# *Playful Learning with Educational Technology: the WendyTD Project*

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## Abstract

*In 2015 the Peter Pan Charity Association and the Institute for Educational Technology of the Italian National Research Council, from within the welcome centre 'The Great House of Peter Pan' (home for temporary domiciling of those needing onco-haematological therapy at the Bambin Gesù pediatric hospital in Rome), launched the WendyTD initiative, which involves several volunteers of the association (the so called "Wendies"), who deal with the playful entertainment of the children in the use of some educational technologies (TD[1]) in playful learning activities. This contribution will illustrate the capabilities of the technologies considered (Bee-Bots, Pro-Bots, Tablets and IWBs) to implement playful learning during the entertainment of young guests in the houses. In addition, the methods and tools used to monitor the activities of the children will be explained. Some first evidence will also be presented, in particular how the use of the proposed playful approach and technology allows the children to reach educational goals in an informal way. The contribution will outline how the initiative will continue in order (a) to consolidate the practices put in place in the first year of activity, (b) to foster the involvement of the over 14 young people, relying on more advanced technologies, stimulating computational thinking through the use of robots, 3D printers, holograms, videogame editors, etc.*

[1] TD stands for *Tecnologie Didattiche*, the Italian translation of Educational Technology

# 1 INTRODUCTION

Every year in Italy the massive phenomenon of paediatric 'health migration' in the oncology area forces hundreds of thousands of children, teens and their parents into long periods of separation from their home in order to have access to therapies of excellence at highly specialised care centres that can offer hope of recovery. The tragedy of the disease is complicated by the new difficulties that young people in care and their families face once they have transferred to the neighborhood of hospitals, first and foremost the need to find temporary housing for the period of treatment.

Several associations, trying to meet the needs of establishing a minimum of everyday family life in these difficult situations, provide hospitality in the proximity of the treatment centres. This is the case of the Rome-based charity association Peter Pan whose mission for 22 years, has precisely been to give back to the small guests the rights denied by the disease, a daily life consisting of play, study, smiles, cheerfulness and an atmosphere of serenity which, for the values it transmits, also contributes to their faster physical and psychological recovery. The energy invested by volunteers in the house, as well as being aimed at animation of the young guests, creates opportunities for them to develop social and educational skills, also exploring innovative approaches and tools normally used in other contexts.

In this paper a project will be described that focused on the use of educational technology to support activities of playful learning, made in a facility that is home to young cancer patients and their families. The following paragraphs will describe the context in which the project was carried out, the manner in which the path was developed will be described in detail and the first results will be analysed. In conclusion of the contribution, some lines of evolution of thought for the future will also be presented.

# 2 CONTEXT

The mission of the Peter Pan association (http://www.peterpanonlus.it) is to create a family atmosphere around the child concerned by the onco-haematological treatment. To achieve this, besides the aspect of the hospitality of its facilities, the association is committed to the implementation of activities aimed at rebuilding of an everyday life that includes moments of leisure and play, study and a serene atmosphere in which the children can express themselves and are nurtured.

With a few exceptions, the entire structure is based on the work of volunteers. Each volunteer is placed in a team with specific tasks, according to the association's needs, but also

taking account of his/her personal characteristics. The energy invested by volunteers in the house, as well as being aimed at animation of the young guests, creates opportunities for the latter to develop social and educational skills.

Each team is distinguished by a "fantastic" name such as *Trilly* (Tinkerbell), *Coccodrilli* (Crocodiles), *Timonieri* (Helmsmen), *Spugne* (Sponges), *Pipistrelli* (Bats) and, in our case, Wendy.

A Wendy is "a volunteer who carries out his/her activities in direct contact with the young guests, he/she plans and creates the recreational activities, brings games and playfulness and creates instructional and educational moments, taking into account the diversity of culture and age as well as the children's energy; he/she leads the play with decision and authority"[2]. The context of Peter Pan is inevitably unpredictable, so every day one has to adapt to different situations, without being able to count on real schedules. Therefore, one decides more or less the activities to be offered to the children at the next meeting, which in some cases may be changed if there are not the right conditions necessary for their implementation.

## 3 PROJECT

In 2015 the Peter Pan Charity and the Institute for Educational Technology of the Italian National Research Council, from within the welcome centre 'The Great House of Peter Pan', launched the WendyTD initiative, which involves several volunteers of the association (the above mentioned "Wendies"), who deal with the playful entertainment of the children in the use of some educational technologies in playful learning activities

The people who took part in the trials, with the exception of the researchers of the Italian National Research Council, worked as volunteers for the charity outside of their professional activities.

*The Wendy and the Educational Technology* project were designed starting from a research-action approach, aimed at investigating which positive effects and which critical points might emerge from the creation of playful learning activities, within an organisation characterised, as already pointed out, by a strong flexibility in programming and unforeseeable environmental factors.

[2] Extract from the guide for Peter Pan volunteers.

The project is based on two key words: *learning* and *play*, so that it is natural that these were entrusted to the Wendies and the volunteers involved in the animation of the activities within the organisation's facilities.

The final beneficiaries of the project were identified as the toddlers and children who are guests of the structure, so the activities involved, depending on the instruments used, were for both the pre-school age groups and those corresponding to kindergarten, and the age groups corresponding to primary and lower secondary level, and to a lesser extent, the higher age groups, corresponding to upper secondary school level.

## 3.1 Theoretical approach of reference

Playful learning (Pasek and Golinkoff, 2009; Plass et al., 2014) is an educational approach which, through free play (i.e. not included in a decidedly didactic scheme), aims to stimulate new learning. In this sense, the playful activity is encouraged and guided in a discreet way, always in the spirit of entertainment and fun.

To understand playful learning better, it may be useful to represent learning activities on a Cartesian axis (Figure 1), setting the extremes based on the degree of structuring of the learning and the role of the child and adult.

On the side of *learning directed by the child*, we find *spontaneous* and *planned learning*. In *spontaneous learning*, directed by the child, the play is free, in that he/she learns because he/she takes part in activities and performs actions that serve to acquire new knowledge, but in a totally incidental way. Going up the Cartesian axis toward *planned learning*, we find *guided play*, in which no precise teaching objective is declared, however the adult tries to guide the child following his/her action, in such way as to point the child toward the learning of some pre-set element.

On the side of *adult-directed learning*, we find the acquisition of skills and competences developed within a *directed play*, but not explicitly envisaged by the latter, and *directed teaching*, that is a game that explicitly envisages acquisition of knowledge among the aims of the game.

The Wendy project and Educational Technology acted in the right-hand area of the Cartesian plane. The idea was to put some technological tools into an unexplored context like that of Peter Pan, monitor the reactions and, if there were the conditions, push the Wendies to guide the participants toward more specific goals. With the continuation of the meetings and the collection of more and more elements, finally, they would put together more structured

activities.

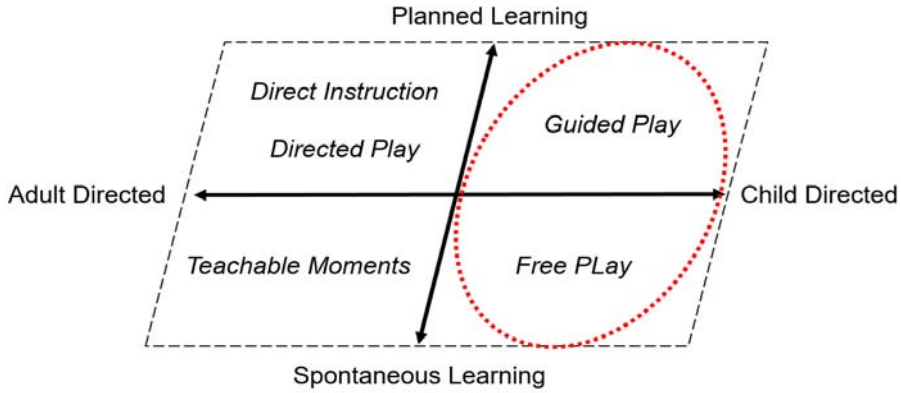


Figure 1 – Dimensions of early learning contexts (Fisher et al., 2009)

## 3.2 Methodological approach

The "educational technology" workshop was structured on the basis of weekly meetings, which usually took place in the late afternoon. Participation at each meeting was open to any guest of the structure who so wished, without the need for any formula of registration or reservation. Therefore, the volunteers did not know the number or age of participants at each meeting until the start of the activities.

### *3.2.1 Proposal of playful learning activities*

The routine that was consolidated during the trial saw the activities begin with reconnaissance by a volunteer within the structures, to test the mood of the children and young people and check their physical conditions, sometimes negatively affected by treatments. Depending on the outcome of the reconnaissance, the volunteers decided on the activities to best channel the energy of the participants.

Having reached a multi-purpose classroom in the building, the volunteers delivered the tools to the participants, guiding them in their use. For added flexibility, the volunteers decided to use all the tools available, rather than specialising only in the use of one of these.

The organisation of the meetings differed from traditional school lessons, as it had a flexible character and could bring together children of different ages. Sometimes they held collective activities focused on only one tool at a time, involving all of the participants, at other times they were different proposals for micro-activities in small groups, working in parallel using different technologies. Furthermore, on some occasions, they could arrange

entire meetings using a single instrument, such as an interactive whiteboard (IWB), from beginning to end of the workshop.

In the first case, it was the volunteers who decided when to switch from one instrument to another, to limit the natural entropy and train the younger guests to respect rules and roles. In the second case, the participants had more autonomy in the choice of instrument to be used and the time to devote to it.

### *3.2.2 Coordination, support and monitoring of activities*

Figure 2 illustrates the online space used to foster the collaboration at a distance between Wendies and ITD-CNR researchers and the coordination of local activities.


Figure 2 – The online work space of the WendyTD-CNR group

There follows a brief description (Table 1):

| | |
|---|---|
| *This online space* | Guide to use of the online space |
| *Wendy's diary* | The project's logbook, in which the Wendies regularly note the activities carried out with the children |
| *Write to Wendy* | Send an email to the Google WendyTD group |
| *All the correspondence* | Visualise all the emails sent to the Google WendyTD group |

| | |
|---|---|
| *Wendy's chest of drawers* | Access the online repository set up by the Wendies, where they can upload (files of various types, scripts of activities, links of interest to the group, etc…) |
| *Bee-Bots, Pro-Bots, IWB, Apps* | Access several "thematic" repositories (looked after by ITD-CNR researchers) which contain a rational collection of tutorials to support familiarisation with the tools and a useful link to programs, software, experiences etc. accessible on the net |
| *Form for observations* | Allows access to the survey questionnaire (drawn up with Google Forms) used by the Wendy to gather all the considerations and impressions of children on the technologies used during an activity in the laboratory. |
| *Results of observations* | Summary sheet of that collected with the form as above |

Table 1 - Descriptions of the different areas of the online space

In the following there are the main activities that typified the collaboration between the Wendies and the ITD-CNR researchers:

- *Asynchronous exchange of operative information* (through the Google Group) aimed at coordination and circulation of proposals, ideas and materials.
- *Periodic video conferences using Skype between volunteers and ITD-CNR researchers*. During the remote meetings, the participants were able to reflect on the activities carried out and discuss problems, even technical, that emerged with regard to the use of the tools. Furthermore, each video conference was an occasion for the Wendies and the ITD-CNR researchers to co-plan the activities that they would carry out at the forthcoming meetings with the children.
- *Meetings in person in the Great House of Peter Pan*. The Agenda of the occasions for in-person discussions was put together according to the urgencies closest to the meetings. If the first meeting can be labelled as an "induction meeting" to the project, the second meeting served to draw up a first balance of the experience and to prepare a conclusive event for diffusion of the results of the activities.
- *Filling in of the survey forms drawn up by the researchers*. These monitoring forms, managed online with the "Forms" tool of Google Drive, and filled in by the Wendies

interviewing the children in a discreet way, allowed the collection of feedback on the proposed tools.

- *Video recordings.* The latter turned out to be very useful for the meta-reflection of the volunteers on their approach to the activities and for monitoring of the project by the ITD-CNR researchers.

## 3.3 Technology used

The technology used was chosen with the awareness that some tools had to be familiar to and known by the children, others had to be new and stimulate curiosity and motivation. In addition, we wanted to create an environment which mostly remained out of the school setting. For these reasons, Bee-Bots and Pro-Bots (Battegazzore, 2015; Goodwin & al, 2013; Komis & Misirli, 2011) were identified as novelties, and tablets and the IWB as familiar.

### *3.3.1 Bee-Bots*

Bee-bots (Figure 3) are robots in the shape of a bee, created for kindergartens and primary schools. These robots can be programmed thanks to simple buttons (four directional arrows and a "GO" button), with which the children can put together simple sequences of commands to make them move (e.g. forward-right-left).

Fig. 3 – Bee-Bot

To move a Bee-bot a pre-set distance (about 15 cm by default) in a specific direction you must exert pressure only on the corresponding arrow.To travel a longer distance in the same direction, you instead need to press on the same button several times. The memory that each Bee-bot has allows you to connect up to 40 consecutive directional commands.

These tools can be used to introduce children to activities with technology thanks to two main features. The first feature concerns the appearance of the Bee-bot that recalls comics, with bright colours, cartoonlike eyes and sound effects that attract children and encourage them to "play". The second feature concerns the immediacy and the versatility of use that engages and satisfies those who handle them (Aiolfi, 2016, Pennazio, 2016).

### *3.3.2 Pro-Bots*

Pro-Bots (Figure 4) are the most advanced version of Bee-Bots, in terms of performance and possibilities for programming. This is a car-shaped robot with a display on the rear window that allows you to view the set of command sequences put in. Another element that differentiates a Pro-bot from a Bee-bot is the ability to store a few simple procedures to be included in command sequences, which allow you to increase the complexity of the actions that the robot will carry out.

Fig. 4 – Pro-Bot

Procedures can be programmed directly on Pro-Bots or by using an emulator software on the PC, checking the "correctness" with a software simulator, and finally transferring the procedures to the Pro-Bot (connecting the Pro-bot to the computer) in order to execute them.

Furthermore, it is possible to trace the programmed path on paper, by inserting a marker pen into the central hole passing through the robot (Sullivan et al. 2013).

### *3.3.3 IWB*

An IWB (Figure 5) is a type of technology that fascinates for its size (you can draw, colour and play on a very large surface area) and that makes it possible for several children or young people to carry out activities together, with team spirit. For example, you can create shared games, involving larger groups of children at the same time united by the desire to reach a solution or to complete any task whatsoever that varies with the type of game chosen.

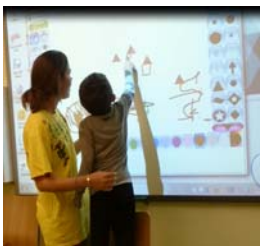

Fig. 5 – IWB

Another possible use of this instrument is the sharing of an activity (for instance using software) with other children who can reproduce it on a tablet, using the same app, such as with TUX PAINT (Betcher & Lee, 2009, Bonaiuti, 2009, Didoni & Di Palma, 2009, Ellerani, 2008, Smarteach Project, 2010, Zambotti, 2010).

### *3.3.4 Tablets*


Fig. 6 - Tablet

Tablets (Figure 6) are now part of everyday life and children are really attracted by them. Parents often use them as entertainment opportunities for their children, without worrying too much about the content that they offer (Dini & Ferlino, accepted, Kearney et al. 2012.)

Indeed, through the use of tablets endless educational possibilities are opened: you can find applications for all ages and for all needs. The choice must necessarily be based on some evaluation criteria (such as educational impact, quality of interaction and motivational level) (Lee & Cherner, 2015, Powell, 2014, Walker, 2010).

The most effective activities created in the form of apps are those that:

- have well defined and circumscribed contents;
- have attractive graphics and design;
- encourage visual or audio communication (rather than written);
- exploit the potential of innovation in human-machine interaction offered by touch screens;
- take into account the small size of the screen;
- assign adequate size to sensitive areas (e.g. active areas that are too small will probably not be perceived and therefore not explored).

Use of a tablet is mainly individual, but it can also be shared among children using the same app, challenging each other to reach the same goal.

# 4 FIRST RESULTS

Analysis of the activities of the first year of trials have allowed us to gather elements that sustain the effectiveness of the project in its three main aspects: approach, method and technology used.

## 4.1 Effectiveness of the approach

Playful learning supported by educational technology proved to be an effective approach in a context like that of Peter Pan, as it allowed the occurrence of three important dynamics.

The first dynamic concerns the involvement and motivation of the young guests ot the structure, who were attracted by the use of technological tools, both those already familiar to

them and those to be discovered, and they developed social and transversal skills stimulated by the playful aspect of the proposed activities.

The second dynamic relates to the nature of the proposals which, being prompt and self-subsistent micro-activities, allowed us to give an educational value to each meeting in a context which prevents one from planning long-term activities or as part of a programme of several phases in sequence (the participation of each child is always conditioned by the therapies and their duration).

The third dynamic concerns the unifying nature of technology. Indeed, with the exception of particular uses of tablets, all the tools fostered the relationship between the participants during the activities, promoting interaction among peers and among the guests of different ages, aimed at sharing of their knowledge, resolution of problems or peer-tutoring.

## 4.2 Effectiveness of the method

Because of the high unpredictability of the context and the high number of variables that can affect the activities, the key element that enabled the success of the educational technology workshop was the human component. Specifically, the sensitivity and experience with which the volunteers animated each meeting encouraged the involvement of participants and promoted the desired dynamics. However, these qualities found significant support in the planning of the activities, without which it would have been difficult to use technology as a means to achieve the goals set.

In addition, the choice made by the volunteers to give the participants more or less autonomy in the use of technology depending on the activity set allowed the young guests to feel a sense of freedom during the workshops, encouraging their attendance.

Finally, the meetings in person (very diluted over time) and continuous remote contact between the volunteers and ITD-CNR researchers turned out to be a success factor because the constant dialogue between the two parties allowed us to bring out the critical points that arose and to solve them by thinking together, and ultimately deciding how to proceed.

## 4.3 Effectiveness of the technology used

The choice of tools, the activities related to them and how to use them turned out to be appropriate to the particular context in which these volunteers operate. The peculiarities of each technology were shown to meet the needs of recipients of the activities, bringing out

evidence about their effectiveness. In the following the impact that each proposed tool had will be described.

### *4.3.1 Bee-Bots*

Bee-Bots proved to be suitable tools to develop the potential of children in a playful environment, allowing them to achieve increasingly complex goals through ever more complex, structured and creative activities. For example, many children started by programming the robots to perform simple straight lines and included, in subsequent meetings, new elements such as rotations. The use of Bee-Bots developed useful skills to avoid obstacles, to reach final destinations by touching necessary intermediate points and finally, the participants also learned to perform complex choreographies with other children.

In general, we can point out how the Bee-Bots were exploited insisting on two typical modes of use of these tools: the playful nature of the activities and problem solving. From the experience, however, there emerge other more specific factors that contributed to the success of this proposal.

The cute and playful shape of these robots is one of the major factors of attraction exerted on younger children and also serves to introduce them to other activities with less familiar technology.

Another factor that explains their success seems to be the ease of use and immediacy of the correspondence between the command given by the child and the action carried out by the robot.

A third important element of the success of the activities with the Bee-Bots is the correspondence between the elements proposed in the activities and elements familiar to children: the bee, flowers, honey, etc. The proposed activities were in fact designed following a constructivist approach, which sees the inclusion of new learning and new skills to be developed on the structure of knowledge already possessed.

What is more, it is very interesting to note how in the planning and implementation of cooperative/ collaborative activities it is possible to find some elements shared with collaborative learning strategies borrowed from the teaching/education environment. For example, it was found that, in the planning of pair or group activities, the volunteers took into account an element such as the positive interdependence among children to achieve the proposed objectives.

Finally, from the volunteers' observations there emerged the development of children's:

- skills linked to arithmetic;

- social skills related to interaction with peers;
- basic programming skills.

The Bee-Bots had great success among the young guests in Peter Pan taking on the role of aggregating and playful objects.

### *4.3.2 Pro-Bots*

From retrospective analysis of the trials the preliminary hypothesis is confirmed that Pro-Bots are indicated for an age range that starts at least from the last year of primary school. The elements of complexity faced by children during the programming of the robot, either via the controls located on the toy car, or by means of the simulation software indeed required possession of certain skills and knowledge unlikely to be present in younger children.

From the volunteers' observations and viewing of the video recordings, it emerged how these tools helped the children to have engaging and immersive experiences.

The first observation that emerges from the documentary material is the ease of use of the virtual emulation software for the cars. Despite some initial difficulties, the computer-made scripts were transferred to the robots without any major hurdles.

The second point that emerged from the documentation relates to the type of exercises proposed to the children. In relation to their age, in fact, the volunteers immediately proposed the creation of geometrical figures, to be drawn by the robots equipped with a pen that marked the path covered with ink. In this case, the errors and the (minimum) hurdles faced by the children concerned the geometric theory to apply and not the programming of the machine itself. It should also be noted how the same procedure of trial and error allowed the children to acquire some geometric knowledge (such as measurement of the angles of a triangle).

The third point that emerged concerns the possibility of using this tool in a collaborative perspective of peer-tutoring. As could be seen in the videos, indeed, in all the meetings where Pro-Bots were used there was the creation of collaborative activities in pairs or in small groups of three. The composition of the participants was varied by age. The two boys who used the Pro-Bots most often are in their last year of primary school and the second year of lower secondary school. Some meetings were also attended by children going to upper secondary school, university and lower secondary school (the sister of a guest in the structure). In conclusion, therefore, it is possible to state that the Pro-Bots were a useful tool for socialisation and for the involvement of kids in a pre-teenager/adolescent age group.

### *4.3.3 Interactive Whiteboards (IWBs)*

Using an IWB (in an interactive and collaborative way) the boys and girls were able to propose, negotiate and share their ideas, concerns and solutions, but also personal skills, knowledge and experience, taking full advantage from the individual differences between them.

Children considered the IWB a large tablet, on which to act through touch control, even though it has less sensitivity as movements are less fluid.

Among the positive effects we find motivation, participation and co-construction of knowledge.

It also showed that the appropriate choice of the applications to use is critical to the success of the activities. Priority should certainly be given to applications that require: problem solving, comparison among peers and discussion.

### *4.3.4 Tablets*

One of the factors that stimulates children to use tablets in the workshop is previous knowledge of the instrument, proposed by their parents, often as a way to pass the time with 'filler' or leisure activities, rather than tied to learning.

Another stimulating factor concerned the mode of interaction, characterised by the immediacy of the gesture on objects proposed in a video, which does not require the mediation of input devices. Although made on a screen, gestures, are indeed much more intuitive and closer to reality than what was and is allowed by the use of menus and windows with mouse and keyboard.

Finally, since the tool allows discreet application without exposing oneself to others (unlike the IWB, which can be seen by everyone), the tablet also allowed shyer children and less inclined to attend the workshops to get involved in some activities. The risk of isolation while using a tablet was avoided thanks to the presence and mediation of an adult, and the planning of structured activities.

These factors meant that volunteers would propose tablets in the workshops as one of the first tools (like the Bee-Bots) to introduce children to technology.

Experience has shown that these factors also made it possible to propose the use of tablets at the end of the workshops, to arrange a time in which one reduced the level of activation and every child concentrated on an individual planned activity.

In addition, there was found to be a different use of apps depending on whether the children explored them individually and independently (more superficial) or if they were guided/accompanied by a volunteer (more in-depth). By monitoring the use of the tablets it was shown that the apps initially chosen by the researchers (appropriate to the age and with stated goals), were joined by others, chosen by the volunteers, following the criteria set by the researchers and even more proposed by children who as popularity elements suggested: contents (colours, sounds, characters); interaction modes and feedback supplied.

## 5 CONCLUSIONS AND FUTURE PROSPECTS

The first year of experimentation, as can be seen from the previous paragraphs, has brought significant results. The outcome of the experience shows how the positive aspects of the trials touched different levels.

Firstly, the volunteers of the association involved in the project expressed satisfaction with respect to the experience they had. Secondly, the participation of the young guests of the Peter Pan houses at the workshops on educational technology was very high and continuous. It is reasonable to think that the tools and activities proposed met the needs of the context.

The Bee-Bots were intuitive and attractive. The activities done with the bee-shaped robots involved the young guests, created cooperative, problem solving dynamics and introduced the basic principles related to programming.

The Pro-Bots were very stimulating tools for young children in the pre-adolescent age group who, thanks to this technology, came into contact with some more specific elements of programming languages, although remaining at an “introductory” level. During the activities there were also numerous episodes of collaborative work and peer-tutoring.

The IWB was found to be a useful tool for group activities and collective construction of knowledge. While having to deal with some technical difficulties, and some limits of the instrument, the Wendies and the association's guests were able to appreciate the touch functionality of the IWB and the size of its screen, which allowed more children to work simultaneously.

Lastly, tablets proved to be ergonomic, eye-catching and appealing tools for all age groups.

Thanks to the overall positive outcome of the experience, the Peter Pan Association and the ITD-CNR decided to continue investing energy on the workshop dedicated to technology, further developing activities using the tools already used and experimenting with new ones.

For example, a proposal that emerged concerning the Bee-Bots and Pro-Bots was that of setting up shows with cardboard cut-outs to be created with the children and installed on each robot, programming the movements of the latter to animate the characters.

A second proposal involved the hand-made creation of objects suitable to project holograms, whose animations are contained in Apps available for tablets.

Other proposals that have emerged regard the use of audio-video editing software for use with both tablets and computers connected to the IWB. Furthermore, with the same media it would be possible to access free online platforms, through which the older guests of the association could interact with simulations on scientific subjects. On this point, the involvement of the older guest (14-20 years) revealed a critical point that emerged during the first year of the project. That is why one of the lines of evolution of the WendyTD project will cover precisely their involvement in more complex activities such as coding, using platforms such Scratch and App Inventor.

Another proposal designed for adolescents, concerns the integration of social practices and tools, such as Telegram, Facebook and Twitter, to develop the debate around the films shown periodically by the cinema forum organised on the association's premises.

Finally, a further line of development of the WendyTD project concerns the involvement of the FabLab in the capital for the creation of workshops that integrate manual activities with technology. In any case, always with the spirit of playful learning, trying to offer young guests of the Great House of Peter Pan the opportunity to spend some leisure time, able to distract them from the difficult situation they are going through because of the disease. At the same time leverage those moments to enable the young guests to learn new things in a real context of informal learning.



## Acknowledgements

Our thanks go to all the members of the Wendy group for having performed the activities with passion and for having passed on to the children the curiosity necessary to play with technologies.

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