

# Special World

*for special education teachers, therapists & schools everywhere*

January 2015 | Issue 2

[www.SpecialWorld.net](http://www.SpecialWorld.net)



**Embodied cognition:** Can classroom exercises improve learning?



**iPad add-ons:** Mounts, cases, switches and more



**Show-stoppers:** What to see at BETT and ATIA



tools complex to use

- use of the computer in class is often rejected by the child who feels 'different' from his friends
- a tool as complex as the PC is sometimes a source of distraction for children who are struggling to concentrate on what they need to do
- some teachers are not familiar with the PCs and find it difficult to teach younger children how to use them
- PCs are not optimised for readability by default: default text to speech libraries are not good in reading aloud Italian, fonts are small and do not simplify reading
- the traditional compensatory tools and PCs are a major cost for families
- the loss of self-esteem during primary schools has a negative impact on subsequent educational levels.

### EdiTouch



EdiTouch™ is the first tablet to support the learning activities of special educational needs (SEN) and specific learning difficulties (SLD) students.

It originally started as a personal project. As the father of a dyslexic child, not being fully satisfied by the solutions for SEN/SLD students available on the market, I decided to build something for my son. Subsequently the interest aroused by my work, together with the desire to make available to others what was helping my son, drove me to self-fund a startup that would provide a complete solution (hardware-and-software) at a price comparable to that of tablets already on the market (which, are not equipped with specific software for SEN/SLD students).

Its interface and the main programs have been designed with the support of speech therapists and specialists in learning disabilities, in addition to the contribution of parents of SEN/SLD children who every day try to find new ways to facilitate their children's education.

### Design Principles

We wanted EdiTouch to be a simple, light and low-cost tool supporting children with their studies from the early years of school.

We therefore chose a large format similar to school notebooks. Due to the type of device and the user friendly interface, it presents a way of working that eventually overcomes children's opposition and gives them gratification, increases motivation and, as a result, facilitates academic success. For the packaging, communication and user interface, we used the outline of a child, drawn as a cartoon that would be familiar and acceptable to both boys and girls. Also the icons of the programs are large, colourful and designed in the same style.

Minimum Viable Product is the mode of development we adopted: an iterative process during which the initial idea is continuously modified and adapted after feedback received from initial users (so-called early adopters). This process goes on until the desired product is obtained.

The development and evolution of applications is driven by the information provided by speech therapists, psychiatrists and teachers involved in the project, but also from the comments received from the dozens of parents who use our products every day with their children.

Comparative studies conducted in different countries have shown that some fonts are more readable and pleasing to SLD subjects. In general, sans-serif fonts are preferred, but research has also highlighted other features. In Italy, the most widely used fonts are EasyReading® and Biancoenero®, used for their high readability (on paper) and also recently the font TestMe. Non Italian ones worth mentioning are Dyslexie and OpenDyslexic – open source fonts created by Abelardo Gonzales from Spain. We designed EdiTouch so that specific fonts can be used in order to validate their effectiveness also on tablet: these fonts are preinstalled and applied to every app!

Through a mechanism of parental control, the teacher or parent can decide which applications are immediately accessible to the child during the study time, allowing them to limit possible distractions from the planned activity.

Currently, EdiTouch is available in several models (all running a customised version of Android OS).

### EdiTouch Primary School

Processor: Cortex A9 Quad Core 1.60Ghz  
 RAM: 2 GB DDR3  
 Screen: IPS capacitive (1920x1200 px)  
 Connectivity: Wi-Fi b/g/n, Bluetooth 4.0  
 Memory: 16 GB (expandable to GB)  
 Camera: post, 5 MPx (con LED); ant. 2 MPx  
 Ports: 1 mini HDMI, 2 micro USB, 1 earphone  
 Audio: 2 casse interne  
 Battery: 7.600 mAh

### EdiTouch Lower Secondary School

Processor: MediaTek Quad Core 1.2Ghz  
 RAM: 1 GB  
 Connectivity: Wi-Fi, Bluetooth, 3G (only EdiTouch 1025s)  
 Memory: 16 GB (expandable to 64 GB)  
 Camera: post. 5 MPx; ant. 1.3 MPx  
 Audio: dual speaker Dolby DS1  
 Battery 18 h. standby

### EdiTouch High School

Processor: Snapdragon Quad Core 1.6Ghz  
 RAM: 2 GB  
 Screen: IPS capacitive (1920x1080)  
 Connectivity: Wi-Fi, Bluetooth, 4G (HSPA+)  
 Memory: 16 GB (expandable to 64 GB)  
 Camera: post. 8 MPx; ant. 1.6 HD MPx  
 Ports: wireless HDMI (miracast), 1 micro USB  
 Audio: 2 casse Dolby, 1 cuffia 3.5  
 Battery: 9.000 mAh al litio

### Field testing

In the Rome territory where the ASL Roma D (the local public health care organisation) operates, there are no structured programs connecting students affected by SLD, the school environment, teachers and parents that enable the use of 'compensatory' tools such as PCs.

The traditional compensatory tools (a combination of PC and commercial software) can be extremely costly for the family of a SLD-affected child and can amount to considerable sums (ASL estimated the cost at €2K). This problem not only slows down the accessibility to the software for the students, but is a further source of inequality in access to learning and increases social inequality in access to education. Additionally when families individually adopt computers and software there is a very high rejection rate (only 25 per cent of those who buy these products still use of them after six months). For this reason, the ASL Roma D, having become aware of EdiTouch, decided to launch a scientific trial in eight schools in its territory.

In the school years 2012-2014, a multidisciplinary team composed of doctors, nurses, neuropsychiatrists and speech therapists (ASL Roma D) along with biopsychosocial research methodologists (University of L'Aquila) and information technology professionals ([Digitally Different Srl](#)) conducted an 18-month long trial to assess the psycho-educational effectiveness of a tablet specifically designed as a compensatory tool. Among the technological solutions ensuring the use of educational support ([L.170/2010](#); [DM 5669/2011](#)) a tablet which could provide a variety of software in a single technological solution, matches

the criteria of 'competence', 'congruity' and 'contextualisation' implemented in a knowledgeable and all inclusive environment.

For this purpose, about 400 students from eight primary, secondary and high schools in the hinterland of Rome were involved in the trial. The research design and assessment methods were based on a target group 'A' (placed in a facilitated learning environment by EdiTouch tablet) consisting of primary and secondary school children (9 to 16 years of age) with SLD certification in the absence of cognitive impairment and pre-existing psychopathological disorders. The control group B (100 with and 50 without SLD) was chosen for chronological age and socio-economic conditions. The method for assessing the psychological well-being and the skill levels was evaluated in an A:B:A design consisting of a pre-test (at the beginning of the project), a treatment (present-absent) using the tablet equipped with specifically designed and tested software, and a post-test (follow-up 18 months from starting the project). The method-



foto Armand o Rebatto

ology included both individual case-studies and multivariate modes by type of treatment.

Phase 1 of the survey (effective prevention capacity of a 'facilitating' environment versus the secondary discomfort) involved the cross-sectional analysis, by different classes in which the compensatory device was inserted, study styles, the basal psychopathological state after complete diagnosis of SLD, from the third class of the primary school to the second class of high school.

This cross-sectional analysis was performed in a longitudinal study in order to verify the desired change in the psychological well-being as well as in learning, and the increased motivation to study. Everything was compared longitudinally with a control sample that was not as massively exposed as the previous group to compensatory standardised measures.

The research design also allowed us to evaluate the effectiveness of the new instrument (EdiTouch) and to collect specific recommendations from teachers, pupils and parents in support of a more widespread use.

The assessment battery enabled us to observe teaching effectiveness aspects, psychological well-being and skill levels improvement, tested during the whole trial, at the beginning when we provided the compensatory instrument, after six months and at the end of the project (18 months later).

The evaluation followed the action research model, which aimed at activating a process of change through the contribution and the participation of the subjects involved. The longitudinal research design allowed the systematic observation of indi-

vidual and context variables, during the experience, interpreted according to the modelling of risk and protective factors in childhood.

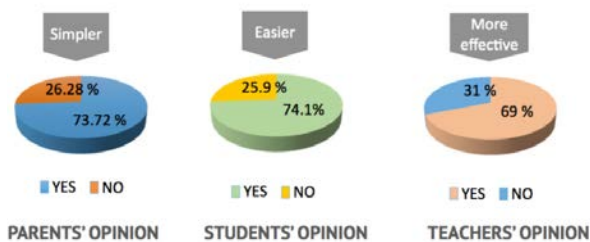
Essentially the planning of a capillary 'computer literacy' program for pupils, parents and teachers (a feature lacking in other similar experiences reported in the literature) was innovative in order to create a facilitating environment at home and at school thanks to a collaborating network (teachers/students/parents).

About half of the students with SLD had previously used compensatory software on a PC. Seventy-two per cent of the group of teachers was aged more than 40 years old.



### Conclusion

Efficacy of studying with this tablet as compared to other compensatory instruments available in the market (Ericsson, Anastasis, LeggiXme, Ballabolka)

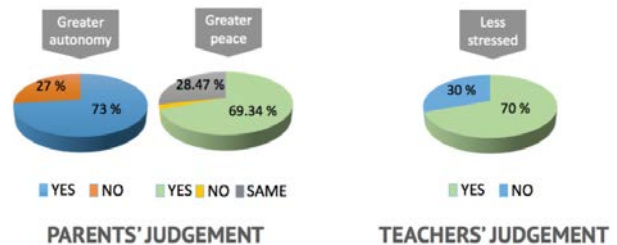


The results obtained in the sample examined indicate that the personalised method of study, centred on the use of the EdiTouch tablet in a knowledgeable environment, favours improved results in a short time in terms of academic performance, higher self-esteem, autonomy and motivation. This encourages us to believe that this improved school

achievement will also be obtained consistently in the future.

From an educational point of view, more than 70% of the subjects in all three categories involved (teachers, students, parents) had no hesitation in declaring the greater effectiveness of this tool compared to other PC compensatory tools available in the market. •

Variation of some psychological elements of SDL students with tablet vs previous year.



# Inclusive EyeGaze Foundations

Created by  Inclusive Technology Ltd

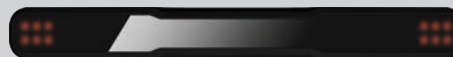


A new affordable Eye Gaze solution for the classroom. All you need to get started with eye gaze access in one package.

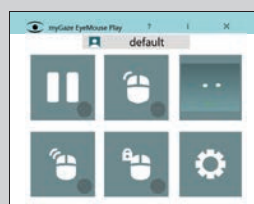
## Features

- High quality at a low cost.
- myGaze® Eye Tracker
  - Works with any assistive software.
  - Easily transported between computers in the home or at school.
- EyeMouse Play Software
  - Unique 3 step setup process takes seconds to set up for students.
  - No training required.
- Attention and Looking
  - 18 carefully graded activities designed to assess and teach early eye gaze skills.
  - Powerful real-time video, heat map and line trace recording and printable reporting.

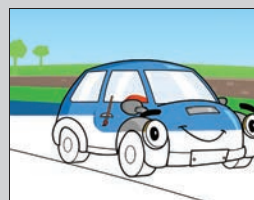
## What's included



myGaze® Eye Tracker



EyeMouse Play Software



Inclusive EyeGaze Attention and Looking Software

[More information](#)

# Special World

for special education teachers, therapists & schools everywhere

---

**Can't wait for our next issue to arrive? Then why not join us on our social media pages and website for more updates**



---

Special World Magazine is published by [Inclusive Technology Ltd](#)