

# Children using Tablet devices at Spastics Society

## Training the children to use the gadget

Firstly a set of 10 Aakash tablets were just given randomly to all the children in different groups and they were asked to use the gadgets and get used to the device. A few apps that were designed like Tap Alpha, Match play and Fruits were uploaded in the tablets and they were just using the apps for a brief period of time during the day.

Some of the observations from the random sessions were:

- Enhanced audio output is very much needed for them to operate it.
- Bigger screen with more colour contrast and better touch screen technology is also required.
- They cannot handle the tablet all by themselves, like choosing the app and deciding which app to play and so on.
- The children needed physical prompts and verbal cues to assist them in navigating the apps in the device.
- Once they start using a particular app then they learn to move from one screen to another on their own without any assistance.
- When given in the class, it is difficult for the instructor to sit with the child and note the responses about how he is using the app. If the child is making repeated errors in choosing some options for the answers, then unless a person sits with the child it is not easy to make a note of it during the session.

Then observations of these sessions were noted and implemented a lot of changes in the visual design and in the operations of the apps.

The apps were re designed with the additional feature of recording the responses of the child with the date and timing of the sessions. This is a very useful feature of the app, for the instructor or for any therapist to make an assessment about the child for that particular concept. And once the weakness is identified, it is easier for the special educator to work in that particular area and take the necessary corrective teaching strategy to overcome that issue.

The apps allows for the constant repetition and reinforcement that the children require to make progress in learning that concept. The apps cannot replace the direct instructor, it is only as good as the teacher using it. It is very important to evaluate the student to match their particular needs with the right app that will facilitate their learning

In the second phase of the study the revised versions of the apps were specifically given to a group of children with cerebral palsy and intellectual disability (mental retardation). The children were allowed to play Tap Alpha, Match play and Fruits on different days.

## Observations recorded during the session:

Each child was given around 20 minutes to play that app in a separate room with an instructor. The duration of the session was also solely dependent upon the attention span of the child.

The child's interest in using the tablet was also not very consistent. Sometimes they were showing keen interest and voluntarily grabbed the tablet and sometimes they were not willing to touch the tablet. The responses for each session were totally erratic and unpredictable.

They would want to play some other game in the tablet or see something else using the tablet and would not even co operate to sit for the session.

But some children showed keen interest and preferences to play a particular app and would insist on using that only. Slowly the physical prompts and verbal cues from the instructor also faded away, since the child became more confident to operate the device and showed at least familiarity with using one app.

Even though the sessions were conducted randomly, the same group of children were using the apps over a period of time and their responses have been recorded and analysed.

This whole study was conducted with an attempt to get some insight about the following issues:

**1) Were the children happy and comfortable using the new gadget?**

During all the sessions, it was observed that the children were very happy and excited to use the gadget. In fact they all showed a lot of curiosity to explore the operations on their own and wanted to use it independently on their own. After a few sessions they learnt how to go to that particular app and how to proceed from one level to another.

**2) Are these apps useful in improving the learning process for children with special needs?**

The children were quite happy to play the same games again and again, and showed interest to go to the next level as fast as possible. So indirectly if they have performed better in each session that itself proves that they have learnt the correct response and would like to move on to the next level of the app.

The children preferred to use the tablets in the classroom, than to use a book to read or write. They were also excited about the touch screen and were very happy to write or scribble in the tablet, than practice with a pen or pencil.

**3) Have these practice sessions of the apps, increased the attention span of the children, when they are using the tablet?**

There was a notable difference in the children's attention span, seen from the time noted in using the apps. They put in the efforts to explore and complete a few screens of responsive reactions to the tasks given in that app. After that they do not want to go to the next level in the same app, but would like to choose some other game. So they want to use the gadget but they do not want to play with the same app or game for longer time.

They want to explore other options and other games in the tablet, so that also keeps them occupied with some task for more than 20 minutes.

**4) Can some of the apps be used as an assessment tool to find out the present level of functioning of the child?**

Each of these apps tries to teach one concept thoroughly and intensely. So if the child has to be assessed on their level of awareness for that concept, then it can be used to see how well they understand that concept. For example, if the instructor needs to find out whether the child can identify the alphabets or distinguish between the capital and small letters, then the Match play is a good app to use and test their awareness.

Hence the apps can be used as an aid for finding out about the present level of functioning and also paves a way to identify the strengths and weaknesses of the child in their learning process.

The apps that the children have been using and playing were:

- 1) Tap Alpha** - This app teaches the sequence, recognition of English alphabets, capital letters and small letters.

- 2) **Match play** - This app teaches the children the difference between capital and small letters and can also be used as an activity to improve their visual discrimination abilities.
- 3) **Fruits** - This app teaches the children to learn the names of the fruits in English and Hindi.
- 4) **Hintrace** - This is an app which facilitates the children to practice, writing the Hindi alphabets "svar" using the direction lines as a guidance.
- 5) **Sequentern** - This app teaches them the concepts of the various geometric shapes and follows the principles of patterns and sequences.
- 6) **QuickDraw** - This app trains the child's mind to understand that parts of a picture put together makes a whole. It is also a good app to train the children with visual closure activities.

Each one of these apps have the unique feature of recording every response of the child as a score card. This will help in analysing the child's performance by the educational instructor. These responses are easier to analyse on a case to case basis, and on the number of sessions played by the user. The total time they played that app for that day also reveals about the attention span of that child.

For example, this is the sample table of a child who has played **Match play**.

Name	Date	Match alphabets and numbers	Total Time	Total Mistakes
TANMAY	07-05-2014 10:19	a-A 1-1 B-d	11 Seconds 1 Second	1
TANMAY	01-05-2014 10:54	a-A	14 Seconds	0
TANMAY	01-05-2014 10:55	a-0,0,c,E,c,A	12 Seconds	5

The above table very clearly shows that the child had made some mistakes in the first few sessions and then improved in their recent session.

This whole study is like a pilot study to give the children the experience of using tablets for educational purpose. The tablet technology has very good potential to help these children in a number of ways, if they are uploaded with appropriate apps that can be used by these children.