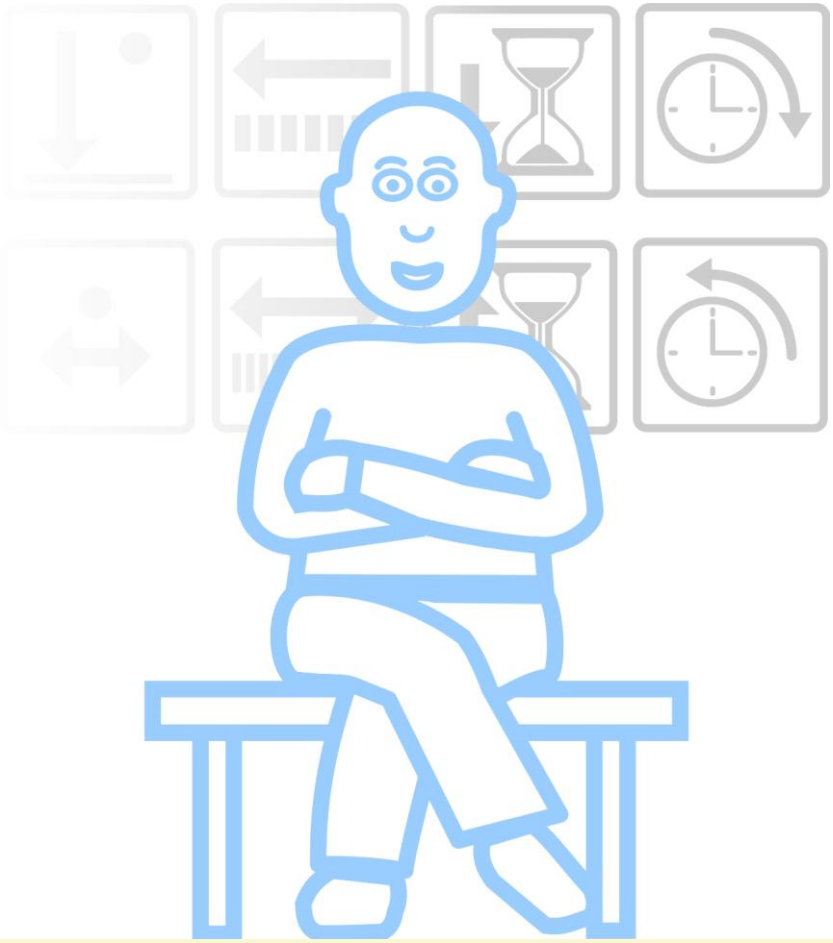
TIC-TAC

BETA

Helping to understand time



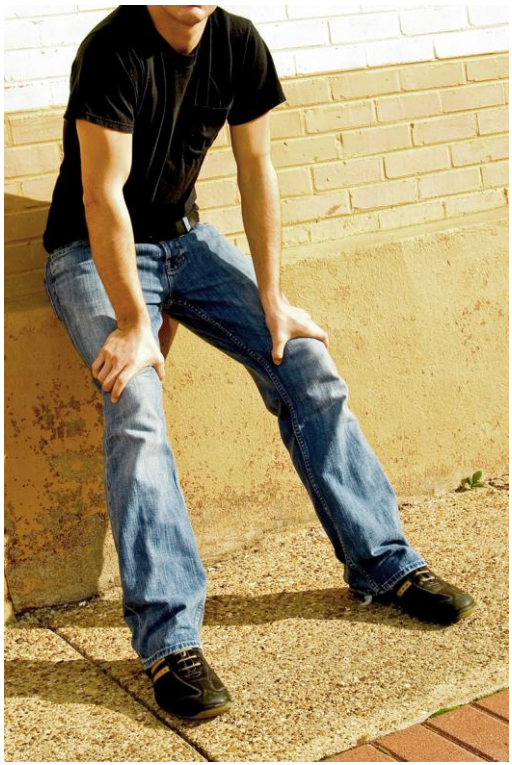
TIC-TAC BETA

Helping to understand time

Pedagogical guide for use by persons with autism and/or intellectual disability

Index

Introduction



TIC-TAC is a software application which has been designed to aid the understanding and management of the concept of time in people with autism and/or intellectual disability, who may have related perceptive and/or sensorial problems. It consists of an alternative system for representing time, which has been devised for use:

- in situations where waiting is required
- to indicate the amount of leisure time available
- to indicate the time available to complete a specific task
- in situations which may result in sensorial overload
- in other situations where it may be considered useful

This short guide aims to provide advice for parents, family or professionals who are close to the person with autism and/or intellectual disability who requires support in order to understand and manage time and for whom TIC-TAC is to be used.

Who TIC-TAC is for

The TIC-TAC tool has been created for use by people with autism spectrum disorders and/or intellectual disability, who may present perceptive and/or sensory problems.

Autism Spectrum Disorders

Autism Spectrum Disorders (ASD) is a relatively recent term used to describe people with a series of characteristics in common. These characteristics are known as the "triad of impairments" [1]. These people are affected in their ability to [2]:

a. Understand and use verbal and non-verbal communication
b. Interpret social behaviour, affecting their ability to relate to children and adults.
c. Think and behave in a flexible manner, for example, to adapt their behaviour to specific situations.

People with Autism Spectrum Disorders can be extremely different in terms of their abilities and their strong and weak points. Asperger's Syndrome, High-Functioning Autism, Classic Autism and Kanner's Syndrome are considered to be sub-groups of Autism Spectrum Disorders [2]. The terms ASD and PDD (Pervasive Developmental Disorders) are currently used interchangeably.

Children with a wide range of abilities may have an Autism Spectrum Disorder, and this may occur in conjunction with other disorders (for example, sensory disability, intellectual disabilities, Down's Syndrome, ADHD - Attention Deficit Hyperactivity Disorder –, as set out by the DSM-5 workgroup, or language difficulties).

Sensory problems in autism

There is evidence that, in some cases of autism at least, the perception of sound, light, smell, and taste may be different, which affects responses to these stimuli in everyday life.

Having a haircut, brushing teeth, hearing the hubbub of a public place… these are examples of potentially problematic situations for people with autism [3].

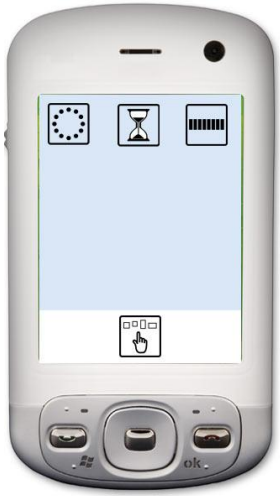
There are other people without autism who may find it difficult to use the conventional means of representing time, such as those with intellectual disability or visual or hearing impairments, or indeed with any combination of these conditions.

Intellectual Disability

"Intellectual disability" [1] refers to developmental difficulties causing cognitive disorders and affecting overall intellectual capacity and adaptive behaviour [4]. Adaptive behaviour is understood to be the set conceptual, social and practical skills which we learn in order to live our daily lives correctly. Limitations in these skills affect both daily life and the ability to adapt to changes and demands around us [4]. This disability appears before 18 years of age [4].

In more severe cases, the intellectually disabled can have serious difficulty in understanding conventional timepieces and can therefore benefit from using the TIC-TAC tool.

Understanding the concept of time



How long have I got to finish this task? How long can I keep on doing this thing I like so much? How long until someone comes to collect me? These are questions which everyone asks themselves regularly – and the answers can only be provided by timepieces: watches, clocks, computer clocks, mobile phone clocks… all these share a series of codes which are commonly accepted and understood by most people.

---

[1] …own as 'mental retardation', now considered a pejorative term.

However, many people with autism and/or intellectual disability have not learnt these codes (for example, numbers or how the hands work) and therefore suffer continuously from a lack of predictability, unable to know how long they can/have to keep on doing something, or how long it is until a visitor arrives. When somebody says to them "we can go in three quarters of an hour", they often don't realise the anguish they may unwittingly be causing to a person with autism.

"People with autism have difficulty in "going beyond the literal". So, how can they understand the concept of "invisible time"? They have serious and understandable issues with time which cannot solely be put down to a low level of development." Theo Peeters [5]

Time is invisible, and we need to find ways of making it, if not visible, tangible in some way. Alternative ways of representing time are needed to make it easier to understand.

"The confusion caused by not being able to understand the world around me is the cause of all my fear. The fear then makes me need to disconnect. Anything that helps to reduce the confusion relieves the fear and ultimately reduces the isolation and desperation, making life a bit more bearable. If other people could feel what autism is like just for a few moments, then they would know how to help." Therese Joliffe et al [6]

Many people with what is known as "high-functioning" autism have transmitted to the rest of us the huge difficulties they find with managing time. If this is true for those people who have managed to develop their skills to the utmost, we must conclude that autistic people with a lower level of development must also suffer from this lack of understanding of time and the conventional codes for representing it. It is possible that the reason behind the "behavioural problems" which these people sometimes present may be an inability to understand how long they need to wait, or how long until someone comes to collect them or until their next activity will start.

Managing time

When you do not understand time it is difficult learnt to manage it. On one hand, it is difficult to expect it to be manageable on a mental level. If someone does not understand the concept of time it is not easy, for example, to calculate how long they need to wait until

someone comes to collect them depending on the day of the week or other factors which they do not understand and cannot control. Nor is it easy to calculate how fast they need to work in order to have time to complete a task before moving on to the next activity.

On the other hand, and at a different level, understandable difficulties also arise in terms of self-control relating to the inability to comprehend time: controlling mood when knowing they have to wait for something. If somebody doesn't understand time, is it not easy to try to remain calm while waiting, as they do not know how long this wait will last. If someone doesn't understand time, it is logical that having to wait may make them agitated. Given all the above, learning to manage time should also be a target in theses cases.

The Tic-Tac Tool

TIC-TAC consists of a series of support mechanisms in order to make time visible, audible and tangible for people with autism and/or intellectual and/or sensory disability. It makes it possible to visualise the duration and passing of time in different sensory formats (visual and audible), and this representation is accompanied with pictograms or images to identify the activity underway or a period of waiting. The TIC-TAC tool has been devised to be used for waiting periods, free time, working and at times of sensory overload.

In this guide we use the term "user" to refer to the person with special needs for whom the application is intended. Similarly, the term "tutor" refers to the professionals, family members or friends who undertake the role of preparing the applications for use by the person who requires them.

An experimental study was completed prior to publishing this guide, involving three autistic and intellectually disabled adults who showed problem behaviour when having to wait and difficulty in understanding the concept of time [7]. TIC-TAC was introduced only in situations where they were required to wait and not in other work situations, free time or moments of sensory overload, which will be carried out at a later stage. After three months' regular use of TIC-TAC there was a significant reduction in signs of anxiety such as stereotypes, withdrawal or wandering off. The participants in the study also showed signs of understanding time, by repeatedly looking at the progress of the timers and understanding that they had to wait until the allocated time was over, getting up and starting their next activity just when this period was up. They also seemed more relaxed and in control during these periods of waiting. Although they learnt how the timers worked and the desired results were obtained in the situations in question, these results did not spread immediately to other situations, meaning that each situation needed to be worked on separately.

Situations for using TIC-TAC

The following table shows example of situations in which TIC-TAC may be used:

Waiting periods

- Before going out for a walk or starting an activity
- During a walk or another activity, when meeting someone along the way, for interruptions, or at a traffic light.
- Waiting for someone to arrive to collect them
- Waiting for a train to arrive at its destination
- Waiting for the bathroom or sitting on the lavatory
- Waiting for someone to come and help with an activity which has not yet been learnt to do alone (making the bed, getting dressed…)
- Waiting rooms (doctor, dentist, hairdresser…)

Leisure time

Learning how long they can:

- Play on the swings or the see-saw
- Play in the swimming pool, spa or water park
- Walk, ride in a car or on the bus
- Stay at someone's house (e.g. grandparents)
- Watch television, watch favourite films or cartoons
- Listen to the radio, listen to favourite bands
- Do jigsaws or play with wooden blocks
- Talk about something which the person finds very interesting but which other people may find repetitive or obsessive

Times of sensory overload

Knowing how long they have to wait until:

- An uncomfortable situation is finished (noise, at the dentist, having a blood test, having a haircut, washing hair, etc.)
- Leaving the bar/supermarket because the hubbub is unbearable
- Someone stops talking

Work situations

- Educational activities specifically designed for teaching the concept of time (see "Pedagogical recommendations")
- Doing up buttons (Personal Autonomy)
- Getting dressed (Personal Autonomy)
- Workshop tasks (Work)
- Working in a storeroom carrying boxes (Work)

Where considered useful, TIC-TAC can also be used in other contexts. For example, for sports activities, it can be used to indicate the time available for running round an athletics track and thus learning to run faster in order get round in time, teaching the concept of speed.

The teacher, tutor or family of the person with autism and/or intellectual disability can create as many timers as they wish, customising them for the different situations in which they are to be used:

What can be customised on each timer?

	Description and options
Launch icon and sound	It is possible to customise the way in which the user launches the timers, specifying the icon or image which must be pressed and the sound which will be heard when doing so.
Type of timer	In visual mode, you can specify the type of timer to be used (bar, circular or sand) and also the colours used, whether they decrease or increase, and the direction in which they move. You can also specify the pictogram or photograph used for the timer. 

In order to adapt the timer as far as possible to the preferences of each person and situation, using the "TIC-TAC Tutor" application included with the software, the following aspects and parameters can be adjusted:

Timer duration	The duration of each timer must be specified. Also, given that conventional units of time (hours, minutes, and seconds) may not necessarily be appropriate, the interval at which the timer moves can also be adjusted (for the movement to be clearly visible). For example, you can make the timer bar reduce in size every three 3 seconds, or the number of seconds desired.
Screen and device used	In addition to a mobile telephone, any computer (with any type of screen) can be used for the timers (provided it runs Windows). You can also decide whether the timer is shown vertically or horizontally.

Self-control and flexibility options	In the world in which we live, it is always possible that the time required to wait may change due to unforeseen circumstances. For example, the person who is coming to collect you may be held up in traffic and therefore take longer than expected, or perhaps arrive earlier then expected if there is less traffic than usual. For these cases, the application offers the possibility of bringing forward/delaying the end of the waiting period using the "bring forward" or "delay" buttons. The changes made by these buttons can be customised. If they are to be accessible to the user, you should consider the important risk of him/her thinking that time can be speeded up or slowed down at will. There are a number of pictograms which can be used to represent this function for each type of timer. e.g.: 

It is advisable to read the "Tutor's Guide" carefully, which offers more technical details as to how these buttons work.

Pedagogical Recommendations

Despite the great help which this tool can provide, teaching the concept of time is far from trivial. It is necessary to bear in mind different aspects and complete the task in as structured a fashion as possible.

Process of introducing the timers

As a guideline, we suggest the following process for introducing the timer into the user's daily life.

1 Identifying situations and people.

A list should be drawn up everyday situations in which the timers are considered to be of greatest use, also specifying who will be responsible for providing the user with a timer.

This list will include the following sections, at minimum:

- Preparatory teaching situations (see next section)
- Waiting periods
- Sensory overload situations
- Leisure time
- Work situations

2 Plan for introducing the timers.

It is advisable to draw up this plan together with all the people who are to be involved in the process (Person Centred Planning [8]), including the user where possible. The idea is to reach an agreement on which timers and screens will be appropriate for which situations, and the indications to be given to the user when the timer is presented. It is also important to agree on a schedule for introducing the timers and that all those involved adhere to this schedule.

Where the necessary resources are available, it is highly recommended to establish a "baseline" period before introducing the timers. For example, a record can be made of the signs of lack of understanding the concept of time, behavioural problems or mood swings shown by the future user over the course of a month, in each of the situations in which the timers are due to be used (waiting, sensory overload, leisure and work). This will mean that after several weeks or months after the timers have been introduced the record can be repeated in order to make an objective assessment of the impact of their use on the user's daily life. The template included at the end of this guide can be used for this purpose.

3 Creation and distribution of timers.

The next step is to install the timers on the computers or mobile telephones which the user will be using in the situations in question. It is necessary to create and configure each timer using the "TIC-TAC Tutor" application, specifying the options indicated in the section on "What can be customised for each timer?"

4 Introducing the timers to daily life.

Following the established schedule, the timers will be introduced to different situations, with the necessary human support. It is important to consolidate each situation in which a timer is to be introduced one by one, and therefore not introduce them to all situations at the same time.

If possible, it is helpful to appoint a coordinator for completing the plan, and for this person to carry out full monitoring of the established targets, as well as any appropriate records. This can be done using the templates provided at the end of this guide, or other alternative templates which may be considered more suitable. Regular meetings can also be held in order to adapt the objectives and report on the progress of the introduction process.

Further recommendations

Preliminary and parallel educational support

It is important to use TIC-TAC in the different situations (waiting, work…) which have been identified during the preparation of the introduction process. This will allow the use of the timers to be generalised and extended to different contexts and situations. However, in the days prior to introducing the timers and also while they are in use, it is advisable to provide additional educational support to facilitate the process and offer more reference points for the user with autism and/or intellectual disability.

In order to do this, and by way of example, within the educational setting in place for the user (either child or adult), scaled-down waiting situations may be programmed prior to activities which are highly motivating for that person. For example, before starting favourite activities (listening to music, watching TV, having a favourite drink, etc.). The child or adult would have access to the TIC-TAC timers for the first time in these "artificial" situations.

On these first occasions, it is also advisable to set the timers to a very short duration, in order to ensure that the user can make the cause-effect connection between the "end of the timer" and "moving on to the desired activity". Another advantage of working in this way is that the user may also observe how the timer moves, as with timers of a longer duration, more time goes by between each movement of the timer. The duration of the timers can then be increased gradually. Some users may require a small pause after the end of the timer in order to process what has happened and understand the transition to the next activity. Complementary material such as kitchen timers or conventional egg timers may be of use during this process.

Sometimes waiting situations are not planned and occur unexpectedly, such as meeting someone while out for a walk and stopping to talk for a time which was also unexpected. Given that *a priori* it is impossible to plan these unexpected meetings, it is advisable to simulate such situations with the help of friends or family. For example, you can explain the process to a friend of the family telling them that on a certain day and time you will meet them walking along a certain street, and ask them to cross paths with us, thus giving the opportunity to use the timer in this "casual" or "unpredictable" way for the first time – but having previously told the user that

this meeting may happen. This type of simulation, if carried out enough times, can help the user to be more flexible.

Importance of the first times TIC-TAC is used

The recommendations given above are intended to make the child or adult's experience with TIC-TAC a positive one from the very beginning. The introduction of a timer should not be improvised. The starting point will usually be a lack of understanding of the situation. If a strange element is added to these people's lives without warning, this can lead to increased anxiety and a subsequent worsening of the problems associated to the situation in question. However, if both the person and the situation are well prepared, better results can be obtained.

In the experimental study completed prior to the release of this tool, a mutual learning process was used in which both teachers and the autistic children and adults have gone through their first experiences with TIC-TAC together. During this study, it was helpful for the autistic children and adults to have the company of people who they know well (and who are accepted by these people). This companionship may take very different forms depending on each person and situation. Sometimes, it may be helpful for teachers (or family members) to use vocabulary which the child has already learnt ("wait", "sit down", etc.) while they are presenting and looking at the timer. On other occasions it may be necessary to use movement, walking alongside a child who is more restless and doesn't like sitting down. Sometimes it may be enough just to watch the timer together.

A framework for use in conjunction with other support mechanisms

The correct understanding of time is not limited to specific situations, or the understanding of analogical timers such as TIC-TAC. The understanding of time should help to find the answer to questions such as "What will I be doing today?"; "How long until the weekend?"; "When's my birthday?", which are not provided by these timers. In order to do this it is helpful to use strategies for structuring settings and time which aid the understanding of wider timescales by the autistic user. The TEACCH [9] Programme is a good example of how to structure physical spaces, schedules and timetables to encourage this understanding.

Computer or mobile telephone?

The size of a mobile telephone screen may be too small for the first times the autistic and/or intellectually disabled user encounters this application. For this reason it is advisable, at first to present the timers on a computer screen or using a projector, or on portable devices with a reasonable sized screen such as Tablet PC's (with 12" touch screens), and then move the timers to smaller devices such as UMPCs (7" – 8" screens) or mobile telephones (just 4" or 5" screens).

Whatever the device used, it is important to place it within the user's visual scope. It is possible that, in some cases, the timer absorbs all the user's attention, which may distract him/her from completing the activity underway at that time. In these cases, it is advisable not to place it directly in view, but behind or to one side of the user so that he/she can turn to consult the timer, but focus on the activity in hand for the rest of the time.

Energy saving and "screensavers"

In the experimental study completed to test this tool for the first time, a frequent technical issue was forgetting to deactivate the "energy saving" options on the computer or mobile telephone in use. Most systems on which TIC-TAC operates have this function which allows them to be used for longer and avoid unnecessary use of energy, as they switch off or deactivate automatically after a certain period of time. However, this supposed "positive" option for computers and telephones becomes a negative point when using TIC-TAC. If this option is not cancelled, the timer will not be visible until a key or the screen is touched again, and this can be difficult for TIC-TAC users to understand and operate.

How to choose the correct timer

Firstly you should choose the correct timer based on the user's needs, choosing from bar timers, circular timers or sand timers. It seems to be appropriate to use different types of timers for different situations or lengths of time. For example, bar timers can be used for waiting, circular timers for leisure time and sand timers for work

situations. Another option is to use different background colours for the timer icon for each type of situation.

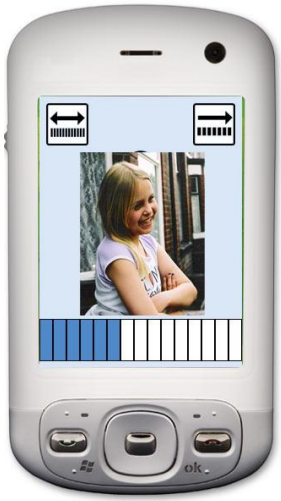
The type of timer or colour can also be used to differentiate the scale of the waiting period. For example, sand timers (or the colour green) can be used for durations of over an hour, and bar timers (or the colour red) can be used for shorter periods. This is done by choosing a specific background colour for the timer to be launched, and this colour will then become the background colour for the timer screen.

Using this type of strategy, the user can be prepared to wait for a longer or shorter period of time depending on the timer presented. In principle, any available combination can work, provided that it is used consistently in order to avoid confusion. Should the child or adult attend a centre or service where others also use the timers, it is important to agree on a common strategy for all users. Sometimes it may be useful to use the timers for groups, for example using a VGA projector showing the timer in a large format against a wall, or on a touch screen, meaning that several people can see it at the same time.

How to choose the image to be used with the timer?

In addition to the timers themselves, TIC-TAC offers a set of pictograms which may be useful for including in waiting situations. You will need to decide whether to use photographs or pictograms. Both formats have their pros and cons.

Photographs have the advantage of providing the maximum possible customisation of the timer for the user, for example by placing a photo of the user with his/her arms crossed to illustrate waiting. The disadvantages are the need to have an appropriate photograph and above all, the high probability of the user focussing on irrelevant details in order to identify the photograph. For example, he/she may concentrate on the clothes worn, or the door handle in the background, rather than the most important detail: the folded arms.



Pictograms, meanwhile, are a representative format which most autistic and/or intellectually disabled users can learn to use. Pictograms are a more stable tool on the long term. For example a photograph of a six year old child with his arms crossed will no longer be of use when that child is twelve or twenty. However, a pictogram can be used forever. TIC-

TAC offers a set of pictograms for this purpose, covering the most common situations and activities.

Instead of using pictograms or photographs, Some people with autism and/or intellectual disability interpret information through objects: car keys to indicate going on a trip somewhere, his/her coat to indicate going on a walk, or a plate to indicate it is time to eat [10]. In these cases it may be preferable to use the timers without any illustrative image, simply placing them next to the objects which the user recognised and uses to identify an activity. The application for preparing the timers, called "TIC-TAC Tutor", offers this possibility. A valid alternative may also be to use conventional egg timers for this purpose, leaving the introduction of TIC-TAC for a later date.

- **Autonomy in using the timers**

It is desirable for the person with autism and/or intellectual disability to be the one to handle the timers by his/her self, although in the early stages it may be necessary and more appropriate for the teach to handle them. The user can then learn how to launch the timers alone and use them in situations where he/she realises that they may be needed.

Encouraging choice

Once the timers have been created, they can be accessed via a choice panel, where the different available timers will be found alongside the chosen pictogram.

We are aware that many people with autism and/or intellectual disability have received no educational support for learning how to choose, and that the situation of choice can therefore be new and confusing. It is important that programmes for favouring self-determination are used in parallel in order to make independent use of the TIC-TAC timers a feasible alternative, although these considerations fall outside the scope of this guide.

As regards these timers, it is useful for the tutor to provide guidance when independent use is beginning, helping the user to ask appropriate questions ("What are we waiting for?", "What is happening?") in order to choose the most appropriate timer.

Encouraging Self-control

Insofar as the TIC-TAC timers can make the user's life more predictable in stressful situations, they can act as a significant help for encouraging self-control.

In addition to choosing which timers is appropriate for which situations, users can prepare themselves mentally for the changes alerted by the timers, as they see how much time remains. For example: "I know when this bar timer finishes (and I can see it moving), it means we are leaving".

During the training sessions for using the timers, the teacher or tutor can show the user relaxation techniques to use while waiting. These might be breathing exercises which help users to relax, accompanied by verbal indications and physical gestures such as "you need to wait" or "let's relax".

Consulting the time

If the child or adult manages to wait until the timer finishes in waiting situations, this means significant progress has been made towards understanding the concept of time. If he/she manages to wait in situations of sensory overload, then progress is being made in terms of self-control. In both types of situations, the timer may become the only focus of the child or adult's attention. However, in leisure and work situations, he/she should ideally be capable of completing another task and turning attention away from that task for just a moment in order to check how much time is left.

The difficulties encountered in people with autism to divide and alternate their attention between two different stimuli has been well documented [11, 12]. In order to check how much time remains, the child or adult needs to divert his/her attention momentarily to the timer and then return to the activity in hand. This requires alternating attention between two different stimuli and may therefore be particularly difficult for many autistic people. The use of these timers as a tool for consulting the time while another activity is underway may constitute a higher level of complexity for them.

However, this use of the timers should be targeted as an objective as it will require a greater level of understanding of the concept of time by the autistic user. It is also important to note that if the timers are only used for waiting periods, these should be kept very short, as it is

not advisable for the child or adult to have to stay focused on a single stimulus for more than 5 minutes.

The professionals working on each case need to handle these situations using their experience and knowledge of the child in question. The following strategies are examples of how to approach this problem:

- Offering a favourite object or toy (known as security objects, normally already in use by many autistic children), so that the user can turn his/her interest to these objects and thus alternate attention between the timer and the object offered.
- Planning a favourite activity for a specific period of time (for example, watching a short cartoon) and programming the timer to have exactly the same duration, for use during this favourite activity.
- Gradually move the timer out of the user's field of vision, so that he/she has to turn further and further around, or even get up, in order to consult the remaining time.
- Use a ticket system with a set number of consultations allows, and help the user to spread out their use. A ticket book can be given, containing a limited number of consultation tickets. When using the timer, the teacher holds the timer and shows it to the user in exchange for one of the tickets.

When the user manages to learn to consult the timer in this way, work can be continued to expand the range of situations in which the timers can be used, thus extending them to the maximum number of contexts, which will begin to be a good indicator of a true understanding of the context of time.

Bibliography

[1] Wing, L. & Gould, J. (1979), "Severe Impairments of Social Interaction and Associated Abnormalities in Children: Epidemiology and Classification", Journal of Autism and Developmental Disorders, 9, pp. 11-29.

[2] Jones, G; Jordan, R.; Morgan, H (2001) All about Autistic Spectrum Disorders. Ed: The Mental Health Foundation

[3] Bogdashina, O. (2007) Sensory Perception in Autism and Asperger's Syndrome. Available at www.autismoavila.org

[4] Luckasson, R., Borthwick-Duffy, S., Buntinx, W., Coulter, D., Craig, E.M., Reeve, A., Schalock, R.L., Snell, M.E. 2002 Mental Retardation: Definition, classification, and systems of supports (10th ed.). Washington, DC: American Association on Mental Retardation

[5] Peeters, T. (208) Autism: From Theoretical Understanding to Educational Intervention Editorial Autismo Ávila (www.autismoavila.org)

[6] Jolliffe, T., Landsdown, R. and Robinson, C. (1992) Autism: a personal account. Communication 26 (3).

[7] Campillo, C; Herrera, G; Abellan, R.; Remirez, C.; Cuesta, JL. (2009). Uso del software TIC-TAC para favorecer la comprensión del tiempo en personas adultas con autismo. Estudio de tres casos. Published in Spanish in the Maremagnum Journal and sent for publication in English to Autism: an International Journal of Research and Practice. SAGE Publications.

[8] Mercer, Mary (2003). Person-Centred Planning: Helping People with Disabilities Achieve Personal Outcomes (High Tide Disability)

[9] Mesibov, G; Howley, M (2009) Accessing the Curriculum for Pupils with Autistic Spectrum Disorders: Using the TEACCH Programme to help inclusion. Available at www.autismoavila.org

[10] De Clercq, H. (2007) 'Mum, is that a human being or an animal?' On hyper selectivity and the use of objects in autism. Available at www.autismoavila.org

[11] J.A. Brian, S.P. Tipper, B. Weaver, and S.E. Bryson Inhibitory mechanisms in autism spectrum disorders: typical selective inhibition of location versus facilitated perceptual processing Journal of Child Psychology and Psychiatry 44:4 (2003), pp 552–560

[12] Hobson, P. (2002) *The Cradle of Thought: Exploring the Origins of Thinking.* Oxford University Press. 2002.

Templates

List of Situations

	Situation Name	People involved	TIC-TAC Timer
Waiting situations			
Sensory overload situations			
Leisure situations			
Work situations			

- **Record Sheet**

Situation Name:			**Page number:** **Date:**
Type of Situation	❒ **Waiting** ❒ **Sensory** ❒ **Leisure** ❒ **Work**	**Planned Duration:** **Associated video:**	
User's full name			
User's support partner			
Person completing the record			
Mood	❒ **Calm** ❒ **Normal** ❒ **Nervous**	**Behavioural problems**	❒ **None** ❒ **Mild** ❒ **Moderate** ❒ **Severe**
Observations			

Download and Installation

We have done our utmost to simplify the installation and preparation process for this tool. However, we are aware that for some professionals or family members who have less experience with modern technology, this process may seem complicated. In these cases it is highly recommended to obtain support from a friend or relative who is more familiar with the use of computers and other technological devices.

Detailed steps for installation can be found at: http://www.proyectoazahar.org

Acknowledgements

The creation and fine-tuning of this tool has been made possible by the collaboration of a number of people with autism from the Autism Associations in Burgos and Ávila. The professionals at these organisations have worked in conjunction with the development team to validate the different proposals put forward and help to make them become reality. We would like to thank Jose Luis Cuesta, Román Izquierdo, Raquel López, Begoña Martínez, Fátima Martínez, Conchi Remírez de Ganuza, Pilar Jiménez and Rocío Arroyo for their collaboration. We would also like to thank Rita Jordan at the University of Birmingham for her guidance and advice. Finally, we must thank the Orange Foundation for the support provided for the development of this tool.

Credits

Autism and Learning Difficulties Group.

Robotics Institute – University of Valencia

Software development	**Arturo Campos** **Ignacio Navarro** **Javier Sevilla**
Coordinator	**Javier Sevilla**
Pedagogical Design	**Gerardo Herrera** **Raquel Abellán** **Fabián Amati** **Cristina Campillo**
Graphic Design of Tool and Guide	**Carlos Pardo**
Guide Text	**Gerardo Herrera**

Monitoring	**Orange Foundation Team**

www.proyectoazahar.org

Design and Development

VNIVERSITAT DE VALÈNCIA
Grupo de Autismo y Dificultades de Aprendizaje
Institut de Robòtica

Grupo de Autismo y Dificultades de Aprendizaje.
Instituto de Robótica – Universidad de Valencia

Sponsor

Fundación Orange

Associates

Autism Association of Ávila
Autism Association of Burgos

Supported by

plan avanza

GOBIERNO DE ESPAÑA
MINISTERIO DE TRABAJO E INMIGRACIÓN