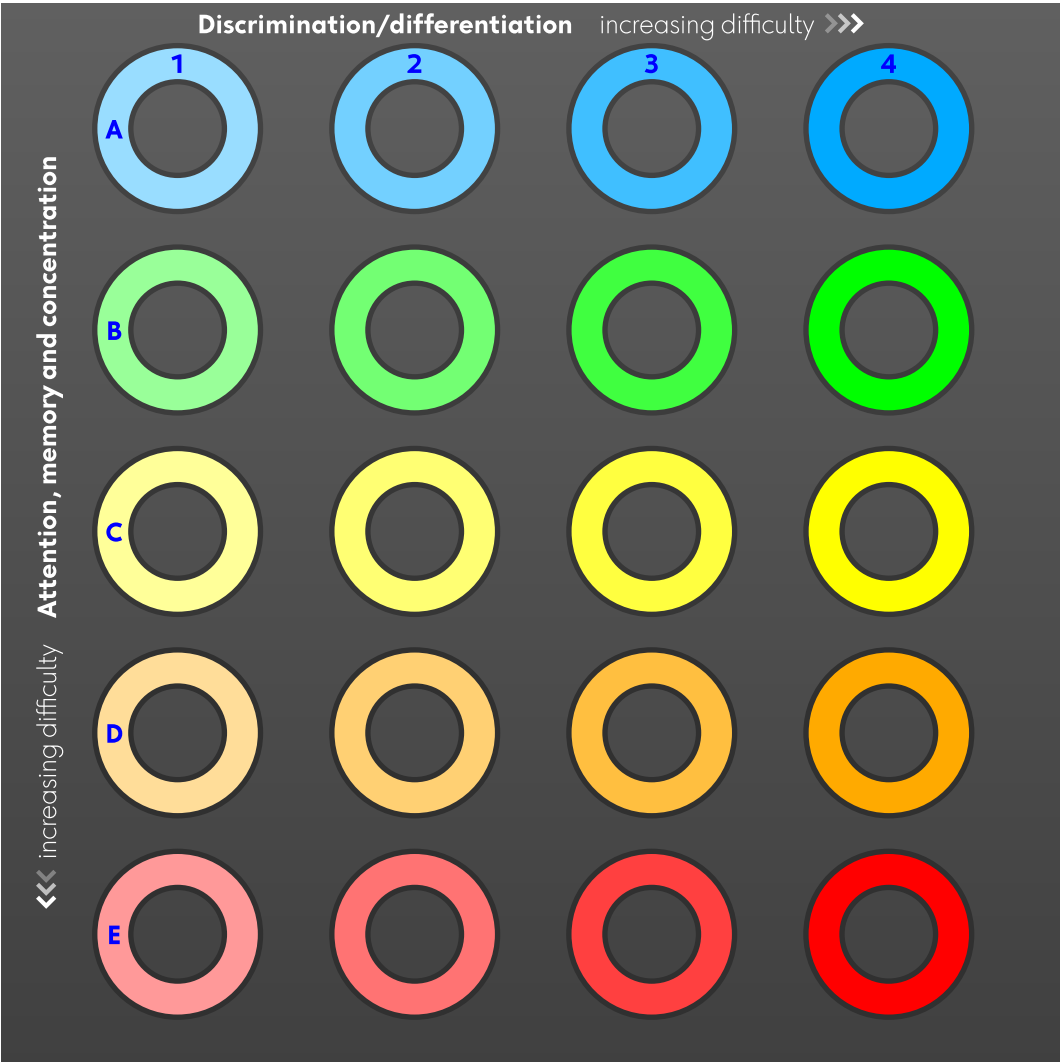
The **Timeline** shows when which exercises have been completed in the last 30 days. The **red** and **green** numbers indicate how many tasks were solved correctly or incorrectly.

The following parameters are recorded:

- if a child works before 07.00, no time is displayed and all tasks of the same exercise are combined;
- if a child works after 07.00, the time is displayed and all tasks of the same exercise are combined if they are done within an hour;
- if a child works after 5 p.m., no time is displayed and all tasks of the same exercise are combined;
- if a child works past midnight, the entry is spread over both days; the time shown starts when the first task is solved;
- if the child is inactive, the time is not counted.

6. Appendix

6.1. Competency Model



Difficulty settings: discrimination/differentiation

Sounds or sound sequences have different characteristics. They can differ in timbre, pitch, inner pattern and volume. For Wheel of Sound, the first three features are relevant.

1	2	3	4
Significant differences in all characteristics	Significant differences in two characteristics	Significant differences in one characteristic or slight differences in two characteristics	Minimal differences in one characteristic

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Difficulty settings: attention, memory and concentration

	Sounds per task	Number of different sounds	Number of searched sounds	Magic Wand Break	Rating: ● ● ●
A	9	3	1	1 2	1 3 5 errors
B	10	4	2	2 2	1 3 5
C	12	5	2	1 2	2 4 6
D	12	5	3	2 2	2 5 7
E	12	5	3	1 1	2 4 6

6.2. Sound Categories

Animals	Vehicles	Music	Work
Birds	Road	Single Sound	Construction Site
Pets	Railway	Monophonic Melody	Industry
Wild Animals	Aviation	Polyphonic Melody	Housekeeping
Insects		Chords & Scales	Office
		Percussion – Single Hit	Miscellaneous
		Simple Percussion	
		Complex Percussion	
		Percussion & Melody	
		Without Rhythm	

Daily Life	Nature	People	Miscellaneous
Kitchen & Bathroom	Water	Emotions	Error Beep
Sports & Leisure	Wind & Weather	Applauding	Indicator Beep
Doors & Locks	Fire	Steps	Ascending Beeps
Bells & Buzzers		Miscellaneous	Descending Beeps
Sirens & Whistles			Confirmation & Reward
Rumbling & Crashing			BOING! WHAM!
Scratching, Crunching & Squeaking			Locating & Communication
Miscellaneous			Synthetic

7. Thanks

The development work is professionally supported by the Center for Orality Studies – University of Teacher Education Zug (PH Zug). A beta version of Wheel of Sound has been successfully tested in autumn 2015 by several middle school classes at PH Zug.

Bird calls with kind permission of Prof. Dr. Hans-Heiner Bergmann.

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Sounds	Bird calls with kind permission of Prof. Dr. Hans-Heiner Bergmann

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