



Educational motion interactive floor





Who is the educational motion interactive floor for?

Educational and motion program of the Interactstyle Ltd. company was developed for children in special schools, kindergartens and elementary schools on the basis of suggestions from the Special Elementary School in Poděbrady. This product won the award in the "Idea of the Year" Competition.

The principle is the usage of new modern methods which affect the hierarchy of cognitive functions (according to Dietrich), mainly:

perceptio

n

Directed
attention

Motor skills

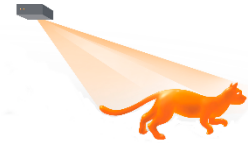
EMOTIONS

Information
processing

Abstract
thinking

Memory

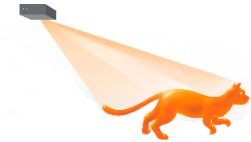
Orientaci
v prostoru



What problems do we solve?

We fight obesity,
We engage also children with severe disabilities,
Alternating motional and intellectual parts we ensure better brain concentration on learning,
We make the teachers' work easier, because teachers can use the easy form and create lessons themselves with no need to invent other fun games,
Also hyperactive children are engaged, not bored,
With emotions we help children emotionally,
We teach them to cooperate in the team (search together for objects with quiz questions),
Compared to the interactive projection that uses a pen, we engage all the children, not only one,
By projecting on the floor we engage also children who cannot be at the board,
We engage also children who cannot hold a pen and we evoke the children's joy.





Description and the motion component

The interactive floor is the area in the classroom or gym on which children can move freely.

The motion of the child is evaluated by the projector, computer and special microcamera. It evokes a graphic response in the projected image. This way you can play football without a real ball. By the child's jumping on the projected image the child can play motional or educational games.

The operation is easy. You can choose a packet with number and focus on sports like football or lessons of geography etc..





Educational component

We have tried to engage children emotionally in an educational game as much as possible. We have created a story for them. It is a story of four animals: a turtle, a cat, a dog and an owl..

The turtle guides the children through the sea-world and teaches them to know the sea animals. The cat guides through a meadow and teaches them to know plants, trees and animals. The doggie stays in the household and teaches to know music instruments and sounds around us. The owl guides in the sky helping children know the continents, sights, weather and seasons. The owl is also wise and it is connected with teaching mathematics and languages. The number of topics is huge here.

The whole teaching is interleaved by the motional part in which the children work together and search and step on the objects containing quiz questions. In the sea world they chase away the fish searching for the treasure chests. At the doggie part they shift away the leaves and search for bones. At the cat they search for sunflowers chasing away the butterflies, and at the owl they shift away the clouds searching for islands.





Examples of the Games





The Form to Create the Teaching Lessons

The screenshot shows a software window titled "Configuration" with a blue title bar. On the left, there is a "Questions" panel with a list containing "Question 1" and a "+" button. The main area is divided into several sections:

- Question:** A large text area for the question title, followed by an "Image / Video" field with a selection button and a red "X" icon.
- Audio:** A text field for audio content, also with a selection button and a red "X" icon.
- Answers:** Six columns labeled "Answer 1 [correct answer]", "Answer 2", "Answer 3", "Answer 4", "Answer 5", and "Answer 6". Each column contains:
 - A "Text" field.
 - An "Image / Video" field with a selection button and a red "X" icon.
 - An "Audio" field with a selection button and a red "X" icon.
- Feedback:** Two sections on the left side of the main area:
 - "Animal audio On correct answer" with a selection button and a red "X" icon.
 - "On wrong answer" with a selection button and a red "X" icon.

An "OK" button is located at the bottom center of the window.



The methods used

The IF works with so called rehabilitation psychotherapy and uses individual techniques of art therapy, active music therapy, physiotherapy, animotherapy. Among the group techniques there are warm ups with various kinds of exercises, various kinds of ball games, types of exercises practising speech skills, expressing communication, group drawing, recognizing instruments and their sounds within active music therapy.

The IF focuses on cognitive training (systematic effort to improve the persistent failure of intellectual activity) and cognitive rehabilitation (children affected by trauma or disease cooperate to correct or ease cognitive deficits). In the care for children with disabilities the greatest emphasis is on the field of information processing, attention, memory and motor skills.





Chosen methods I

Animotherapy is visual and auditory, namely through any kinds of animals projected on the floor, the animals move and make sounds. With the interactive floor it is possible to project dolphins moving in the sea and venture their sound communication into the speakers simultaneously. The EEG examinations confirm that the human contact with dolphins shows increased appearance of theta waves which keep the body in deep peace as at the meditation. This type of therapy is mainly used for children with mental and motor disabilities, and for treatment of children with autism, epilepsy, cerebral palsy or Down syndrome.

It is not necessary to be physically present close to dolphins to use their healing powers. We engage visual and auditory stimulation with authentic recordings of dolphin communicative sounds in natural deep-sea environment. With techniques of reflex therapy we activate body centres on reflex points of feet, palms and head which are touched by the trained dolphin in the pool with a child. At this therapy it is possible to place appropriate pebbles and a rail on the floor to activate reflex points on children's feet or/and palms.



Chosen methods II

Physiotherapy uses physical activities with elements of non-verbal techniques (motor music therapy, sport games, body therapy). The goal is to improve and maintain the optimal mental state by operation of chosen exercises (affecting memory, concentration, thinking, attention, improvement of self-confidence, communication and social relationships). This form of therapy can be performed individually or in a group. Physiotherapy also includes sport activities – sport games, tournaments. With the interactive floor we can project dance steps on the floor and with music we can teach a child simple dance moves.

Attention: At children in special schools there are often attention deficit disorders which affect the children's total efficiency negatively. The IF trains attention by quick transmission of attention at impulses of various categories (pictures, videos, letters, numbers).

Visual spatial skills: The IF trains the space orientation, right-left orientation disorders.

Language and speech abilities: Along with the attention deficit disorder, impaired memory and executive functions, at some children the speech ability is impaired significantly. The IF improves language and speech, helps solve difficulties when searching for appropriate words and the overall spelling difficulties, significant changes in the amount of speech produced are achieved; school skills, reading and comprehension are improved.

Memory: Some children show deficient performance in almost all types of memory. The IF works with visual retention, visual orientation, memory for objects, memory for faces, motor function, visual motor coordination.



The interactive floor affect on children with disabilities consists particularly in :

- reducing social isolation and teaching social skills,
- increasing motivation to interact with the environment,
- the support of independence,
- gaining skills necessary for participation in common activities,
- therapy of undesirable patterns of behaviour and development of adaptive behaviour,
- strengthening motivation to communicate and develop functional communication abilities,
- understanding speech,
- learning the speech or alternative means of communication,
- development of sensory integration capabilities,
- development of perceptual and motor processes,
- development of cognitive skills and support of learning process.



Children with motor and multiple disabilities

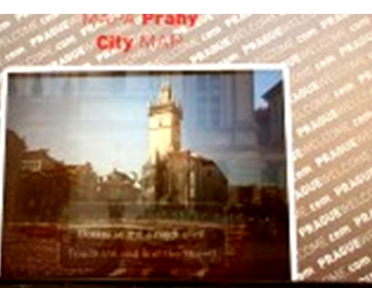
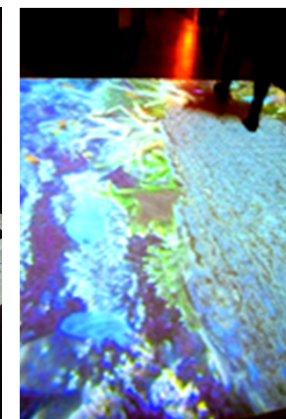
To children with motor disabilities the IF brings:

1. Support and development of motor skills.
2. Reduce in the muscle tension.
4. Training of pain and anxiety management with music therapy support.
5. Development of communication and social skills.
6. Opportunity to develop cognitive skills.
7. Development of acceptance of their life situation.
8. Development of self-confidence and positive self-esteem.

To children with multiple disabilities:

Among the range of disabilities children with multiple health disabilities have the least favourable position. However, it is necessary to perceive each child individually, because each one is different, and only rarely happens that more types of disabilities are of the same severity. At multiple disabilities we suggest to build the therapy first on those abilities that are preserved and to develop them gradually.

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Thank you
for your attention

Company:

Interactstyle Ltd.

Web:

www.interactstyle.cz

E-mail:

info@interactstyle.cz

Mobile:

+420 777 086 326