programmatic support of the core aspects of ABA & DTT encoded in, e.g., mastery criteria, progression logic, and session recording; and a token-reward system that reinforces learning.

Results:

Three formal trials (n=8, 16, & 47; ages 2--8) have led to the following outcomes:

1. The instructional design and learning framework enabled a majority of children to learn skills over time.
2. Learning was tracked accurately, areas of difficulty were identified, and stimulus delivery was accordingly concentrated on those areas, while allowing children to move at their own pace.
3. Natural Environment Training complemented iPad-based tasks and integrated with daily life.
4. Parents expressed the sense of empowerment TOBY afforded them.

Conclusions:

This work delivers technology that helps parents administer a therapist-designed program at home. Through principled delivery, it is able to cover a large range of core but complex early learning skills. Critically, it fills the gap when crucial intervention time would otherwise be wasted.


Background: Children with ASD have a disorder of psychomotor development that commands the implementation of a specific rehabilitation. However, the children with severe intensity ASD and intellectual disability show usually significant difficulties of participation that can limit the impact of these rehabilitations.

Objectives: The objective of this exploratory study is to evaluate the benefit of using the kinect in a psychomotor rehabilitation towards these children. More specifically, it is to determine whether, on one hand, the kinect is a motivating learning for these children, and on the other hand, whether psychomotor learning can be acquired with this technology.

Finally, a secondary objective is to assess whether:
- The mere repetition of the use of the Kinect without rehabilitative intervention allows to improve performance in games used.
- Improving the games scores can result in changes on the psychometric level

Methods: 4 children with severe intensity ASD associated with moderate to severe intellectual disability participate in this study. These children have roughly equivalent developmental levels. Psychomotor skills were initially assessed using standardized tests in the areas of motor skills, executive functions and imitation. A retest composed of the same instruments will be made at the end of the program.

A kinect game has been proposed for 15 minutes during 12 sessions of psychomotor rehabilitation. This game implements the following skills:
- Anticipation
- Motor Coordination
- spatial recognition.

These areas of expertise were not trained specifically during rehabilitation sessions except when using the Kinect. An observation checklist was developed to assess the development of these skills in the protocol, as well as the level of motivation on the basis of a checklist of observable behaviors.

To provide a baseline, the kinect game has been first offered to children without guidance. Systematic quotation of the observation frame made it possible to assess their ability to learn independently.

A phase of play with psychomotor guide was then introduced at meetings No. 3, No. 4, No. 5 or No. 6 according to the children. Systematic quotation of the observation scale was used to assess the evolution of skills under the guidance and the effect of therapist.

At the end of the protocol, a re-test of psychomotor skills has been proposed to determine whether the development of skills sought by the game resulted in an improvement of psychomotor skills.

Results: We aim to check several assumptions:
- Children with severe intensity ASD are motivated to psychomotor learning through the use of kinect.
- The guidance and support of the therapist are