Co-funded by the
Erasmus+ Programme
of the European Union

VISApp

early stimulation game
for low vision children inclusion

USER'S GUIDE

redREE making projects
ALBA Asociación de ayuda a personas con albinismo
Aniridia Europe
Aniridi Norge
Aniridia Italiana
smallcodes technology

Co-funded by the
Erasmus+ Programme
of the European Union

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INTRODUCTION

The purpose of the project "*Looking out for a School for All*", developed within the framework of the Erasmus Plus Programme, is to facilitate the social and educational inclusion of students with visual impairment in the earliest stages of school education, especially during pre-primary education and the first years of primary education. This project is based on the needs identified in the field of pre-primary education, providing learning procedures, tools, and materials to adapt education at these early ages to children with visual disabilities, which is essential to ensure their full educational inclusion. This is why this project aims to develop materials and tools that facilitate the inclusion of children with visual disabilities in early education by designing applications adapted to their learning, plus digital training materials for teachers in both formal and non-formal education.

Among the various results that have been developed in the project, the two Intellectual Outputs should be highlighted:

- O1: VIRTUAL TRAINING COURSE FOR THE TRAINING OF TEACHERS AND PRE-PRIMARY EDUCATION CENTERS IN THE INCLUSION OF STUDENTS WITH VISUAL IMPAIRMENT IN THEIR CLASSROOMS.
- O2: ORIGINAL ICT TOOL FOR THE INCLUSION OF STUDENTS WITH VISUAL IMPAIRMENT IN THE CLASSROOM.

Consequently, the objective of this guide is to serve as a support to O2, to offer a methodological proposal that facilitates the work of this game in the classroom and its use aimed at the sensory-perceptual development of the child and the stimulation of creativity through visual and auditory stimulation. As an interdisciplinary pedagogical tool, it aims to become a support resource to work, along with the students, to improve and stimulate cognitive development and to promote group work and socialization among students on an equal footing regardless of their barriers.

The use of ICTs (in this case an application) in the classroom as another resource becomes an easy task due to the interest it sparks in students, but as teachers we need to be prepared to work on the educational aspects of the game that need our intervention, and that the student would hardly reach alone at such early ages, since visual stimulation is an exercise that must be supervised and scheduled.

VISApp has been developed thanks to the combined work of 6 European entities (REDTREE MAKING PROJECTS - Spain, ALBA - Spain, ANIRIDIA EUROPE - Europe, ANIRIDIA NORGE - Norway, SMALLCODES - Italy, and ANIRIDIA ITALIANA - Italy), along with expert pedagogues, doctors, scientists, teachers, and the families of children with low vision. Each of the games in the App has been created from intense work carried out for more than 2 years, considering each and every aspect so they properly adapt to the characteristics and needs of these young users. From the ranges of color used (the color palette can be modified according to the specific characteristics of the low vision student) to the difficulty of the game (to adapt it to the skill level of the children), through the design of all its contents with methods that have

been scientifically proven to be the most suitable for children with low vision, but that pedagogues and teachers have also confirmed to draw their attention.

However, following the recommendations of the specialists, we advise that the use of this App should never be the only activity aimed at visual stimulation, that is not used for more time than recommended, and it is always used under the supervision of professionals, parents, or tutors.

VISUAL STIMULATION APPLICATION

One of the biggest challenges in the early years of life is developing both hand-eye coordination and logical thinking; babies use their eyes and hands separately. During their first months of life, looking at an object and touching it are separate actions in the child's mind, from 3 months on they must learn to coordinate their eyes and hands, becoming active participants in what happens around them.

Enhancing the awareness of the visual stimulus -in any case of children with visual remain- makes children improve their sense of achievement and their learning, and will contribute to their success with future skills that require the control of their hands, their visual memory, and logical thinking.

Their first steps are facilitated by vision and their spatial awareness, since going out to an unfamiliar environment (such as the pre-primary school) requires their visual skills working at full capacity. The type of game appropriate for this stage should accelerate their senses and learning, contributing decisively to improve their future autonomy in various activities like sports, music training, and basically everything that requires physical interaction.

Once their observation capability is developed, we must next introduce "logical thinking". Games of logic create ideal environments to stimulate curiosity and investigation, while continuing to increase both their abilities and their visual memory, providing agility to solve problems.

Thus, in the different games of the ICT tool developed in this project, we have combined the three phases in which stimulation occurs:

- **Seriation**: showing series of objects and colors that must be completed by applying mathematical logic and observation.
- **Correspondence**: the child is able to identify different sets of objects through this notion and generate new sets through the combination of previous ones.
- **Classification**: by classifying groups of objects with common characteristics, the child will develop the ability to classify, distribute, and order, and we can also develop their logic

when they think -through observation and correspondence- which object logically follows in a series.

There are many useful ICT resources specifically designed to help people with visual disabilities, but most of them are not focused on users of such an early age, nor are they especially designed as an educational resource. We must also not forget that visual stimulation is an exercise that must be supervised and programmed individually by both professionals and parents or guardians.

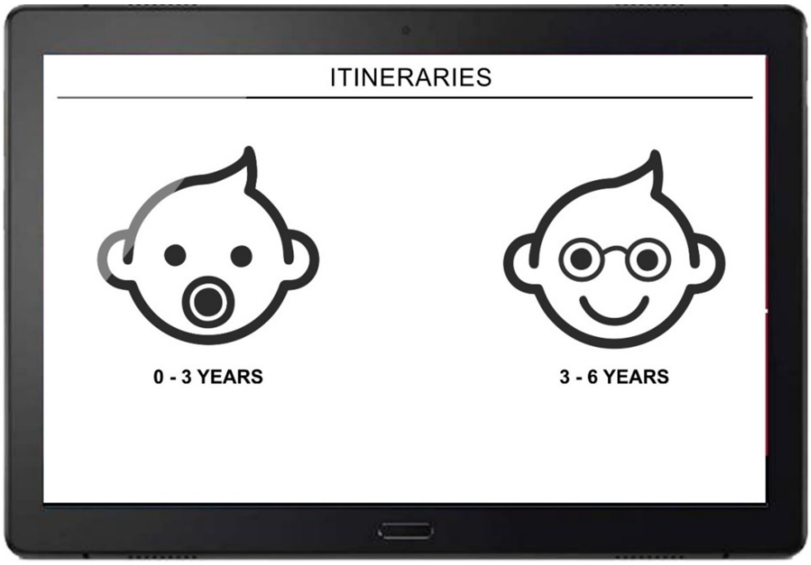
Bearing in mind this analysis and the importance of early stimulation, we proposed the design of this App that includes all the necessary adaptations to create a pedagogical tool that follows a sequence of visual experiences aimed at seeking the improvement in the functioning vision of children from 0 to 6 years old with low vision.

OBJECTIVES AND CHARACTERISTICS OF VISAPP

VISApp has been developed as a response to the need of creating a new and unique ICT tool that provides solutions for teachers to promote the effective inclusion of children with mild to severe visual impairment in pre-primary classrooms, the main objective of the App being to serve as support material for the visual and cognitive stimulation of children from 0 to 6 years old with visual disabilities.

However, the use of this App is not exclusive intended for students with SEN (special educational needs); we have also conceived it as a mechanism for inclusion in equity, so it is a resource to be used by the entire classroom, promoting -in addition to the sensory-perceptual development of children with low vision and the stimulation of their creativity- group work and socialization among all students through collaborative work.

It is structured as a progressive learning system, and its contents (games) are divided into two blocks or learning itineraries, by age and objectives to be achieved. Six games have been designed for each of the itineraries, for a total of 12 games in which several skills are worked on and trained: intentionality, hand-eye, hand-ear and bimanual coordination, spatial orientation, reasoning, laterality, systematic search, cause-effect relations, permanence, object classification, assigning actions and qualities to objects, learning spatial and abstract concepts, imitation and production of sounds and words, memory, attention, and auditory and visual differentiation skills.Although there is a recommended age for each game these age groups are for guidance only and are not necessary to follow as long as the child is able to carry out the activity.



VISAPP ICONS

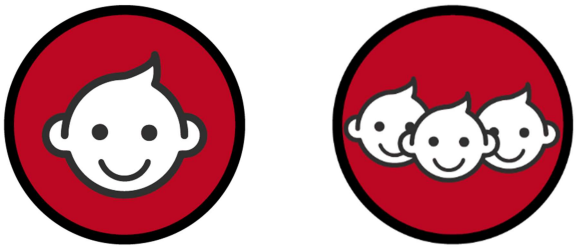
Depending on the itinerary, the difficulty, and the contents of each game, they will have the following icons:

INTERACTIVITY ICONS

WATCH **TOUCH** **DRAG**

- **WATCH**: this icon implies that the user just has to watch what is being shown in the screen. There is no interaction with the hand.
- **TOUCH**: this icon implies that the user should touch the icons or shapes shown in the screen.
- **DRAG**: this icon shows that the user should touch and drag with the finger.

GAME ICONS



INDIVIDUAL **IN A GROUP**

- **INDIVIDUAL**: the game can be played individually, just by one child.
- **IN A GROUP**: the game can be played in pairs or in a group.

AREA ICONS

TUTOR

USER

- **TUTOR:** this icon means that the accesses linked belong to the tutor area. They are informative contents and training tools created for family members and professionals (user guide, games info, session programming…).
- **USER:** this icon means that the accesses linked belong to the user area, which comprises the two educational itineraries designed for the two cycles of pre-primary education: 0-3 and 3-6 years old.

ITINERARY ICONS

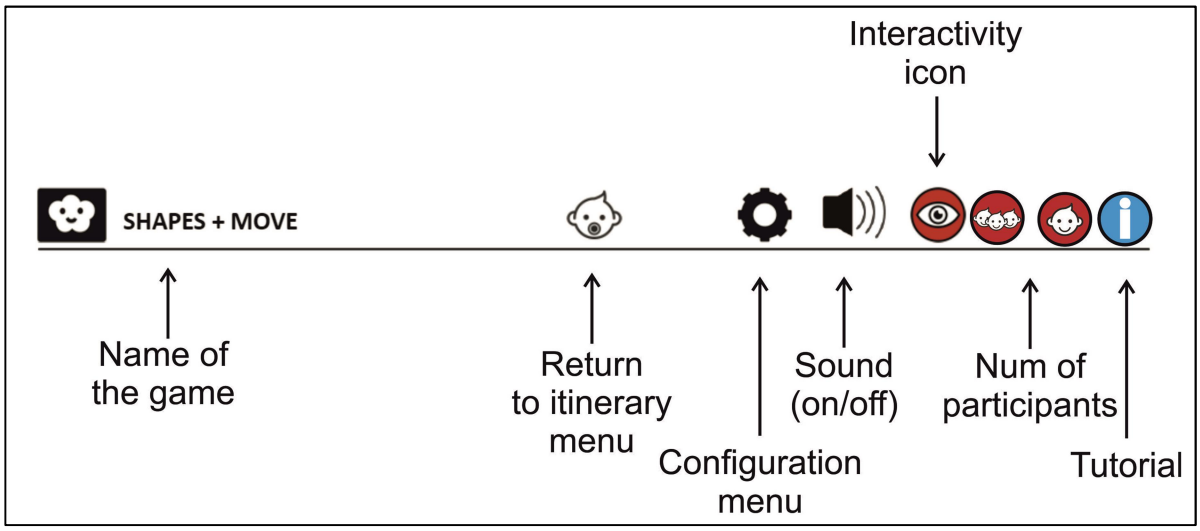
0 - 3

3 – 6

- **0 to 3 years old**: the game belongs to the itinerary from 0 to 3 years old, matching the first cycle of pre-primary education.
- **3 to 6 years old**: the game belongs to the itinerary from 3 to 6 years old, matching the second cycle of pre-primary education.

TOOLBAR

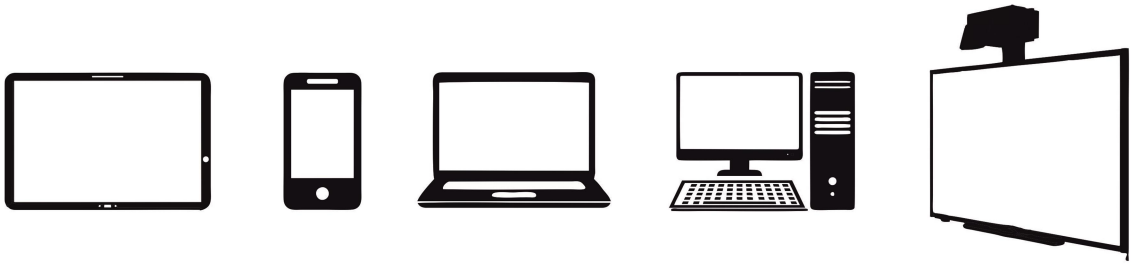
When selecting one of the two itineraries, a toolbar will appear at the top of the screen, providing access to various settings and controls; it shows:



Once the game has been selected, the information/tutorial icon will provide a description and indications on how it works, the recommended methodology, criteria to be evaluated, and the curricular objectives developed for it. Each game also has a configuration panel to regulate its characteristics according to the student's needs (shapes, background, color palettes, sound, and level).

DEVICES THAT SUPPORT VISAPP

VISApp is an interactive application specially designed for use by teachers at school and families at home, which is why we have devised it to be supported by many devices.



TABLET **SMARTPHONE** **LAPTOP** **PC** **E-BOARD**

HOW TO DOWLOAD AND INSTALL VISAPP

VISApp is easy to download in the Android environment (via PlayStore) and is compatible with the iOS operating environment (via its online version on the schoolforall.eu website), and is very accessible through the internet and social networks.

ACCESS IN ANDROID DEVICES:

1. Open PlayStore in your device.
2. Look for “VISApp” with the search bar.
3. Click on “install”.
4. Once installed, just look for the VISApp logo.

ACCESS IN iOS DEVICES:

1. Access www.schoolforall.eu from your device.
2. Access the section “resources” or the section VISApp.
3. Click on the icon for iOS devices.
4. Open the online version, and if you want create a direct access from your desktop.

INSTALL IN iOS, MAC, PC, OR LINUX DEVICES:

1. Access www.schoolforall.eu from your device.
2. Access the section “resources” or the section VISApp.
3. Click on the icon matching your device of choice.
4. Choose a download route (it will go to “downloads” by default).
5. Open the file nw.exe (you can also create a direct access from your desktop).

ONLINE VERSION:

Just access the online version of the App from www.schoolforall.eu or from the account of the project in social networks (Facebook, Twitter, and Instagram).

USING VISAPP

Now we will show you the environment and a tour through your first access to VISApp:

1. Click on the VISApp icon in your device to access.

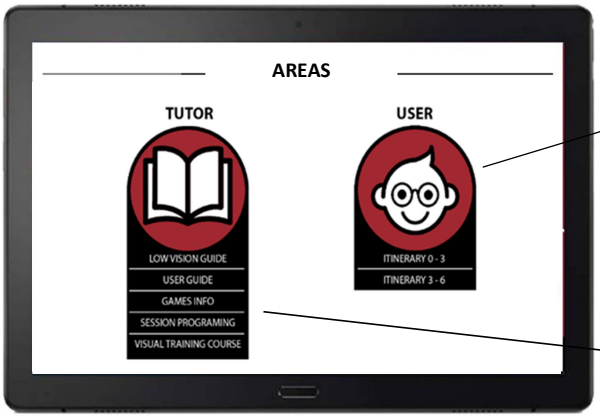
2. Once the program has started, it will show you the front page and introductory pages.

3. After the tutorial or if you click on “start”, you will go to the initial selection screen.

Access the tutorial, with recommendations of use, an explanation of the toolbar, features, and a glossary for the different icons. After the full tutorial you will arrive to the educational itinerary selection screen.

Direct access to the educational itinerary selection screen:
- From 0 to 3 years old.
- From 3 to 6 years old.

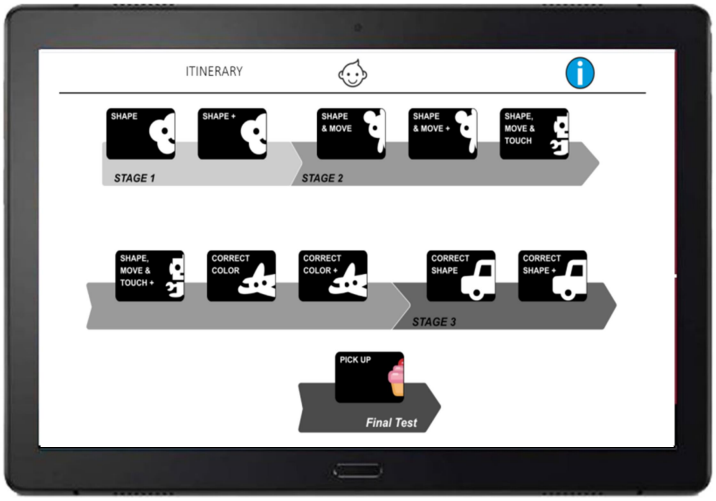
4. Accessing directly from the previous page, or from the tutorial, finally the user will arrive at the selection screen of the two educational itineraries offered by VISApp:



The user area gives access to visual stimulation educational itineraries designed for the two cycles of pre-primary education (0 to 3 and 3 to 6 years old).

The tutor area gives access to information and learning tools for professionals and families (user guide, session scheduling, games info, etc.).

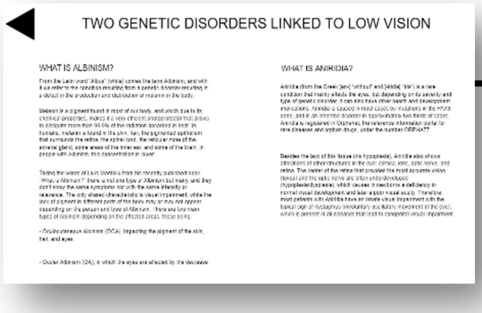
5. By selecting any of the itineraries, you will access the screen where you can find the suggested educational games for each of the infant education cycles. These games are adapted to the curricular requirements and favor inclusion through the development and socialization of children with low vision.

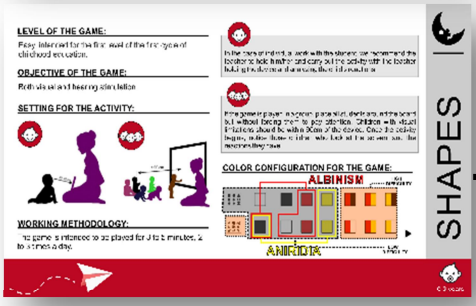


Each itinerary has 11 educational games, structured by difficulty and in three stages. The last game allows to evaluate and perfect the skills developed throughout the previous ones. Just touch or click on the icon of a game to open it.

6. Each of the different access buttons in the tutor area will take you to each of the files, links, or screens with information or training materials.

- LOW VISION: information on two genetic disorders linked to low vision: Albinism and Aniridia.
- USER'S GUIDE: the full user guide to support the APP, offering a methodological proposal that facilitates the work with this multimedia tool in the classroom and its use.
- GAMES INFO: sheets for each of the games with basic information on its level, objective, preparation, configuration, evaluation criteria, and curricular objectives to be developed.
- SESSION PROGRAMMING: information and recommendations made by experts from the project's partner entities on how to schedule sessions.
- VIRTUAL TRAINING COURSE: access to the virtual platform containing the course for teachers of pre-primary education for the inclusion of children with low vision in ordinary classrooms.





TUTOR

- LOW VISION GUIDE
- USER GUIDE
- GAMES INFO
- SESSION PROGRAMING
- VISUAL TRAINING COURSE

DESCRIPTION OF THE GAMES

0 to 3 years old

ITINERARY 1

SHAPES and SHAPES+

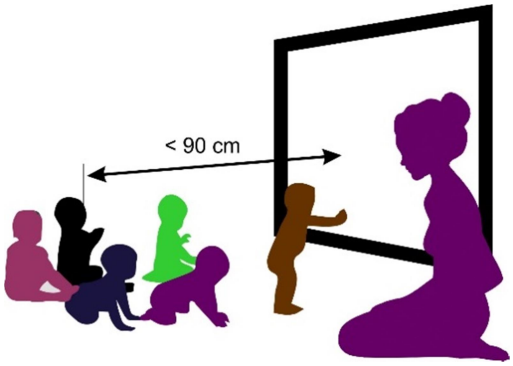
LEVEL OF THE GAMES: Easy, intended for the first level of the first cycle of pre-primary education.

OBJETIVE OF THE GAMES: Attracting the attention of the child and both his/her visual and hearing stimulation.

SETTING FOR THE ACTIVITY: The games can be played individually or in a group:

- In the case of individual work with the student, we recommend to use a tablet. The teacher should hold the child and carry out the activity with the teacher holding the device and analyzing their reactions. Place the device upright, 20 to 30cm before the child. Classroom lighting should be dim.

- If the game is played in a group, we recommend using a digital whiteboard or projector, placed closest to the ground, so it enters the natural field of vision of the child. The maximum distance for a 150cm wide device should always be less than 90cm (considering the visual capabilities of students with ~10% of vision). You can also use a tablet but reducing the distance according to individual use. Classroom lighting should be dim.



WORKING METHODOLOGY: this is a basic game without active interactivity. Establish a table of daily exercises from the start, combining the shapes, colors, and

background according to both the required needs of the students and the objectives to be achieved. As stated before, it is strongly advised to especially analyze the child's reactions.

If the game is played in a group, place the students around the board but without forcing them to pay attention. All children with visual limitations should be within 90cm or closer to the device. Once the activity begins, notice the children who look at the screen and the reactions they have.
In both cases, a relaxed and calm environment with dim lighting is recommended.
The exercise should last between 3 and 5 minutes, 2 or 3 times a day.

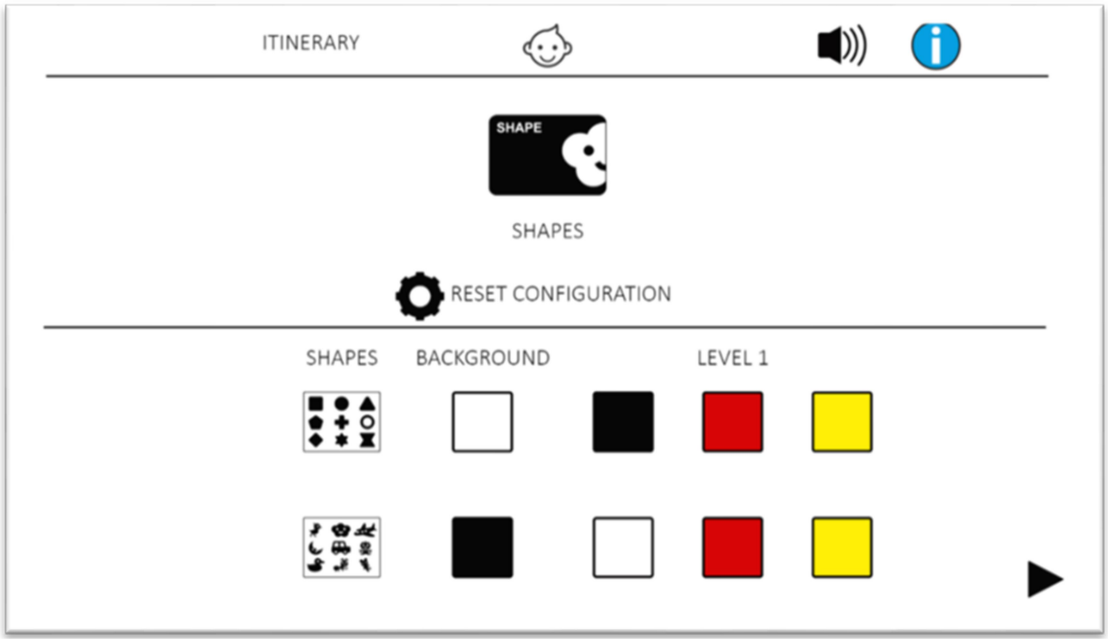
CONFIGURATION OF THE GAMES: configure the game regarding the shapes shown, their colors, and the background, depending on the needs of the student and his/her stage of development. For the initial stages we recommend:

- Children with Aniridia (or a visual impairment with similar characteristics): black background and yellow shapes.
- Children with Albinism (or a visual impairment with similar characteristics): black background and white or red shapes.

Once satisfactory results are obtained, you can try other configurations.

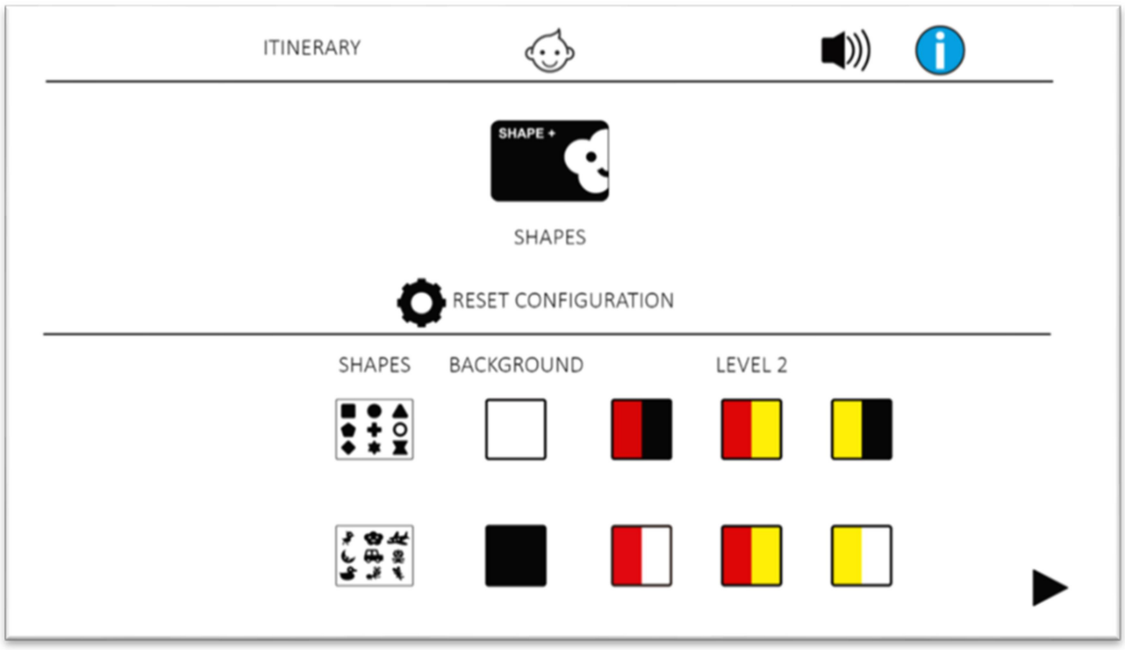
The configuration panel for **SHAPES** is divided into 3 aspects:

- **Shapes**: there are 2 different sets of shapes to choose from.
- **Background**: depending on the child's needs, choose between black or white background.
- **Colors**: there are 3 colors to choose from, depending on the selected background.



The configuration panel for **SHAPES+** is divided into 3 aspects:

- **Shapes**: there are 2 different sets of shapes to choose from.
- **Background**: depending on the child's needs, choose between black or white background.
- **Colors**: the selected shapes will appear randomly combined in a combination of two colors. There are 3 possibilities 2-color combinations for each background.



HOW DOES IT WORK: the chosen shapes will appear in the center of the screen at random. Test the level of attention of the child or children both with and without music, and progressively enhance the configurations in which you don't get the desired results, until a higher level of attention is obtained.

CRITERIA TO EVALUATE: these are games designed to evaluate the ability of both students with and without low vision to perceive shapes and colors. Thus:

- Notice if the child detects the shapes in the screen by looking at his/her reactions to it.
- Are there specific shapes and colors that are easier to follow by the child and start reactions in him/her? Which are they?
- Notice, if the child detects the shape, if he/she aims his/her gaze perpendicularly or obliquely to it.
- In individual use, strengthen the bonds of affection between the child and the teacher, reinforcing their trust and security with the latter.

- For group use, analyze if there are interactions between the children and if they reinforce group play around the shape shown.

CURRICULAR OBJECTIVES DEVELOPED: these games enable the development of the objectives established in the curricula of pre-primary schools in the partner countries:

1. The child actively participates in different kind of games.
2. The child adapts his/her posture to different games and situations.
3. The child enjoys group games.
4. The child shows mutual collaboration and helping attitudes towards his/her peers in daily activities.
5. The child shows collaboration attitudes towards adults in daily activities.

CHECK YOUR RESULTS: if you have any doubt about the results obtained, you can contact the experts of the partnership of this project, who will help you identify and take appropriate action with students with low vision, especially if they show signs of Aniridia or Albinism.

SHAPES&MOVE and SHAPES&MOVE+

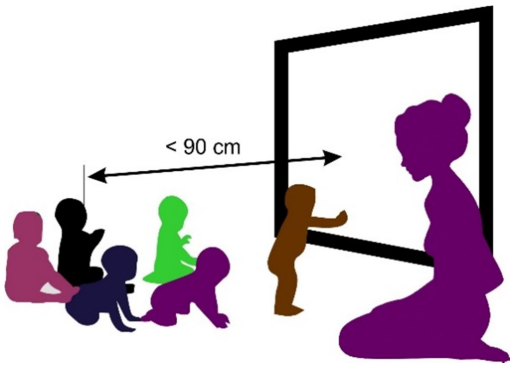
LEVEL OF THE GAMES: Easy, intended for the first or second level of the first cycle of pre-primary education.

OBJETIVE OF THE GAMES: Attracting the attention of the child and that he/she follows the shape with his/her gaze.

SETTING FOR THE ACTIVITY: Both games can be played individually or in a group:

- In the case of individual work with the student, we recommend to use a tablet. The teacher should hold the child and carry out the activity with the teacher holding the device and analyzing their reactions. Place the device upright, 20 to 30cm before the child. Classroom lighting should be dim.

- If the game is played in a group, we recommend using a digital whiteboard or projector, placed closest to the ground, so it enters the natural field of vision of the child. The maximum distance for a 150cm wide device should always be less than 90cm (considering the visual capabilities of students with ~10% of vision). You can also use a tablet but reducing the distance according to individual use. Classroom lighting should be dim.



WORKING METHODOLOGY: establish a table of daily exercises from the start, combining the shapes, colors, and background according to both the required needs of

the students and the objectives to be achieved. In this case, it is important that the child or children follow the shape either with their eyes or moving their head. In the case of individual work, and if the baby is already able to stay seated, we recommend to do the activity in this position, with the screen always upright.

When played in a group, place the students around the board but without forcing them to pay attention. All children with visual limitations should be within 90cm or closer to the device. Once the activity begins, notice the children who look at the screen and the reactions they have.

In both cases, a relaxed and calm environment with dim lighting is recommended.

Tests the level of attention and following of the shape both with music and without it, and progressively enhance the configurations that do not show the desired results until a higher level of attention is obtained.

The exercise should last between 5 and 7 minutes, 2 or 3 times a day.

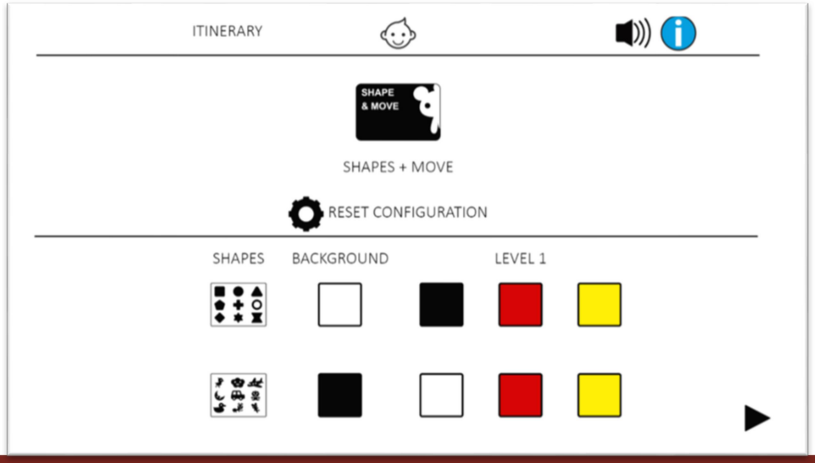
CONFIGURATION FOR THE GAMES: configure the games regarding the shapes shown, their colors, and background depending on the needs of the student and his/her stage of development. For the initial stages we recommend:

- Children with Aniridia (or a visual impairment with similar characteristics): black background and yellow shapes.
- Children with Albinism (or a visual impairment with similar characteristics): black background and white or red shapes.

Once satisfactory results are obtained, you can try other configurations.

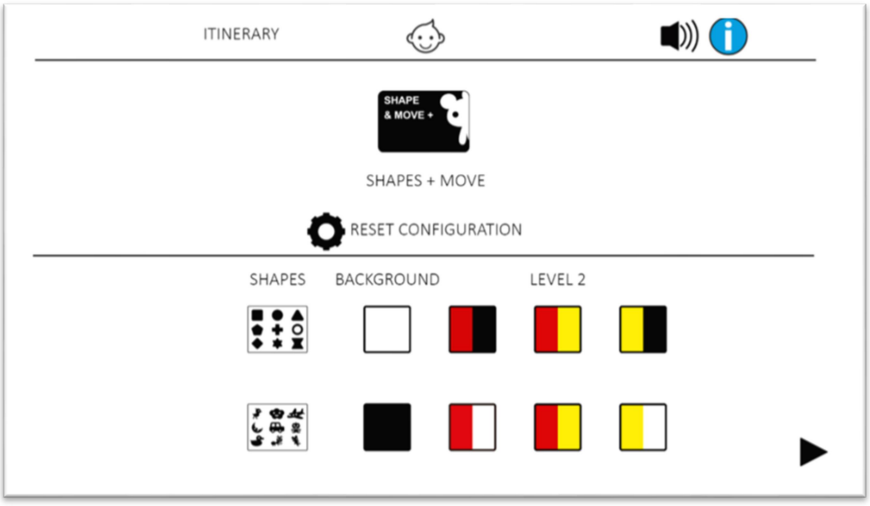
The configuration panel for **SHAPES&MOVE** divided into 3 aspects:

- **Shapes**: there are 2 different sets of shapes to choose from.
- **Background**: depending on the child's needs, choose between black or white background.
- **Colors**: there are 3 colors to choose from, depending on the selected background.



The configuration panel for **SHAPES&MOVE** divided into 3 aspects:

- **Shapes**: there are 2 different sets of shapes to choose from.
- **Background**: depending on the child's needs, choose between black or white background.
- **Colors**: the selected shapes will appear randomly combined in a combination of two colors. There are 3 possibilities 2-color combinations for each background.



HOW DOES IT WORK: the chosen shapes will appear randomly, moving both horizontally and vertically. The selection of the shapes is important to detect possible problems and to enhance the monitoring capability of the students, especially those with low vision.

CRITERIA TO EVALUATE: these are games designed to evaluate the ability to perceive shapes and colors by students with low vision as well as those without. Thus:

- Notice if the child is able to follow the moving shape in the screen by his/her head and eye movements.
- Are there specific shapes and colors that are easier to follow by the child and start reactions in him/her? Which are they?
- Notice, if the child detects the shape, if he/she aims his/her gaze perpendicularly or obliquely to it.
- In individual use, strengthen the bonds of affection between the child and the teacher, reinforcing their trust and security with the latter.
- For group use, analyze if there are interactions between the children and they reinforce group play around the shape shown.

CURRICULAR OBJECTIVES DEVELOPED: these games enable the development of the objectives established in the curricula of pre-primary schools in the partner countries:

1. The child actively participates in different kinds of games.
2. The child shows coordinated motor abilities.
3. The child knows the basic notions of orientation worked on.
4. The child adapts his/her posture to different games and situations.
5. The child enjoys group games he child shows mutual collaboration and helping attitudes towards his/her peers in daily activities.
6. The child shows collaboration attitudes towards adults in daily activities.

CHECK YOUR RESULTS: if you have any doubt about the results obtained, you can contact the experts of the partnership of this project, who will help you identify and take appropriate action with students with low vision, especially if they show signs of Aniridia or Albinism.

SHAPES&MOVE&TOUCH and SHAPES&MOVE&TOUCH+

LEVEL OF THE GAMES: Medium, intended for the second level of the first cycle of pre-primary education.

OBJETIVE OF THE GAMES: sparking the reaction of following the shape and trying to touch it.

SETTING FOR THE ACTIVITY: The games can be played individually or in a group:

- In the case of individual work with the student, we recommend to use a tablet. Place the device upright, 20 to 30cm before the child. Classroom lighting should be dim.

- If the game is played in a group, we recommend using a digital whiteboard or projector, placed closest to the ground, so it enters the natural field of vision of the child. Children must be in contact with the device and be able to cover a large part of its area. You can also use a tablet but reducing the distance according to individual use. Classroom lighting should be dim.

WORKING METHODOLOGY: establish a table of daily exercises from the start, combining the shapes, colors, and background according to both the required needs of the students and the objectives to be achieved. In this case, it is important that the child or children follow the shape either with their eyes or moving their head. In the

case of individual work, and if the baby is already able to stay seated, we recommend to do the activity in this position, with the screen always upright.

If the work is in a group, it is recommended to make groups of maximum 3-4 children. All students will be placed in contact with the device. Once the activity begins, notice the children who look at the screen and the reactions they have.

In both cases, a relaxed and calm environment with dim lighting is recommended.

Test both attention and interaction, both with and without music. Progressively enhance the configurations that do not show the desired results until a higher level of interactivity is obtained.

The exercise should last approximately for 15 minutes, 2 or 3 times a day.

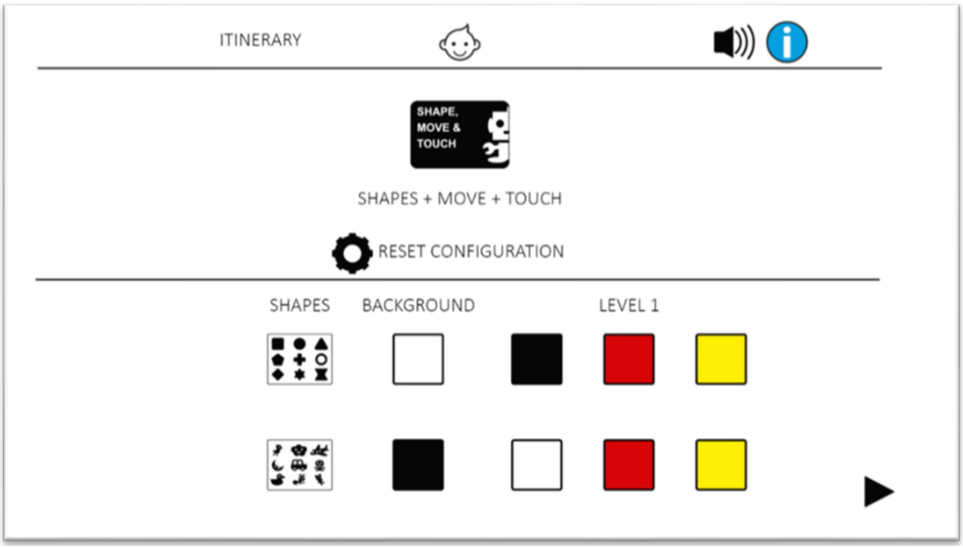
CONFIGURATION FOR THE GAMES: configure the games regarding the shapes shown, their colors, and the background, depending on the needs of the student and his/her stage of development. For the initial stages we recommend:

- Children with Aniridia (or a visual impairment with similar characteristics): black background and yellow shapes.
- Children with Albinism (or a visual impairment with similar characteristics): black background and white or red shapes.

Once satisfactory results are obtained, you can try other configurations.

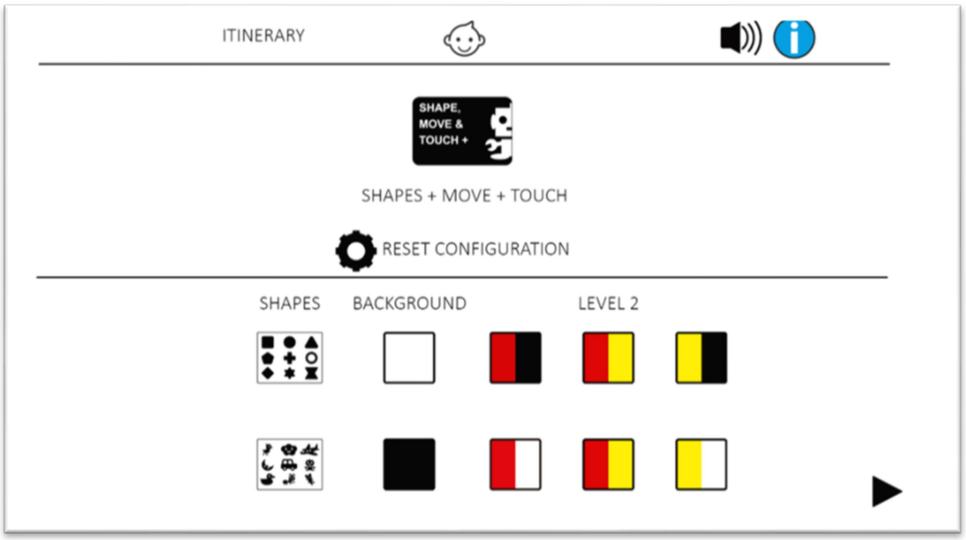
The configuration panel for **SHAPES&MOVE&TOUCH** is divided into 3 aspects:

- **Shapes**: there are 2 different sets of shapes to choose from.
- **Background**: depending on the child's needs, choose between black or white background.
- **Colors**: there are 3 colors to choose from, depending on the selected background.



The configuration panel for **SHAPES&MOVE&TOUCH+** is divided into 3 aspects:

- **Shapes**: there are 2 different sets of shapes to choose from.
- **Background**: depending on the child's needs, choose between black or white background.
- **Colors**: the selected shapes will appear randomly combined in a combination of two colors. There are 3 possibilities 2-color combinations for each background.



HOW DOES IT WORK: the chosen shapes will move randomly through the screen, both horizontally and vertically. By touching any part of the screen twice, the shape will stop and appear in a larger size in the center of the screen with a sound that will indicate success; the game resumes 2 seconds later.

CRITERIA TO EVALUATE: these are games designed to evaluate the ability to perceive shapes and colors by students with low vision as well as those without. Thus:

- Notice if the child is able to follow the moving shape in the screen by his/her head and eye movements.
- Are there specific shapes and colors that are easier to follow by the child and start reactions in him/her? Which are they?
- Notice, if the child detects the shape, if he/she aims his/her gaze perpendicularly or obliquely to it.
- In individual use, strengthen the bonds of affection between the child and the teacher, reinforcing their trust and security with the latter.
- For group use, analyze if there are interactions between the children and they reinforce group play around the shape shown.

CURRICULAR OBJECTIVES DEVELOPED: these games enable the development of the objectives established in the curricula of pre-primary schools in the partner countries:

1. The child starts discovering laterality in their body.
2. The child uses the motor, sensitive, and expressive possibilities of their body globally.
3. The child actively participates in different kinds of games.
4. The child shows coordinated motor abilities.
5. The child shows fine handling skills.
6. The child shows interest in learning new handling skills.
7. The child knows the basic notions of orientation worked on.
8. The child adapts his/her posture to different games and situations.
9. The child shows collaboration attitudes towards adults in daily activities.

CHECK YOUR RESULTS: if you have any doubt about the results obtained, you can contact the experts of the partnership of this project, who will help you identify and take appropriate action with students with low vision, especially if they show signs of Aniridia or Albinism.

CORRECT COLOR and CORRECT COLOR+

LEVEL OF THE GAMES: Hard; intended for the end of the first cycle of pre-primary education.

OBJECTIVE OF THE GAMES: boost logical thinking and hand-eye coordination. These games also enhance color recognition independently from shapes.

SETTING FOR THE ACTIVITY: these games are only played individually. Place the device upright, 20 to 30cm before the child. Classroom lighting should be dim. We recommend the teacher to be close to the student to strengthen their bonds of affection and to reinforce their mobility, trust, and security.

WORKING METHODOLOGY: we recommend helping the child at first to interact by teaching them to tap on the correct color by guiding their finger. This activity requires greater concentration and skill, therefore it is advisable to play together with the child, giving them confidence and security in their decisions.

Place the device within reach of the child, in line with his/her eyes. If the baby is able to seat, it is convenient to do the exercise in this position, but with the screen always upright. The activity should be carried out sitting down and with the screen resting on a table or lectern with a certain inclination if necessary.

Configure the game according to the established table and according to the child's needs, and move on when they have confidence in doing it. Test both attention and interaction, both with and without music. Progressively enhance the configurations that do not show the desired results until a higher level of interactivity is obtained.

The exercise –in its different configurations- should have a maximum length of 15 minutes, 2 or 3 times a day.

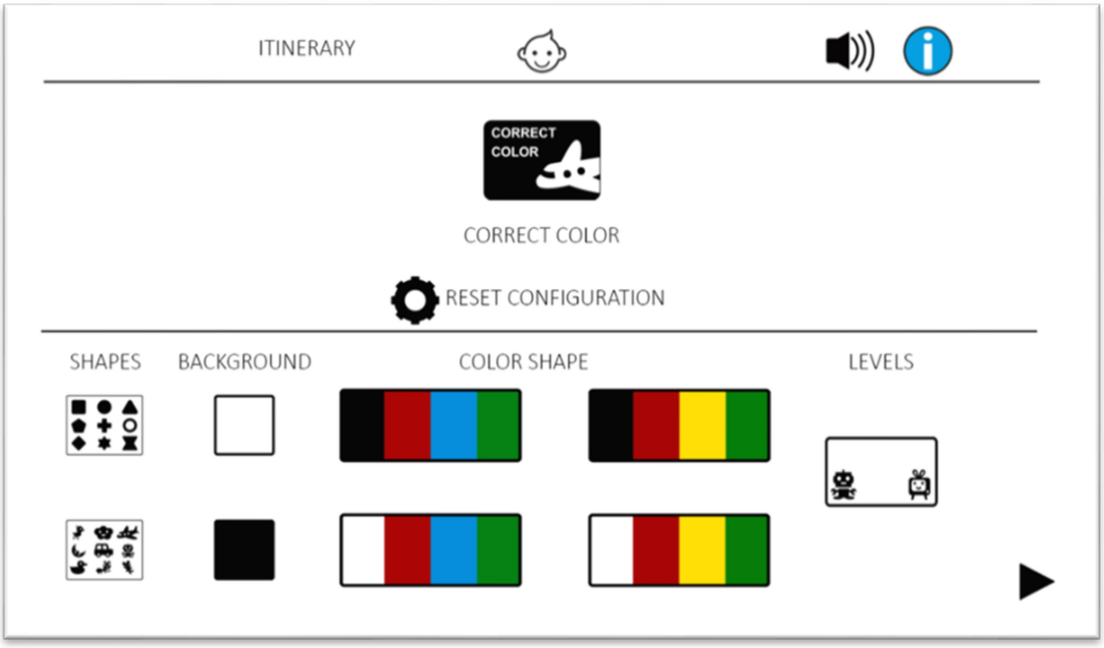
CONFIGURATION FOR THE GAMES: configure the games regarding the shapes shown, their colors, and the background, depending on the needs of the student and his/her stage of development. For the initial stages we recommend:

- Children with Aniridia (or a visual impairment with similar characteristics): black background and yellow shapes.
- Children with Albinism (or a visual impairment with similar characteristics): black background and white or red shapes.

Once satisfactory results are obtained, you can try other configurations.

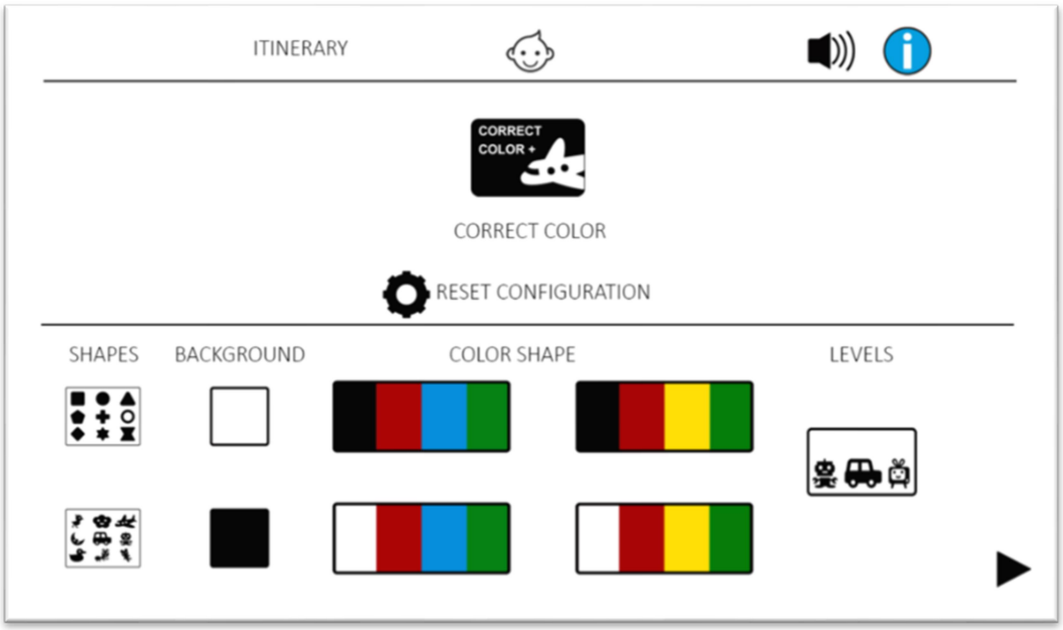
The configuration panel for **CORRECT COLOR** is divided into 4 aspects:

- **Shapes**: there are 2 different sets of shapes to choose from.
- **Background**: depending on the child's needs, choose between black or white background, each with a combination of colors.
- **Color of the shape**: there are 2 combinations of 4 colors for each background.
- **Level**: it has 2 shapes to choose from.



The configuration panel for **CORRECT COLOR+** is divided into 4 aspects:

- **Shapes**: there are 2 different sets of shapes to choose from.
- **Background**: depending on the child's needs, choose between black or white background, each with a combination of colors.
- **Color of the shape**: there are 2 combinations of 4 colors for each background.
- **Level**: it has 3 shapes to choose from.



HOW DOES IT WORK: ***The games are about choosing the matching color, not the matching shape***. A shape acting as reference model will appear randomly inside a frame in the upper center of the screen. At the bottom of the screen -and depending on the level- 2 or 3 different shapes will appear. Touch or click on the one that has the same color of the model, independently of its shape.

CRITERIA TO EVALUATE: these games are designed to evaluate the ability to perceive shapes and colors by students with low vision as well as those without. Thus:

- Detect if the child is able to identify all shapes and in which colors.
- Are there specific shapes and colors that are easier to follow by the child and start reactions in him/her? Which are they?
- Check if the child has hand-eye coordination and is able to touch or click on the shape.
- Strengthen the bonds of affection between the child and the teacher, reinforcing their trust and security in the latter.

CURRICULAR OBJECTIVES DEVELOPED: these games enable the development of the objectives established in the curricula of pre-primary schools in the partner countries:

1. The child starts to discover their body's laterality.
2. The child uses the motor, sensor, and expression
3. The child actively participates in different kinds of games.
4. The child shows coordinated motor abilities.

5. The child shows fine handling abilities.
6. The child shows interest in learning new handling abilities.
7. The child knows the basic notions of orientation worked on.
8. The child adapts his/her posture to different games and situations.
9. The child enjoys group games.
10. The child shows mutual collaboration and helping attitudes towards his/her peers in daily activities.
11. The child shows collaboration attitudes towards adults in daily activities.

CHECK YOUR RESULTS: if you have any doubt about the results obtained, you can contact the experts of the partnership of this project, who will help you identify and take appropriate action with students with low vision, especially if they show signs of Aniridia or Albinism.

CORRECT SHAPE and CORRECT SHAPE+

LEVEL OF THE GAMES: Hard; intended for the end of the first cycle of pre-primary education.

OBJECTIVE OF THE GAMES: boosting logical thinking and hand-eye coordination. These games also enhance color recognition.

SETTING FOR THE ACTIVITY: these games are only played individually. Place the device upright, 20 to 30cm before the child. Classroom lighting should be dim. We recommend the teacher to be close to the student to strengthen their bonds of affection and to reinforce their mobility, trust, and security.

WORKING METHODOLOGY: we recommend helping the child at first to interact by teaching them to tap on the correct color by guiding their finger. This activity requires greater concentration and skill, therefore it is advisable to play together with the child, giving them confidence and security in their decisions.

Place the device within reach of the child, in line with his/her eyes. If the baby is able to seat, it is convenient to do the exercise in this position, but with the screen always upright. The activity should be carried out sitting down and with the screen resting on a table or lectern with a certain inclination if necessary.

Configure the game according to the established table and according to the child's needs, and move on when they have confidence in doing it. Test both attention and interaction, both with and without music. Progressively enhance the configurations that do not show the desired results until a higher level of interactivity is obtained.

The activity -in its different configurations- should have a maximum length of 15 minutes, 2 or 3 times a day.

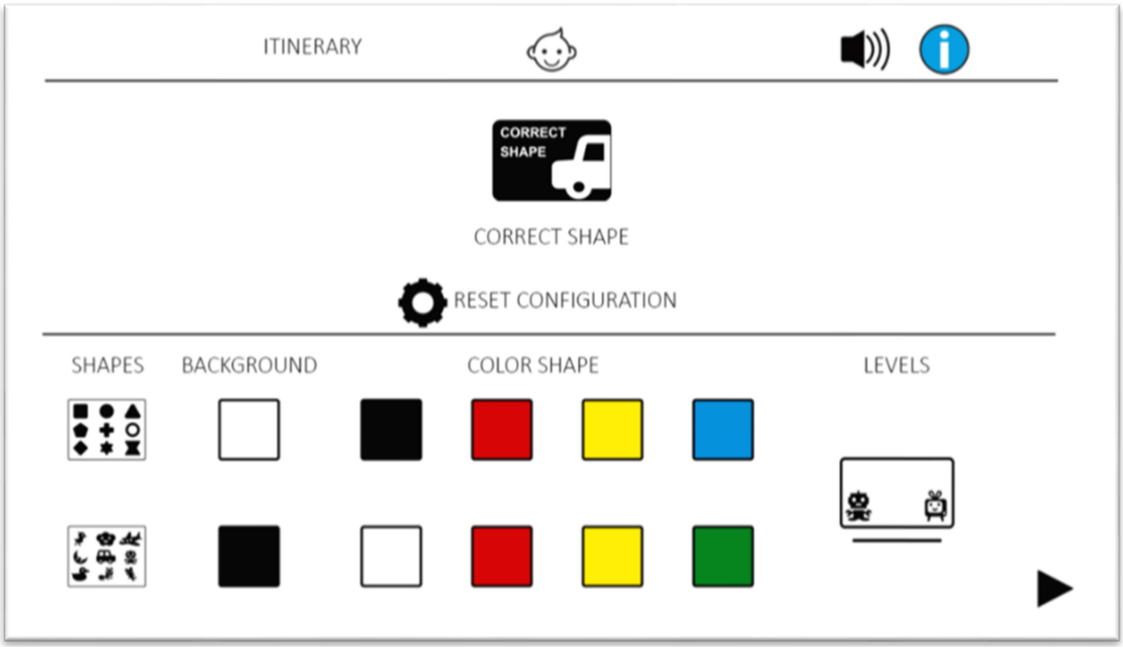
CONFIGURATION FOR THE GAMES: configure the games regarding the shapes shown, their colors, and the background, depending on the needs of the student and his/her stage of development. For the initial stages we recommend:

- Children with Aniridia (or a visual impairment with similar characteristics): black background and yellow shapes.
- Children with Albinism (or a visual impairment with similar characteristics): black background and white or red shapes.

Once satisfactory results are obtained, you can try other configurations.

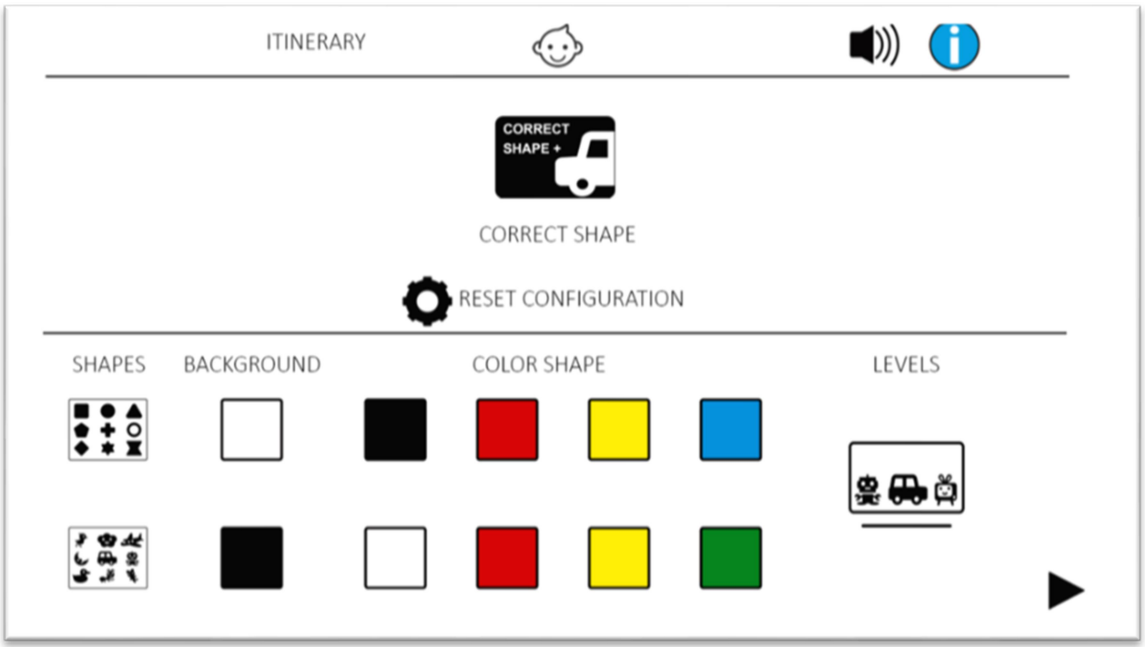
The configuration panel for **CORRECT SHAPE** is divided into 4 aspects:

- **Shapes**: there are 2 different sets of shapes to choose from.
- **Background**: depending on the child's needs, choose between black or white background, each with a combination of colors.
- **Color of the shape**: there are 2 combinations of 4 colors for each background.
- **Level**: it has 2 shapes to choose from.



The configuration panel for **CORRECT SHAPE+** is divided into 4 aspects:

- **Shapes**: there are 2 different sets of shapes to choose from.
- **Background**: depending on the child's needs, choose between black or white background, each with a combination of colors.
- **Color of the shape**: there are 2 combinations of 4 colors for each background.
- **Level**: it has 3 shapes to choose from.



HOW DOES IT WORK: ***The games consist in selecting the correct shape, independently of its color***. A shape of reference will appear randomly inside the frame in the upper center of the screen. 2 or 3 different shapes appear at the bottom of the screen, depending on the level chosen. Touch or click on the correct one from among them (the one that matches the reference).

CRITERIA TO EVALUATE: these are games designed to evaluate the ability to perceive shapes and colors by students with low vision as well as those without. Thus:

- Detect if the child is able to identify all shapes and in which colors.
- Are there specific shapes and colors that are easier to follow by the child and start reactions in him/her? Which are they?
- Check if the child has hand-eye coordination and is able to touch or click on the shape.
- Strengthen the bonds of affection between the child and the teacher, reinforcing their trust and security in the latter.

CURRICULAR OBJECTIVES DEVELOPED: these games enable the development of the objectives established in the curricula of pre-primary schools in the partner countries:

1. The child starts to discover their body's laterality.
2. The child uses the motor, sensor, and expression possibilities of their body globally.
3. The child actively participates in different kinds of games.
4. The child shows coordinated motor abilities.

5. The child shows fine handling abilities.
6. The child shows interest in learning new handling abilities.
7. The child knows the basic notions of orientation worked on.
8. The child adapts his/her posture to different games and situations.
9. The child enjoys group games.
10. The child shows mutual collaboration and helping attitudes towards his/her peers in daily activities.
11. The child shows collaboration attitudes towards adults in daily activities.

CHECK YOUR RESULTS: if you have any doubt about the results obtained, you can contact the experts of the partnership of this project, who will help you identify and take appropriate action with students with low vision, especially if they show signs of Aniridia or Albinism.

PICK UP

LEVEL OF THE GAME: Final test, very hard; only intended for the end of the first cycle of pre-primary education.

OBJECTIVE OF THE GAME: reinforce and enhance the skills acquired in previous games. After those this one is intended to both acquire and reinforce the motor and cognitive skills of children around 3 years old.

SETTING FOR THE ACTIVITY: this game is only played individually. Place the device upright, 20 to 30cm before the child. Classroom lighting should be dim. We recommend the teacher to be close to the student to strengthen their bonds of affection and to reinforce their mobility, trust, and security.

WORKING METHODOLOGY: we recommend helping the child interact at first by showing them how to play and explaining the objective of the game while playing ourselves. This activity requires greater concentration and skill, therefore it is advisable to play together with the child, giving them confidence and security in their decisions. Once game the dynamics have been properly explained, let the child play on his/her own.

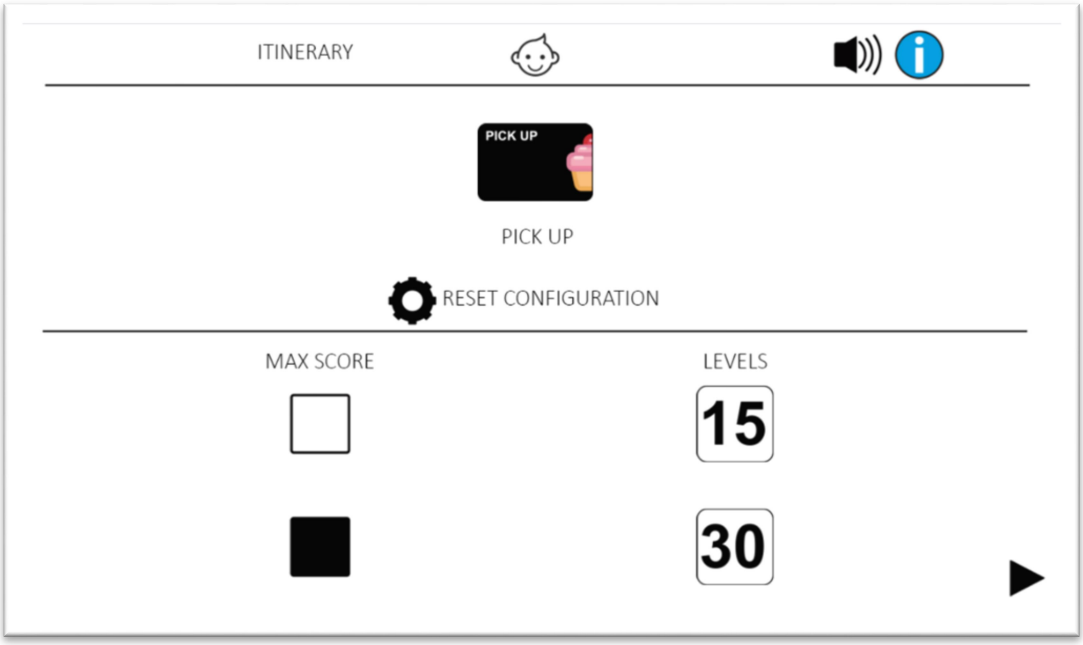
Place the device within reach of the child, in line with his/her eyes. If the baby is able to seat, it is convenient to do the exercise in this position, but with the screen always upright. The activity should be carried out sitting down and with the screen resting on a table or lectern with a certain inclination if necessary.

Configure the game according to the established table and according to the child's needs, and move on when they have confidence in doing it. Test both attention and interaction, both with and without music. Progressively enhance the configurations that do not show the desired results until a higher level of interactivity is obtained.

CONFIGURATION OF THE GAME: Configure the game both regarding the background -depending on the child's needs- and regarding difficulty levels -adjusting how many items to pick up-. Once you verify that the child carries out the activity satisfactorily, try with other configurations.

The configuration panel for **PICK UP** is divided into 2 aspects:

- **Background**: depending on the child's needs, choose between black or white background, each with a combination of colors.
- **Level**: there are 2 possibilities, either 15 items to pick up, or 30.



HOW DOES IT WORK: the game consists in collecting the falling food items with the basket, while avoiding the geometric shapes. The game ends once the number of food previously selected in the settings has been collected. The basket should be moved sideways, horizontally.

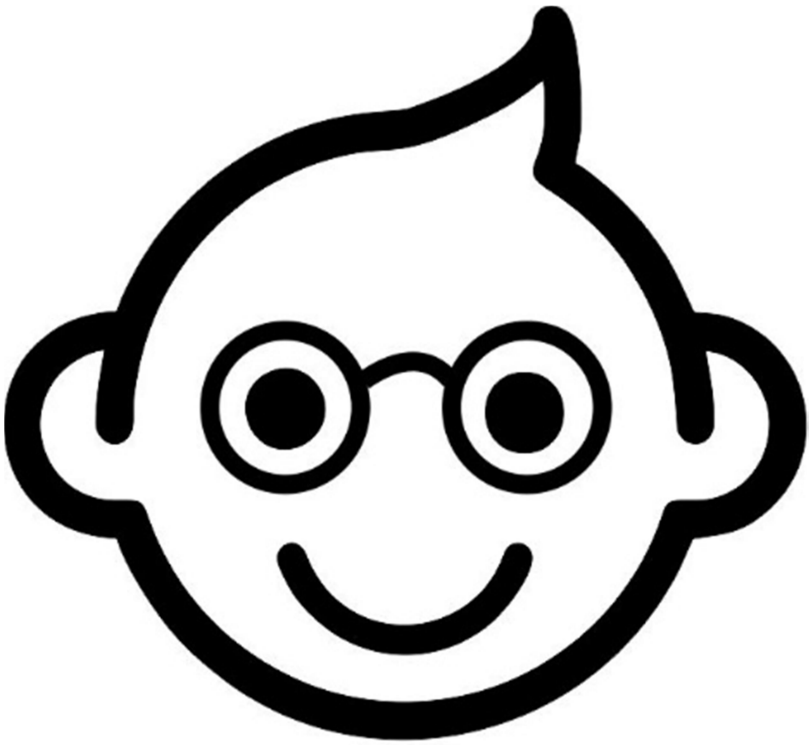
CRITERIA TO EVALUATE: this is a game designed to evaluate the skills acquired and developed throughout all previous games in this itinerary. Thus:

- Detect if the child is able to identify all shapes and in which colors.
- Are there specific shapes and colors that are easier to follow by the child and start reactions in him/her? Which are they?
- Check if the child has hand-eye coordination and is able to drag the basket under the food in time.
- Strengthen the bonds of affection between the child and the teacher, reinforcing their trust and security with the latter.

CURRICULAR OBJECTIVES DEVELOPED: this game enables the development of the objectives established in the curricula of pre-primary schools in the partner countries:

1. The child starts to discover their body's laterality.
2. The child uses the motor, sensor, and expression possibilities of their body globally.
3. The child actively participates in different kinds of games.
4. The child shows coordinated motor abilities.
5. The child shows fine handling abilities.
6. The child shows interest in learning new handling abilities.
7. The child knows the basic notions of orientation worked on.
8. The child adapts his/her posture to different games and situations.
9. The child enjoys group games.
10. The child shows mutual collaboration and helping attitudes towards his/her peers in daily activities.
11. The child shows collaboration attitudes towards adults in daily activities.

CHECK YOUR RESULTS: if you have any doubt about the results obtained, you can contact the experts of the partnership of this project, who will help you identify and take appropriate action with students with low vision, especially if they show signs of Aniridia or Albinism.



0 to 3 years old

ITINERARY 2

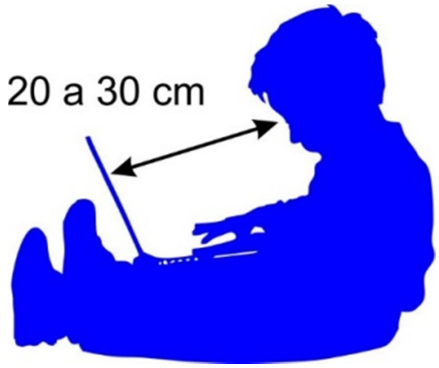
DRAG CORRECT SHAPE and DRAG CORRECT SHAPE+

LEVEL OF THE GAMES: Easy, intended for the first level of the second cycle of pre-primary education.

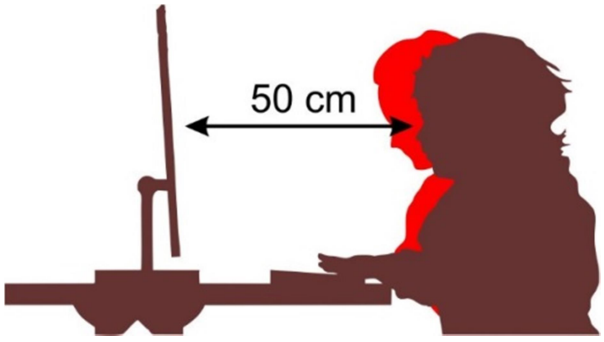
OBJECTIVE OF THE GAMES: Develop search capabilities, strengthen vision and hand-eye coordination, selecting the correct shape and color.

SETTING FOR THE ACTIVITY: these games can be played individually, in pairs (sharing a tablet), or in a group (3-4 children max.), where children should take turns getting up to select the correct shape.

- When played individually, place the device upright, 20 to 30cm before the child. Classroom lighting should be dim.

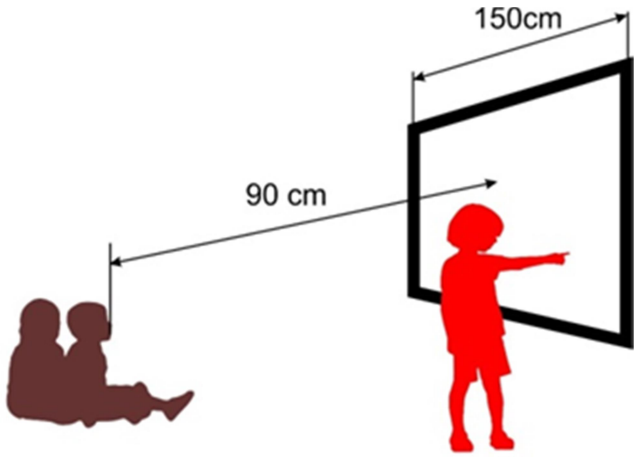


- When played in pairs with a tablet or computer, place the device on a table at 50cm or less from each of the two children (if one of them has visual difficulties, he/she should be a little closer, similar to when playing individually).



- If the game is played in a group, we recommend using a digital whiteboard or projector, placed closest to the ground, so it enters the natural field of vision of the child. The maximum distance for a 150cm wide device should always be less than 90cm (considering the visual capabilities of students with ~10% of vision).

You can also use a tablet but reducing the distance according to individual use. Classroom lighting should be dim.



WORKING METHODOLOGY: explain the child that they should drag the correct shape with their finger to the black/white frame with the shape of reference.

Time is important in this activity, so although the game does not have a time limit, we recommend you to promote some degree of speed to solve it, always with the abilities, needs, and visual conditions of the child in mind. We propose to both assign a specific time for each configuration and count the successes, and to establish a number of successes and see how long they take to be achieved.

Monitor the child's progression in the game and configure it as the proposed objectives are reached and exceeded, and the child is confident in their abilities. Progressively enhance the configurations that do not show the desired results until a higher level of interactivity is obtained.

Configure the game according to the established table and according to the child's needs, and move on when they have confidence in doing it. Test both attention and interaction, both with and without music.

The game should be played while seated, with the screen upright, in a table or a tilted lectern with if necessary. The activity -in its different configurations- should have a maximum length of 15 minutes, 2 or 3 times a day.

CONFIGURATION FOR THE GAMES: configure the games regarding the shapes shown, their colors, and the background, depending on the needs of the student and his/her stage of development. For the initial stages we recommend:

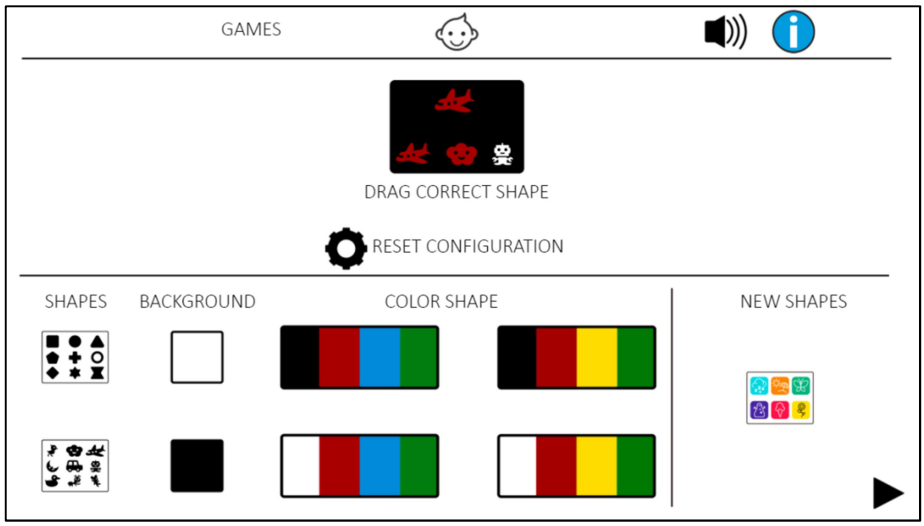
- Children with Aniridia (or a visual impairment with similar characteristics): black background and yellow shapes.

- Children with Albinism (or a visual impairment with similar characteristics): black background and any combination of colors for the shapes.

Once satisfactory results are obtained, you can try other configurations.

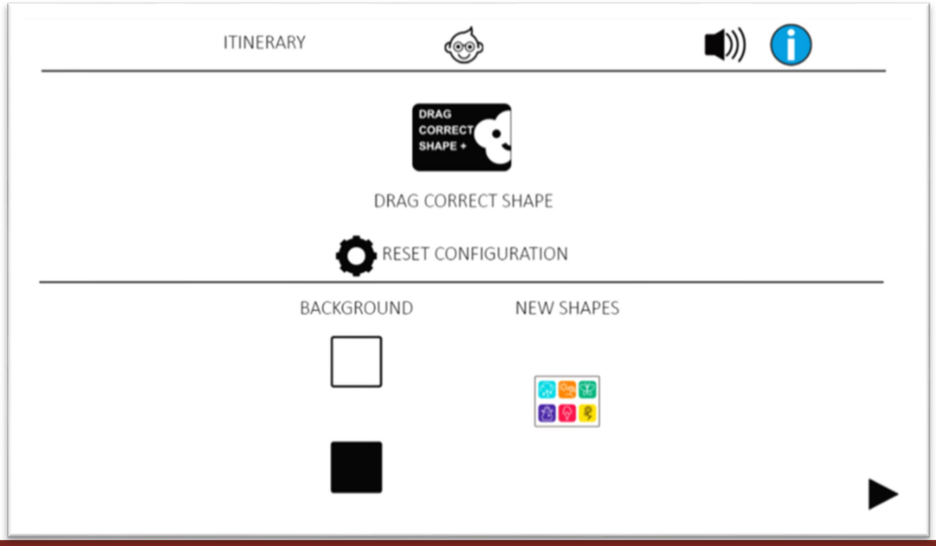
The configuration panel for **DRAG CORRECT SHAPE** is divided into 3 aspects:

- **Shapes**: there are 2 different sets of shapes to choose from.
- **Background**: depending on the child's needs, choose between black or white background, each with a combination of colors.
- **Color of the shape**: there are 2 combinations of 4 colors for each background.



The configuration panel for **DRAG CORRECT SHAPE+** is divided into 2 aspects:

- **New shapes**: there is now the option of choosing a new set of shapes. Its design has been established to start working on linear shapes; the same drawing may appear with a different colored background.
- **Background**: depending on the child's needs, choose between black or white background, each with a combination of colors.



HOW DOES IT WORK: the games consist in dragging the correct shape in the correct color. A random shape in a color will appear inside the frame in the upper center of the screen, as a model. At the bottom, 3 different shapes with different colors will appear, one of them matching the model in both shape and color. Touch and drag the matching shape to the model; see an icon and a sound if done correctly.

CRITERIA TO EVALUATE: these are games designed to evaluate the ability to perceive shapes and colors by students with low vision as well as those without. Thus:

- Notice if the child is able to detect all colors and in which shapes.
- Does the child actively participate in the game and enjoy group games?
- Is the child able to follow rules and respect turn order?
- Do the children interact with their peers, both with and without disabilities?
- Do the children know how to use the e-board to access the games and activities?
- Notice if the child has hand-eye coordination and is able to touch and drag a shape on the screen.
- In individual use, strengthen the bonds of affection between the child and the teacher, reinforcing their trust and security in the latter.

CURRICULAR OBJECTIVES DEVELOPED: these games enable the development of the objectives set in the curricula of pre-primary schools in the partner countries:

1. The child actively participates in different kinds of games.
2. The child shows coordinated motor abilities.
3. The child shows interest in learning new handling abilities.
4. The child regulates his/her expression of feelings and emotions in the game through language.
5. The child follows the rules of the game.
6. The child knows the importance of the rules of the game.
7. The child enjoys group game.
8. The child compares different images.
9. The child uses the audiovisual and technological means of the school for their enjoyment, creation, and learning.
10. The child uses educational programs to apply their acquired knowledge.
11. The child uses precise and fine body movements.

CHECK YOUR RESULTS: if you have any doubt about the results obtained, you can contact the experts of the partnership of this project, who will help you identify and take appropriate action with students with low vision, especially if they show signs of Aniridia or Albinism.

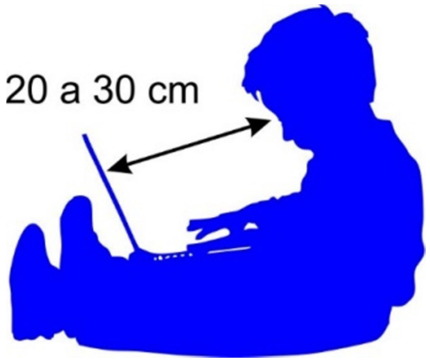
SHEARCH SHAPE and SHEARCH SHAPE+

LEVEL OF THE GAMES: Middle, intended for the second level of the second cycle of pre-primary education.

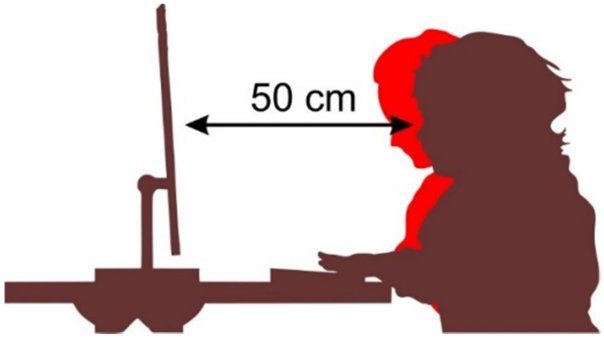
OBJECTIVE OF THE GAMES: enhancing visual perception and shape recognition.

SETTING FOR THE ACTIVITY: these games can be played individually, in pairs (sharing a tablet), or in a group (3-4 children max.), where children should take turns.

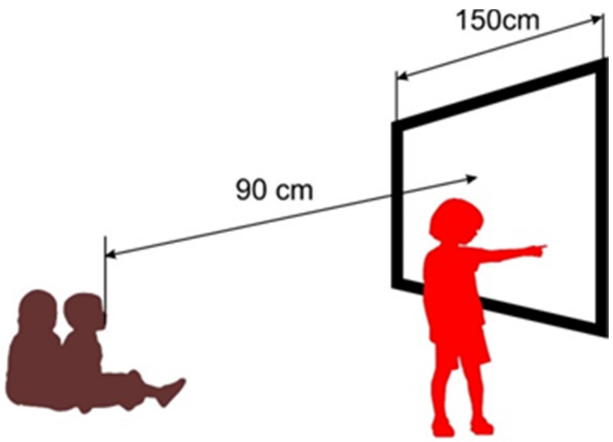
- When played individually, place the device upright, 20 to 30cm before the child. Classroom lighting should be dim.



- When played in pairs with a tablet or computer, place the device on a table at 50cm or less from each of the two children (if one of them has visual difficulties, he/she should be a little closer, similar to when playing individually).



- If the game is played in a group, we recommend using a digital whiteboard or projector, placed closest to the ground, so it enters the natural field of vision of the child. The maximum distance for a 150cm wide device should always be less than 90cm (considering the visual capabilities of students with ~10% of vision). You can also use a tablet but reducing the distance according to individual use. Classroom lighting should be dim.



WORKING METHODOLOGY: explain the child at first the dynamic of the game properly, and help him/her until they achieve enough autonomy. This is a game of visual speed and perception ability, and time of completion is important, so although the game does not have a time limit, we recommend you to promote some degree of speed to solve it, always with the abilities, needs, and visual conditions of the child in mind.

This game can also be combined with various group dynamics and work methodologies in the classroom, like playing with two or more groups that compete with eachother, with the members of each group playing collaboratively.

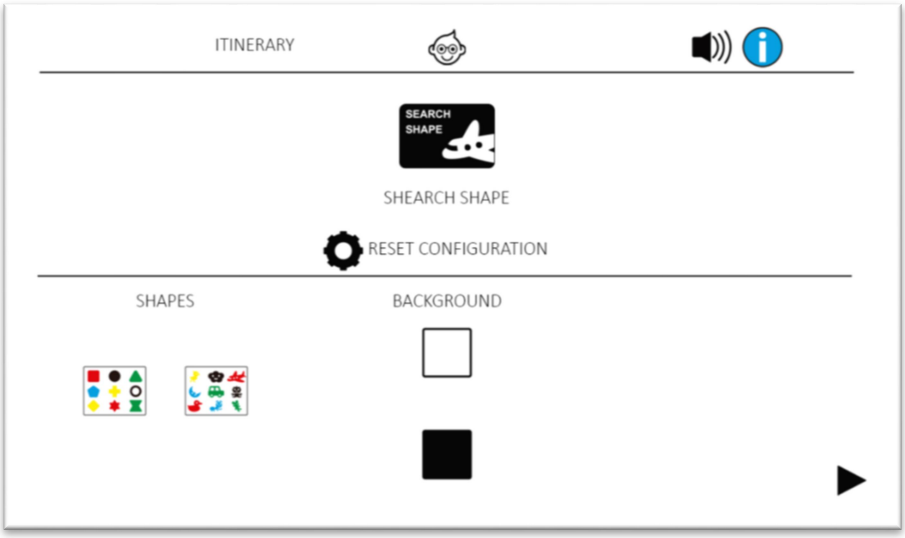
The teacher must ensuring compliance with the turns and empowering and helping the children to actively participate and promote their social and cooperative skills. If necessary, help them interact with the device.

The game should be played while seated, with the screen upright, in a table or a tilted lectern with if necessary. The activity -in its different configurations- should have a maximum length of 15 minutes.

CONFIGURATION FOR THE GAMES: configure the games regarding the shapes shown, their colors, and the background, depending on the needs of the student and his/her stage of development.

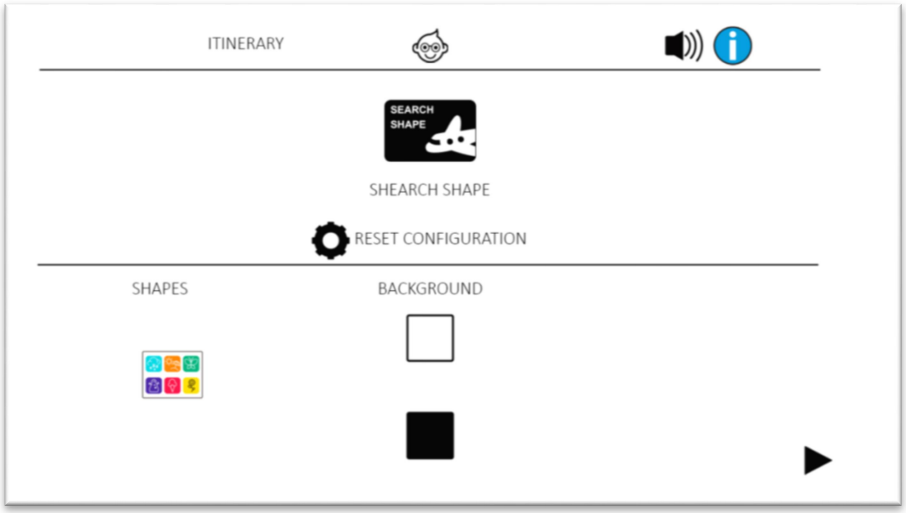
The configuration panel for **SHEARCH SHAPE** is divided in 2 aspects:

- **Shapes:** there are 2 different sets of shapes to choose from.
- **Background**: depending on the child's needs, choose between black or white background, each with a combination of colors.



The configuration panel for **SHEARCH SHAPE+** is divided in 2 aspects:

- **New shapes**: there is now the option of choosing a new set of shapes. Its design has been established to start working on linear shapes; the same drawing may appear with a different colored background.
- **Background**: depending on the child's needs, choose between black or white background, each with a combination of colors.



HOW DOES IT WORK: the games consist in looking for the same shapes with different colors (only the shape matters). At the bottom of the screen, a frameless shape will be the reference model. Touch the framed tiles that have the shape matching the model.

The game can be complemented with oral descriptions of the shapes by the student, and numerical exercises with the tiles.

CRITERIA TO EVALUATE: these are a games designed to evaluate the ability to perceive shapes and colors by students with low vision as well as those without. Thus:

- Notice if the child is able to detect all colors and in which shapes.
- Does the child actively participate in the game and enjoy group games?
- Is the child able to follow rules and respect turn order?
- Does the child properly accept losing in a game?
- Do the children interact with their peers, both with and without disabilities?
- Do the children know how to use the e-board to access the games and activities?
- Notice if the child has hand-eye coordination and is able to touch and drag a shape on the screen.
- In individual use, strengthen the bonds of affection between the child and the teacher, reinforcing their trust and security with the former.

CURRICULAR OBJECTIVES DEVELOPED: these games enable the development of the objectives set in the curricula of pre-primary schools in the partner countries:

1. The child actively participates in different kinds of games.
2. The child shows coordinated motor abilities.
3. The child analyzes perceptive characteristics of materials with his/her senses.
4. The child makes collections establishing similarity, difference, order, class, and quantity relationships.
5. The child classifies objects using perceptible criteria.
6. The child shows interest in learning new handling abilities.
7. The child shows coordinated motor abilities.
8. The child regulates his/her expression of feelings and emotions in the game through language.
9. The child follows the rules of the game.
10. The child knows the importance of the rules of the game.
11. The child enjoys group games.
12. The child compares different images.
13. The child uses the audiovisual and technological means of the school for their enjoyment, creation, and learning.
14. The child uses educational programs to apply their acquired knowledge.
15. The child uses precise and fine body movements.

CHECK YOUR RESULTS: if you have any doubt about the results obtained, you can contact the experts of the partnership of this project, who will help you identify and take appropriate action with students with low vision, especially if they show signs of Aniridia or Albinism.

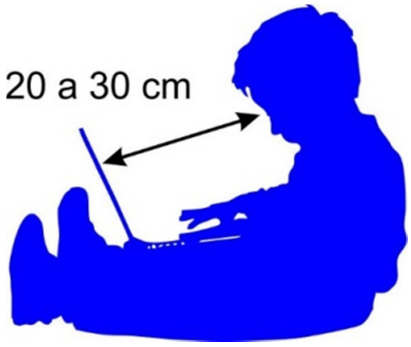
MEMORY and MEMORY+

LEVEL OF THE GAMES: Middle, intended for the second level of the second cycle of pre-primary education.

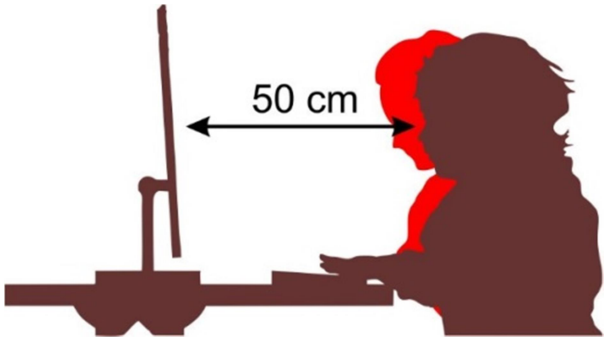
OBJECTIVE OF THE GAMES: Enhancing memory and focus capabilities.

SETTING FOR THE ACTIVITY: this game can be played individually, in pairs (sharing a tablet), or in a group (3-4 children max.), where children should take turns.

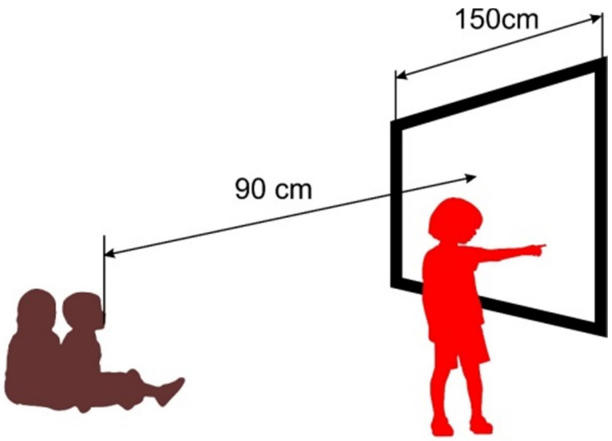
- When played individually, place the device upright, 20 to 30cm before the child. Classroom lighting should be dim.



- When played in pairs with a tablet or computer, place the device on a table at 50cm or less from each of the two children (if one of them has visual difficulties, he/she should be a little closer, similar to when playing individually).



- If the game is played in a group, we recommend using a digital whiteboard or projector, placed closest to the ground, so it enters the natural field of vision of the child. The maximum distance for a 150cm wide device should always be less than 90cm (considering the visual capabilities of students with ~10% of vision). You can also use a tablet but reducing the distance according to individual use. Classroom lighting should be dim.



WORKING METHODOLOGY: in this game, time of completion is important, so although the game does not have a time limit, we recommend you to promote some degree of speed to solve it, always with the abilities, needs, and visual conditions of the child in mind, as well as an important mechanism to enhance group game and the socialization of the students.

This game can also be combined with various group dynamics and work methodologies in the classroom, like playing with two or more groups that compete with eachother, with the members of each group playing collaboratively.

The game played individually or in pairs should be done so while seated, with the device on a table or tilted lectern if necessary. If it is played in pairs or groups with an e-board, the children should be seated at the distance defined before and stand up to interact following a turn order.

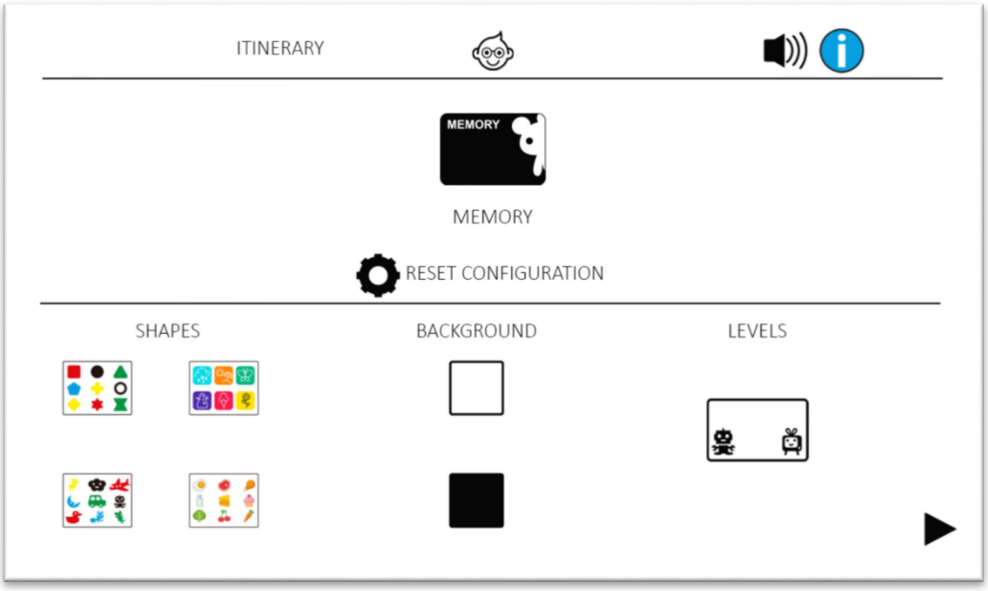
The teacher must ensure compliance with the turns and empowering and helping the children to actively participate and promote their social and cooperative skills. If necessary, help them interact with the device.

The game should be played while seated, with the screen upright, in a table or a tilted lectern with if necessary. The activity -in its different configurations- should have a maximum length of 15 minutes 2 or 3 times a day.

CONFIGURATION FOR THE GAMES: configure the games regarding the shapes shown, their colors, and the background, depending on the needs of the student and his/her stage of development.

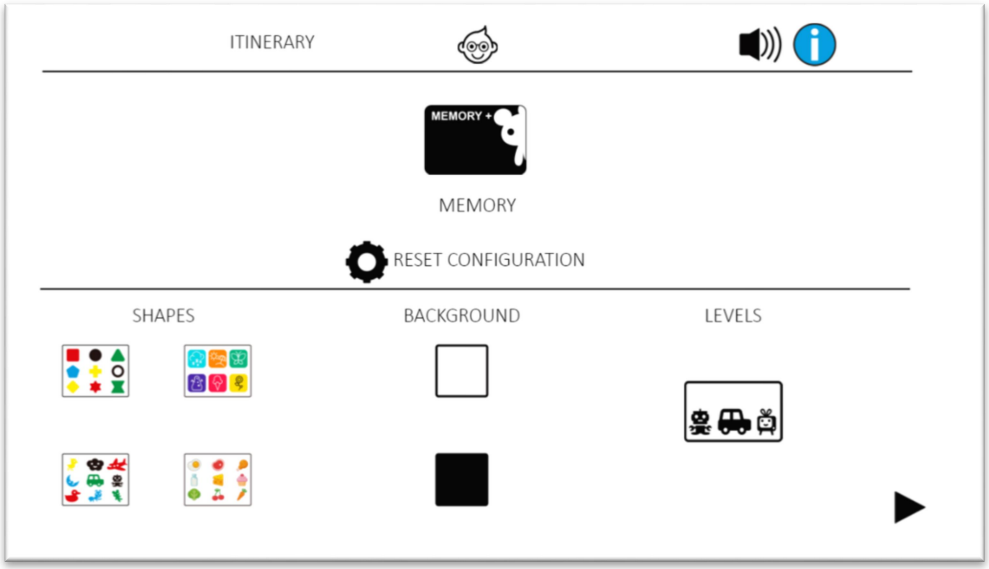
The configuration panel for **MEMORY** is divided into 3 aspects:

- **Shapes**: there are 4 different sets of shapes to choose from.
- **Background**: depending on the child's needs, choose between black or white background, each with a combination of colors.
- **Level**: there 3 pairs of shapes in this level (a total of 6 tiles).



The configuration panel for **MEMORY+** is divided into 3 aspects:

- **Shapes**: there are 4 different sets of shapes to choose from.
- **Background**: depending on the child's needs, choose between black or white background, each with a combination of colors.
- **Level**: there 5 pairs of shapes in this level (a total of 10 tiles).



HOW DOES IT WORK: the game consists in looking for pairs of shapes and remembering their location. For this, select two cards consecutively from the available (hidden) ones; if they have the same shape, they will both disappear, reducing the remaining ones. The game ends when all cards disappear.

When played in a group, we recommend that the child passes the turn for every 2 cards, independently of him/her guessing right or wrong, to reduce the competitiveness of the game.

CRITERIA TO EVALUATE: this is a game designed to evaluate the ability to perceive shapes and colors by students with low vision as well as those without. Thus:

- Notice if the child is able to detect all colors and in which shapes.
- Notice if the child has visual memory.
- Does the child actively participate in the game and enjoy group games?
- Is the child able to follow rules and respect turn order?
- Does the child properly accept losing in a game?
- Do the children interact with their peers, both with and without disabilities?
- Do the children know how to use the e-board to access the games and activities?
- Notice if the child has hand-eye coordination and is able to touch and drag a shape on the screen.
- In individual use, strengthen the bonds of affection between the child and the teacher, reinforcing their trust and security in the latter.

CURRICULAR OBJECTIVES DEVELOPED: this game enables the development of the objectives set in the curricula of pre-primary schools in the partner countries:

1. The child actively participates in different kinds of games.
2. The child shows coordinated motor abilities.
3. The child shows memory and logical thinking abilities.
4. The child shows interest in learning new handling abilities.
5. The child regulates his/her expression of feelings and emotions in the game through language.
6. The child follows the rules of the game.
7. The child knows the importance of the rules of the game.
8. The child enjoys group game.
9. The child compares different images.
10. The child uses the audiovisual and technological means of the school for their enjoyment, creation, and learning.
11. The child uses educational programs to apply their acquired knowledge.
12. The child uses precise and fine body movements.

CHECK YOUR RESULTS: if you have any doubt about the results obtained, you can contact the experts of the partnership of this project, who will help you identify and take appropriate action with students with low vision, especially if they show signs of Aniridia or Albinism.

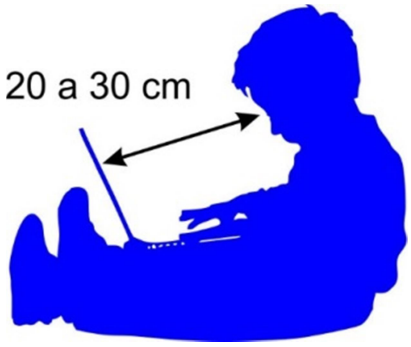
SEARCH SERIES and SEARCH SERIES+

LEVEL OF THE GAMES: Middle, intended for the second level of the second cycle of pre-primary education.

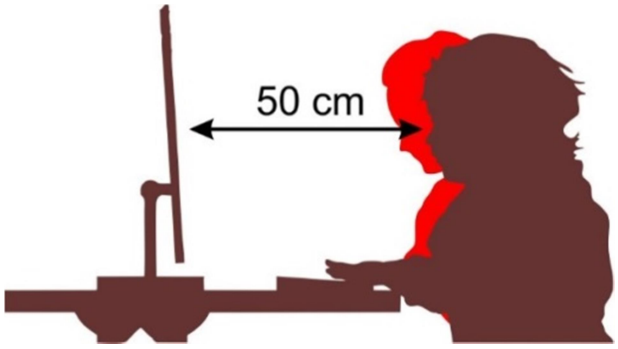
OBJECTIVE OF THE GAMES: Enhancing visual perception and boosting logical thinking.

SETTING FOR THE ACTIVITY: these games can be played individually, in pairs (sharing a tablet), or in a group (3-4 children max.), where children should take turns.

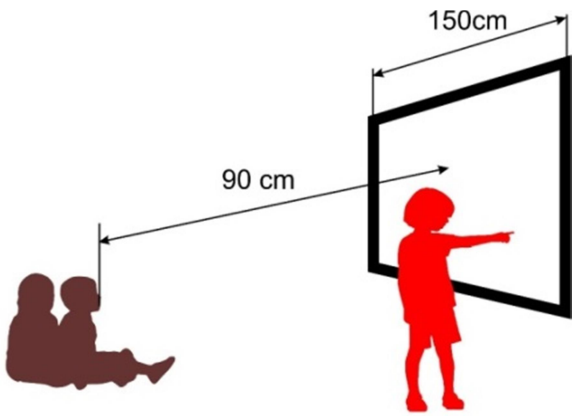
- When played individually, place the device upright, 20 to 30cm before the child. Classroom lighting should be dim.



- When played in pairs with a tablet or computer, place the device on a table at 50cm or less from each of the two children (if one of them has visual difficulties, he/she should be a little closer, similar to when playing individually).



- If the games are played in a group, we recommend using a digital whiteboard or projector, placed closest to the ground, so it enters the natural field of vision of the child. The maximum distance for a 150cm wide device should always be less than 90cm (considering the visual capabilities of students with ~10% of vision). You can also use a tablet but reducing the distance according to individual use. Classroom lighting should be dim.



WORKING METHODOLOGY: the child should play with your help or in a group at first, depending on their autonomy.

These games can also be combined with various group dynamics and work methodologies in the classroom, like playing with two or more groups that compete with eachother, with the members of each group playing collaboratively.

The games played individually or in pairs should be done so while seated, with the device on a table or tilted lectern if necessary. If it is played in pairs or groups with an e-board, the children should be seated at the distance defined before and stand up to interact following a turn order.

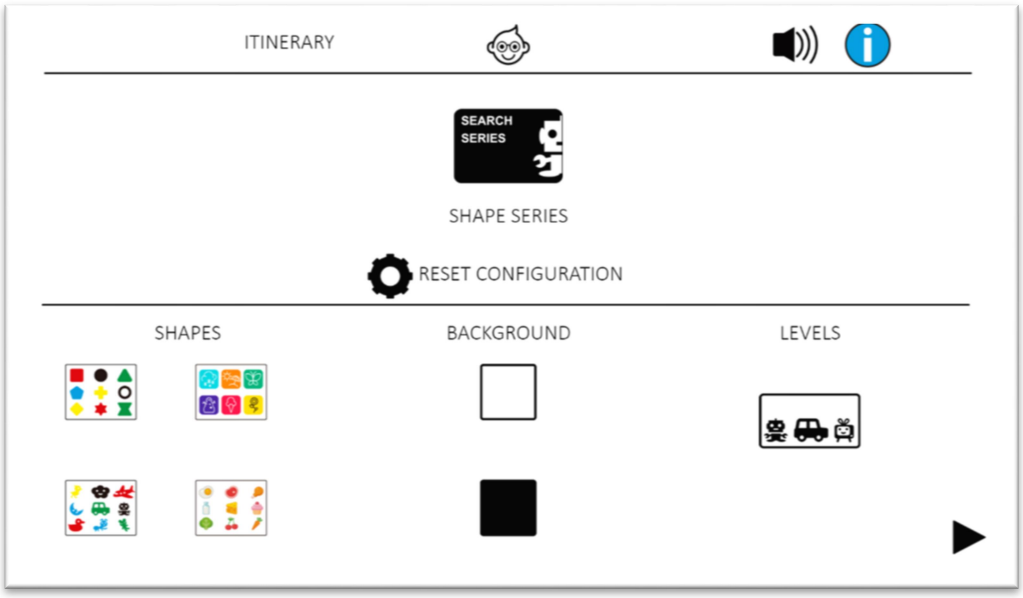
The teacher must ensure compliance with the turns and empowering and helping the children to actively participate and promote their social and cooperative skills. If necessary, help them interact with the device. Also, monitor the progression in the game, especially regarding time of completion, and advance the level when enough confidence and autonomy has been achieved by the child/ren.

The game should be played while seated, with the screen upright, in a table or a tilted lectern with if necessary. The activity -in its different configurations- should have a maximum length of 15 minutes.

CONFIGURATION FOR THE GAMES: configure the games regarding the shapes shown, their colors, and the background, depending on the needs of the student and his/her stage of development.

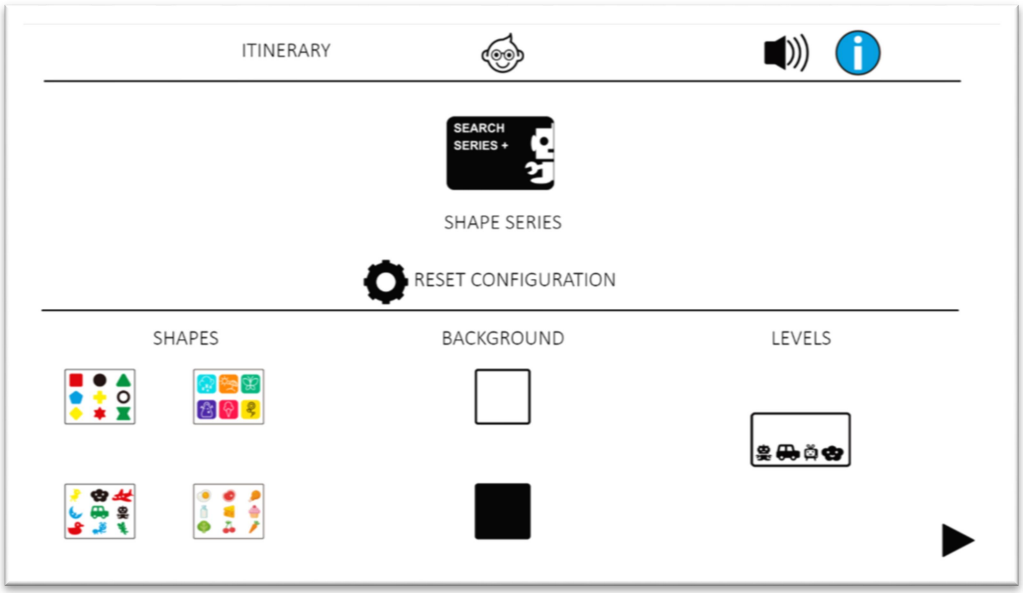
The configuration panel of **SEARCH SERIES** is divided into 3 aspects:

- **Shapes**: there are 4 different sets of shapes to choose from.
- **Background**: **Background**: depending on the child's needs, choose between black or white background, each with a combination of colors.
- **Level**: there is one series of 3 shapes.



The configuration panel of **SEARCH SERIES+** is divided into 3 aspects:

- **Shapes**: there are 4 different sets of shapes to choose from.
- **Background**: depending on the child's needs, choose between black or white background, each with a combination of colors.
- **Level**: there is one series of 4 shapes.



HOW DOES IT WORK: the games consist of repeating the series in the established order. 3 or 4 different shapes in frames will appear at the top of the screen, determining the series to follow. In the middle of the screen there will be some black/white empty frames; and the shapes to be dragged to the black/white frames to match the model series will appear at the bottom. The game can be complemented with oral descriptions by the student, and numerical exercises with the tiles.

CRITERIA TO EVALUATE: this is a game designed to evaluate the ability to perceive shapes and colors by students with low vision as well as those without. Thus:

- Notice if the child is able to detect all colors and in which shapes.
- Notice the logical capabilities of the child.
- Does the child actively participate in the game and enjoy group games?
- Is the child able to follow rules and respect turn order?
- Does the child properly accept losing in a game?
- Do the children interact with their peers, both with and without disabilities?
- Do the children know how to use the e-board to access the games and activities?
- Notice if the child has hand-eye coordination and is able to touch and drag a shape on the screen.
- In individual use, strengthen the bonds of affection between the child and the teacher, reinforcing their trust and security with the former.

CURRICULAR OBJECTIVES DEVELOPED: this game enables the development of the objectives set in the curricula of pre-primary schools in the partner countries:

1. The child actively participates in different kinds of games.
2. The child shows coordinated motor abilities.
3. The child analyzes perceptive characteristics of materials with his/her senses.
4. The child classifies objects using perceptible criteria.
5. The child shows interest in learning new handling abilities.
6. The child shows coordinated motor abilities.
7. The child regulates his/her expression of feelings and emotions in the game through language.
8. The child follows the rules of the game.
9. The child knows the importance of the rules of the game.
10. The child enjoys group games.
11. The child compares different images.
12. The child uses the audiovisual and technological means of the school for their enjoyment, creation, and learning.
13. The child uses educational programs to apply their acquired knowledge.
14. The child uses precise and fine body movements.

CHECK YOUR RESULTS: if you have any doubt about the results obtained, you can contact the experts of the partnership of this project, who will help you identify and take appropriate action with students with low vision, especially if they show signs of Aniridia or Albinism.

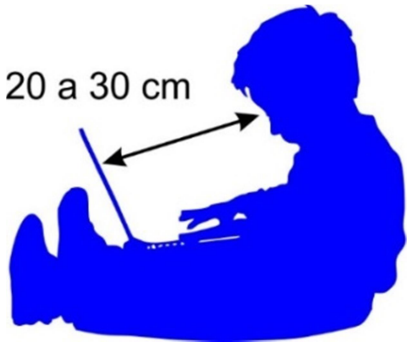
PUZZLE and PUZZLE+

LEVEL OF THE GAMES: Hard, intended for the end of the second level of the second cycle of pre-primary education.

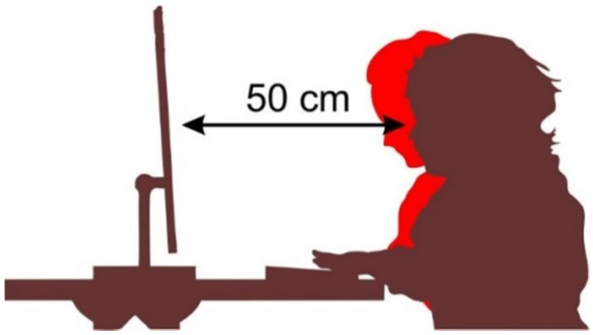
OBJECTIVE OF THE GAMES: enhancing problem resolution capabilities and visual perception.

SETTING FOR THE ACTIVITY: these games can be played individually or in pairs by sharing a tablet and/or taking turns.

- When played individually, place the device upright, 20 to 30cm before the child. Classroom lighting should be dim.



- When played in pairs with a tablet or computer, place the device on a table at 50cm or less from each of the two children (if one of them has visual difficulties, he/she should be a little closer, similar to when playing individually).



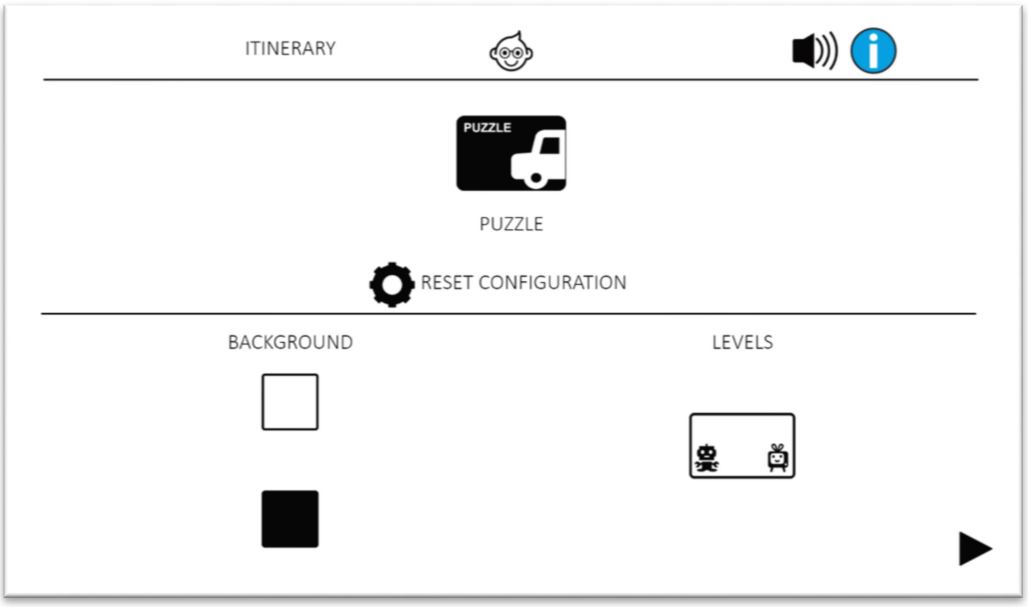
WORKING METHODOLOGY: explain the dynamics of the games properly and help the child at first, until he/she has enough autonomy. Also, Track the child's progression in the game, especially regarding time of completion.

The game should be played while seated, with the screen upright, in a table or a tilted lectern with if necessary. The activity -in its different configurations- should have a maximum length of 15 minutes.

CONFIGURATION FOR THE GAMES: configure the games regarding the shapes shown, their colors, and the background, depending on the needs of the student and his/her stage of development.

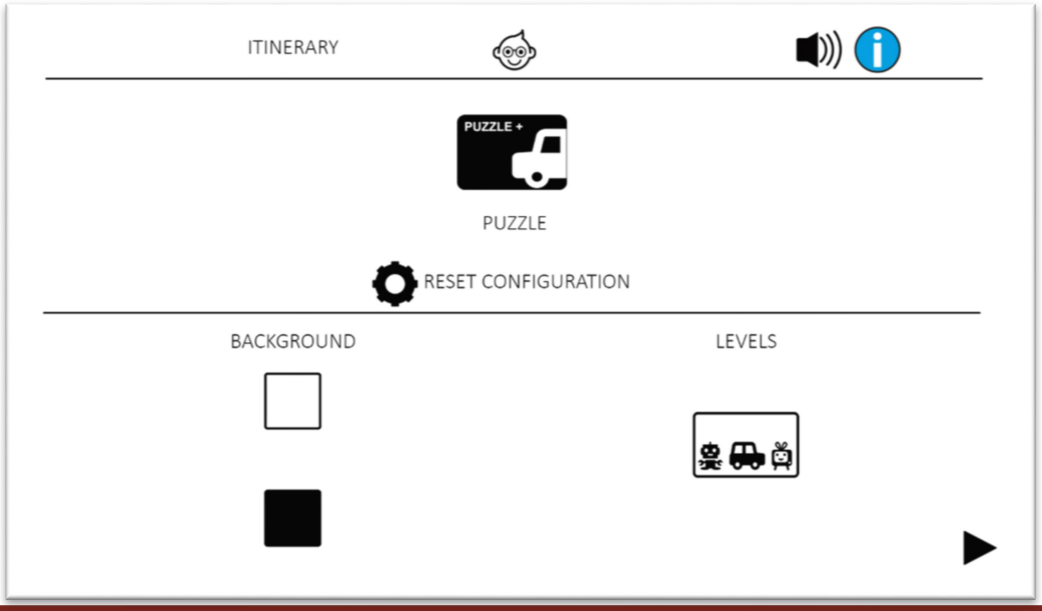
The configuration panel for **PUZZLE** is divided into 2 aspects:

- **Background**: depending on the child's needs, choose between black or white background, each with a combination of colors.
- **Level**: this level has simple puzzle models of 3 shapes.



The configuration panel for **PUZZLE+** is divided into 2 aspects:

- **Background**: depending on the child's needs, choose between black or white background, each with a combination of colors.
- **Level**: this level has simple puzzle models of 6 shapes.



HOW DOES IT WORK: a model of 9 tiles with shapes will appear on the right side of the screen, and on the left side an empty 9-tile grid. At the bottom, different shapes will appear; drag them to their correct position in the empty grid, matching the model. New shapes will not appear until the previous one has been correctly placed.

CRITERIA TO EVALUATE: this is a game designed to evaluate the ability to perceive shapes and colors by students with low vision as well as those without. Thus:

- Notice if the child is able to recognize series and repeat them.
- Does the child use an established color model?
- Does the child actively participate in the game and enjoy group games?
- Notice if the child is able to understand the problem and solve it.
- Does the child properly accept losing in a game?
- Do the children interact with their peers, both with and without disabilities?
- Do the children know how to use the e-board to access the games and activities?
- Notice if the child has hand-eye coordination and is able to touch and drag a shape on the screen.
- In individual use, strengthen the bonds of affection between the child and the teacher, reinforcing their trust and security in the latter.

CURRICULAR OBJECTIVES DEVELOPED: this game enables the development of the objectives set in the curricula of pre-primary schools in the partner countries:

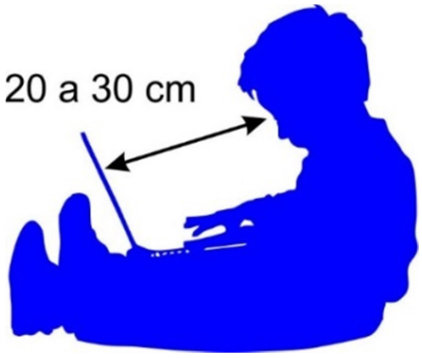
1. The child actively participates in different kinds of games.
2. The child shows coordinated motor abilities.
3. The child analyzes perceptive characteristics of materials with his/her senses.
4. The child classifies objects using perceptible criteria.
5. The child poses hypotheses anticipating possible results (what would happen if...?).
6. The child makes collections establishing similarity, difference, order, class, and quantity relationships.
7. The child shows interest in learning new handling abilities.
8. The child regulates his/her expression of feelings and emotions in the game through language.
9. The child follows the rules of the game.
10. The child compares different images.
11. The child enjoys group game.
12. The child compares different images.
13. The child uses the audiovisual and technological means of the school for their enjoyment, creation, and learning.
14. The child uses educational programs to apply their acquired knowledge.

SPACE MISSION

LEVEL OF THE GAME: Final test (bonus game), very hard; intended as a support for children with already developed capabilities.

OBJECTIVE OF THE GAME: reinforce the psychomotor abilities acquired in all the previous proposed activities and games.

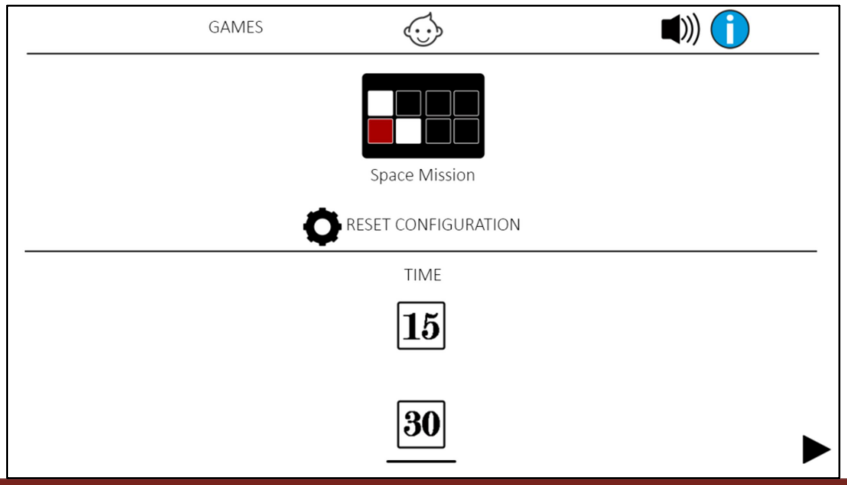
SETTING FOR THE ACTIVITY: this game should be played individually, placing the device upright, 20 to 30cm before the child. Classroom lighting should be dim.



WORKING METHODOLOGY: explain the dynamics of the game correctly to the child, and help him/her first, until he/she has enough autonomy. As a teacher, sit next to the student while he/she plays the game on the device. Once the dynamics of the game have been fully understood, let him/her interact independently.

The game should be played while sitting down, with the screen on vertical position, resting on a table or lectern with a certain inclination if necessary.

CONFIGURATION FOR THE GAME: configure the game regarding the shapes shown, their colors, and the background, depending on the needs of the student and his/her stage of development. Once satisfactory results are obtained, you can try other configurations:



- **Time**: depending on the needs and the desired difficulty, select the length of the game between 15 and 30 seconds.

HOW DOES IT WORK: the game consists in moving the spaceship (drawn in colors harder to perceive) to dodge the meteorites. The spaceship is moved with the finger, by touching or clicking on it and dragging it across the screen. You win if you dodge meteorites for the established time, either 15 or 30 seconds.

CRITERIA TO EVALUATE: this is a game designed to evaluate the ability to perceive shapes and colors by students with low vision as well as those without. Thus:

- See if the child can properly react to and avoid the meteorites.
- Does the child properly accept losing in a game?
- Does the child interact with their peers, both with and without disabilities?
- Does the child know how to use the e-board to access the games and activities?
- Notice if the child has hand-eye coordination and is able to touch and drag objects on the screen.
- Strengthen the bonds of affection between the child and the teacher, reinforcing their trust and security with the former.

CURRICULAR OBJECTIVES DEVELOPED: this game enables the development of the objectives established in the curricula of pre-primary schools in the partner countries:

1. The child actively participates in different kinds of games.
2. The child shows coordinated motor abilities.
3. The child enjoys his/her motor achievements.
4. The child shows fine handling skills.
5. The child shows interest in learning new handling abilities.
6. The child regulates his/her expression of feelings and emotions in the game through language.
7. The child knows the basic notions of orientation and movement coordination.
8. The child changes and adapts his/her posture to different games and situations.
9. The child follows the rules of the game.
10. The child knows the importance of the rules of the game.
11. The child enjoys group games.

CHECK YOUR RESULTS: if you have any doubt about the results obtained, you can contact the experts of the partnership of this project, who will help you identify and take appropriate action with students with low vision, especially if they show signs of Aniridia or Albinism.

AUTHORS

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