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“AI-TOP - An AI Tool to Predict Engagement and Meltdown Events in Students with Autism”

Project Number: 2020-1-UK01-KA201-079167

AI-TOP

Intellectual Output 4:
“Handbook for Teachers and Parents”

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Purpose of the handbook

OVERVIEW

This output is the Handbook for Teachers, TAs, SENCOs, Parents and Carers on how to use the AI-TOP app to infer engagement, and predict 'meltdown' moments in students with ASC.

The created handbook has been fine-tuned throughout the project duration, using an iterative approach, and reflects the latest versions of the AI-TOP system.

P1 (NCC) has led the “what’s next” section of the document which identifies mitigations to use once rumble or disengagement events are observed in children with ASD. SoftQNR and NTU have led the development of the technical aspects of the document (instructions on use of the technology). All partners have input to the iterative testing of the document.

NEEDS ANALYSIS

To adjust learning interventions to maintain the engagement of students with ASC, Teachers, SENCOs and TAs can make reference to the 'Inclusive Learning Checklist' transferred from our Erasmus+ Pathway+ project (2017-1-UK01-KA201-036761) (See Annex 1). The ‘What’s Next’ section allows teaching staff and parents to tabulate engagement and behaviour over time, and to trial a range of new approaches, reassess engagement and behaviour (using our AI-driven tool), and gain an understanding of the impact of these new interventions. Over time, this will allow school staff and parents to recognise patterns in engagement and behaviour, and understand what works for each individual student, and what triggers episodes of boredom/frustration and 'meltdowns'. The 'new approaches' that can be trialled to re-engage students with ASC in learning are selected from the range of inclusive teaching approaches not yet trialled with each individual. New approaches that could be trialled once 'rumble' or 'meltdown' events are calming activities including advice on taking a walk, listening to music, reading, doing puzzles, using fiddle toys, or more strenuous activities, e.g. jumping on a trampoline, going to the gym, playing a computer game (for examples see:

https://www.autism.org.uk/advice-and-guidance/topics/behaviour/meltdowns/all-audiences)

TARGET GROUPS

- Teachers, teaching assistants, and special education needs coordinators in mainstream education, inclusive settings, and special educational settings.

- Beneficiaries: students with ASC, and their families.

- Stakeholders: policy makers, pedagogical experts, schools, school authorities and their umbrella structures all over Europe. Service providers supporting students with ASC; Local education authorities at all levels, Associations for teachers and teacher unions.

ELEMENTS OF INNOVATION

The handbook provides support to Teachers/SENCOs/TAs, as well as Parents and Carers on the usage of the App to infer engagement and teaching interventions that can be altered to keep learners with autism in an optimal state of learning, and predict the 'rumble' stages of 'meltdown' events so that instances of challenging behaviour can be reduced. This leads to improved mental wellbeing. These innovations are unique.

EXPECTED IMPACT

This handbook has been developed to provide support to Teachers/SENCOs/TAs, as well as Parents and Carers on the usage of the App to infer engagement and to predict rumble and meltdown moments, so that teaching interventions can be altered to keep learners with autism in an optimal state of learning, and so that instances of challenging behaviour can be reduced leading to improved mental wellbeing.

This handbook is free to use and enables Teachers/TAs/SENCOs to use the AI-TOP app to understand the level of engagement of students with autism in classroom learning activities, and to predict 'meltdown' events at the 'rumble' stage.

Teachers, support staff, parents and carers can use this information to:

• Provide personalised learning pathways and support according to the specific needs of each child with autism.

• Improve the understanding of autism both within school, and in the wider community.

• Provide a learning environment free of emotional trauma.

• Increase the likelihood that students with autism will make the academic and social progress that they should.

• Decrease incidents of challenging behaviour, leading to improved mental wellbeing of individual students, and decreasing instances of absenteeism and bullying.

• Improve access to teaching of academic, independent living, adaptive behaviours and social skills.

• Help prevent secondary consequences such as anxiety disorders and depression.

The ratification of the Convention on the Rights of Persons with Disabilities (UNCRPD) 2008, and in particular its article 24 on inclusive education, has had a drastic impact on how teachers need to act in inclusive education. Most teachers do not receive any additional training on how to cope with or support children with disabilities and special needs. AI-TOP offers a tool to be used with children with autism, in mainstream and special educational needs classrooms, to assess attention and engagement and to predict rumble and meltdown moments.

TRANSFERABILITY POTENTIAL

The app has been developed specifically with children with ASD in mind, but it had been suggested by many stakeholders that it holds use in children with other diagnoses such as ADHD, and could be of general use across the whole of mainstream education.

Using the AI-TOP System

Introduction to the system

This App has been developed to measure engagement and potential emotional dysregulation in students with Autism (although we do see that it could be useful for use with other/all students). Tracking engagement and early detection of emotional dysregulation in students with Autism is crucial, as deep learning is not possible without engagement, and emotional dysregulation events can cause disruption in the classroom and distress to the student. This project allows for the tracking of student engagement, support and re-engagement of those with the greatest learning needs, and identification of early signs of rumble moments occurring.

A summary of the system

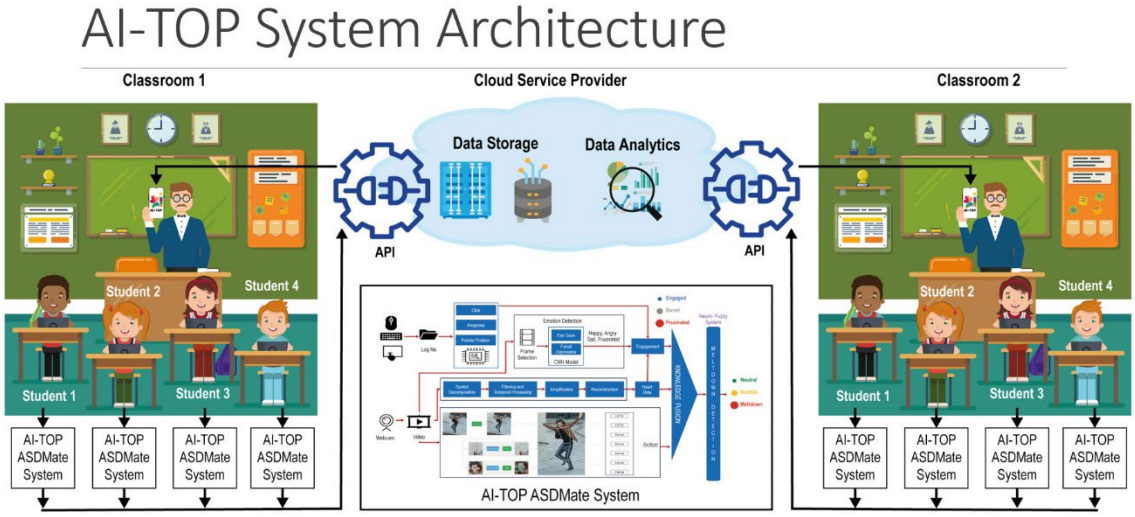

Figure 1 Full AI-TOP System Architecture

The AI-TOP system consists of two parts:

- ASDMate – A Windows executable that runs a webcam in the background of a PC or Laptop, tracking the data, analysing it, and sending the resultant streams on the Mobile
- AI_TOP App – An Android App that receives the data sent from ASDMate, and delivers the results to the teacher via alerts and a teacher facing dashboard with a traffic light system.

In the diagram (Figure 1) we show 2 separate classrooms, each with a teacher, and their cohort of students. The students each have a PC or Laptop with a webcam in front of them. These devices are running the software ASDMate which captures the video, analyses it in several ways, blends the analysed data streams, and sends an output to the cloud. The data received is then pushed from the cloud to the teacher's Android device which is running the AI-TOP App. This app receives the data and displays it in a teacher facing dashboard, also alerting the teacher to any potential issues detected with a haptic rumble event.

Installation of the Mobile App (AI-TOP App)

ANDROID

From the APK

1. Download the APK from (https://www.ai-autism.eu/outputs-results/) on the device on which you want to install it.
2. Click on the APK in your file manager. Select Install. The app should install. Once installed you can either select done, or open to open the app right away (Figure 2.
   N.B. In order to install APK apps, you may need to allow this on your device. To do this head to Device Settings (cog icon) > Apps >..Special App Access > Install unknown apps.. You should see a list of apps which will say not allowed underneath them. Select the app you are installing the APK from (most likely your file manager or Google Drive, and select Allow. Now follow the steps above.

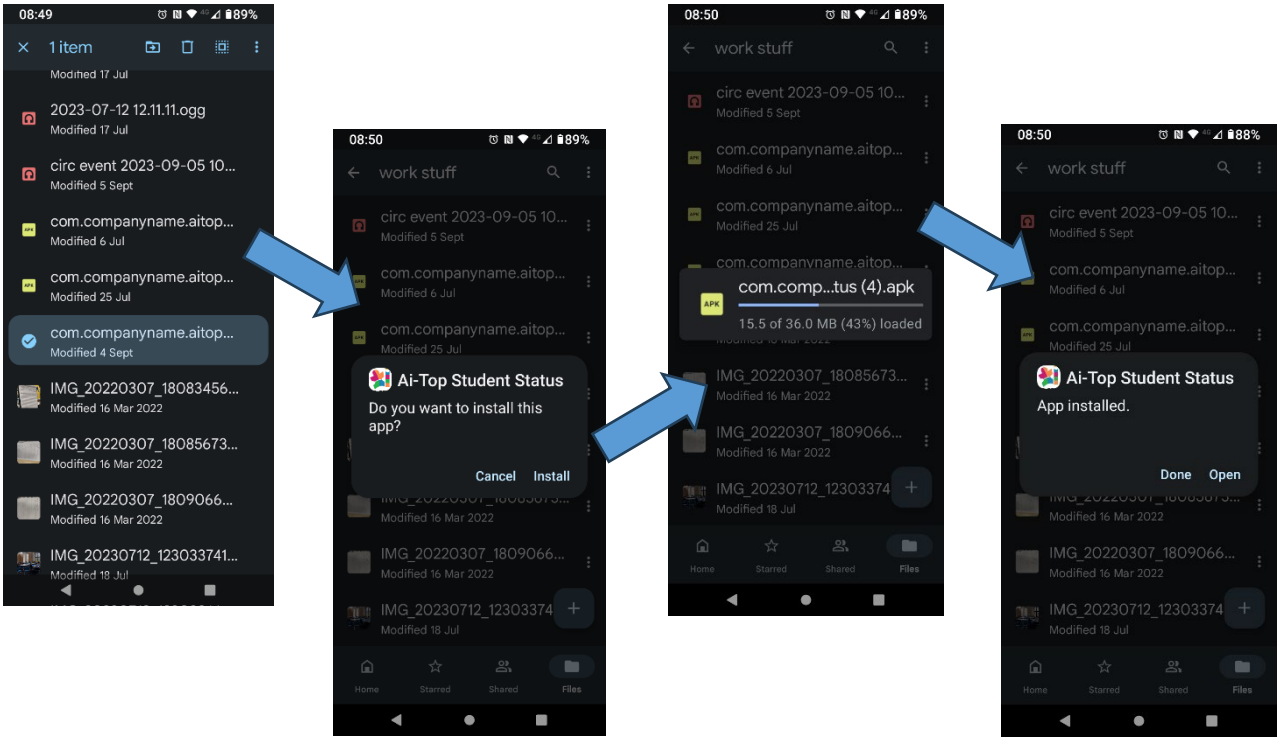

Figure 2 Installation of the APK file

Installation of the Desktop App (ASDMate)

The zip of the required files should be downloaded from the project website at https://www.ai-autism.eu/outputs-results/ . The Zip should be extracted to a folder on your local mWindows machine. Once extracted the main.exe file can be run to start the application.

Desktop App Simulator

A simulator was created in order to test the app functionality prior to full development of the ASDMate system. This allows mocked data to be sent to the App to test its behaviour. In Figure 2 we

have created a classroom class 7C, with 5 monitored pupils. We can change their stats using the dropdowns and input boxes and test how the application behaves.

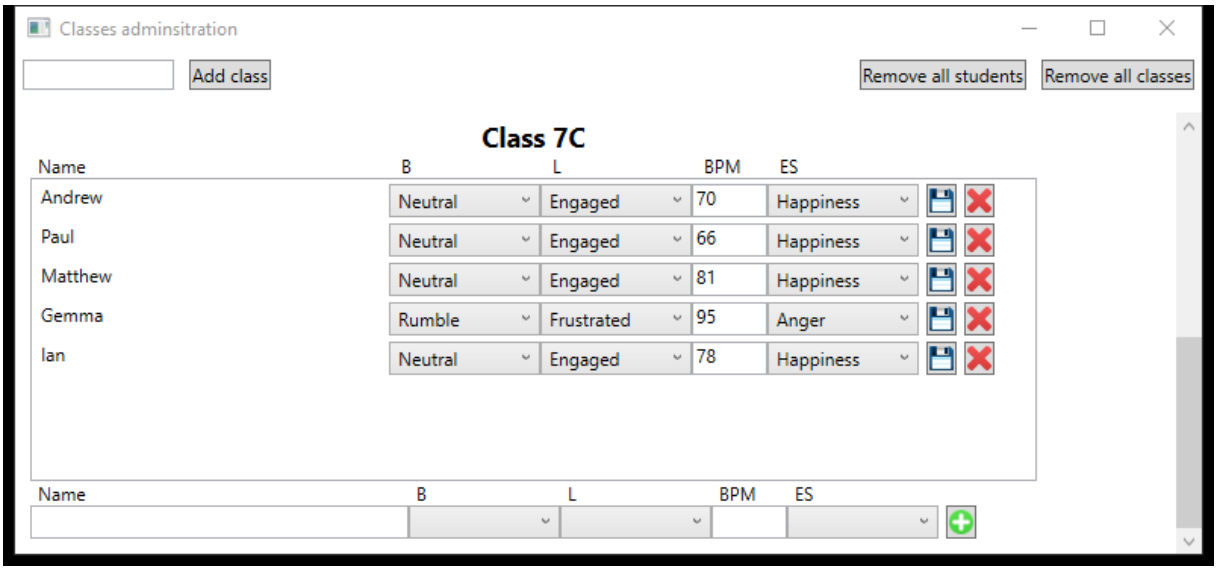

Figure 3 The Desktop App Simulator

Running the ASDMate System in the Classroom

To Run the ASDMate System, double click the “main.exe” file in the unzipped folder, the desktop application will start. You will at first see a splash screen as shown in Figure 4. Here select “I agree”, and execute the program.

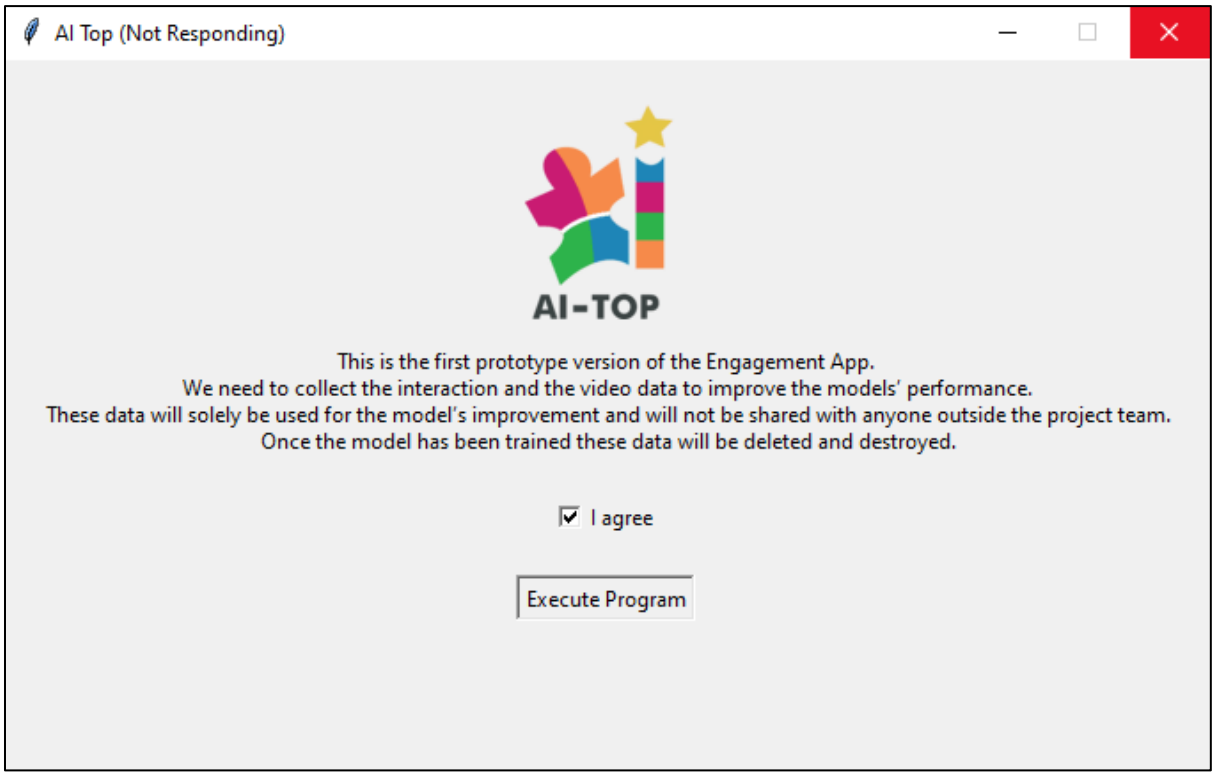

Figure 4 The ASDMate Windows application splash screen

The app will now run the merge.exe script and begin a timer monitoring the calibration of the environment. Soon a camera feed screen will load as in Figure 6, stating that the system is initiating.

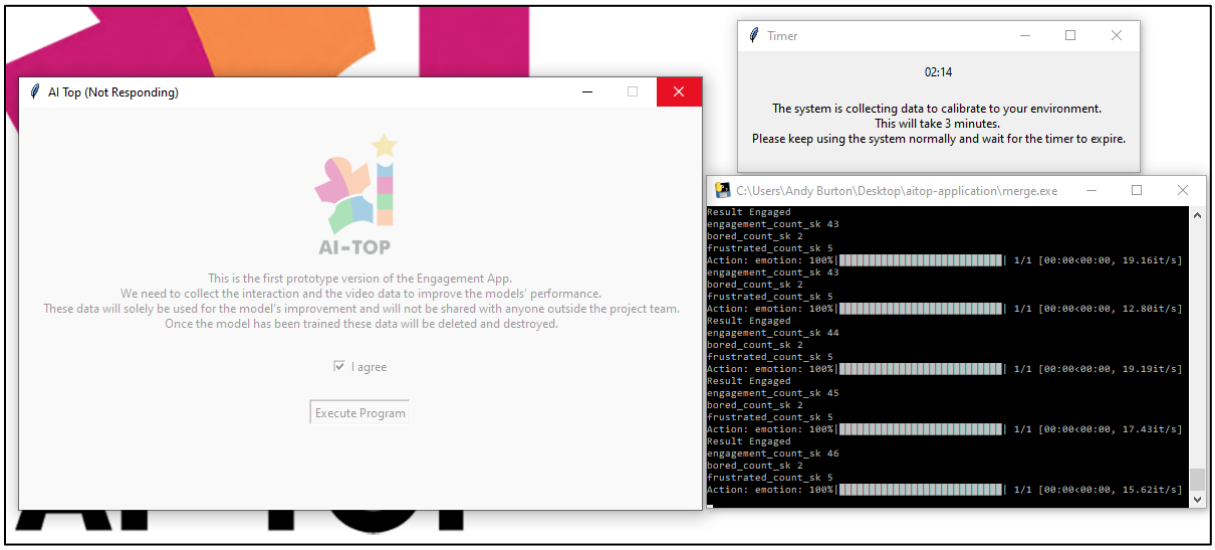

Figure 5 Capture showing the timer, merge window and whilst awaiting the camera initiation window.

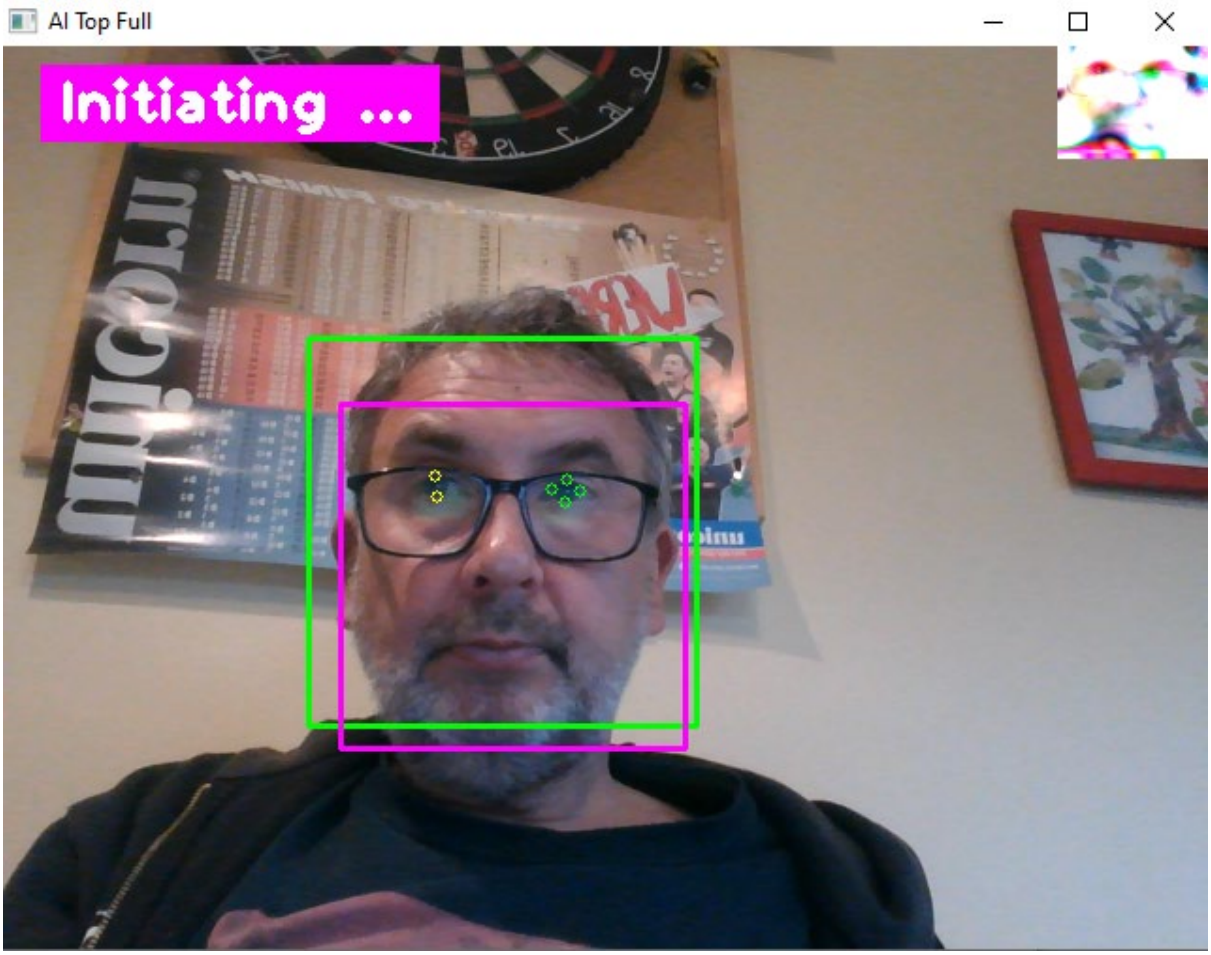

Figure 6 The Initiating window – awaiting the initial state detection of the user

Once the system calibrates successfully the camera screen will begin to show feedback as shown in Figure 7. In this case the system shows an engaged state, and also the mouse and eye tracking total movements on screen.

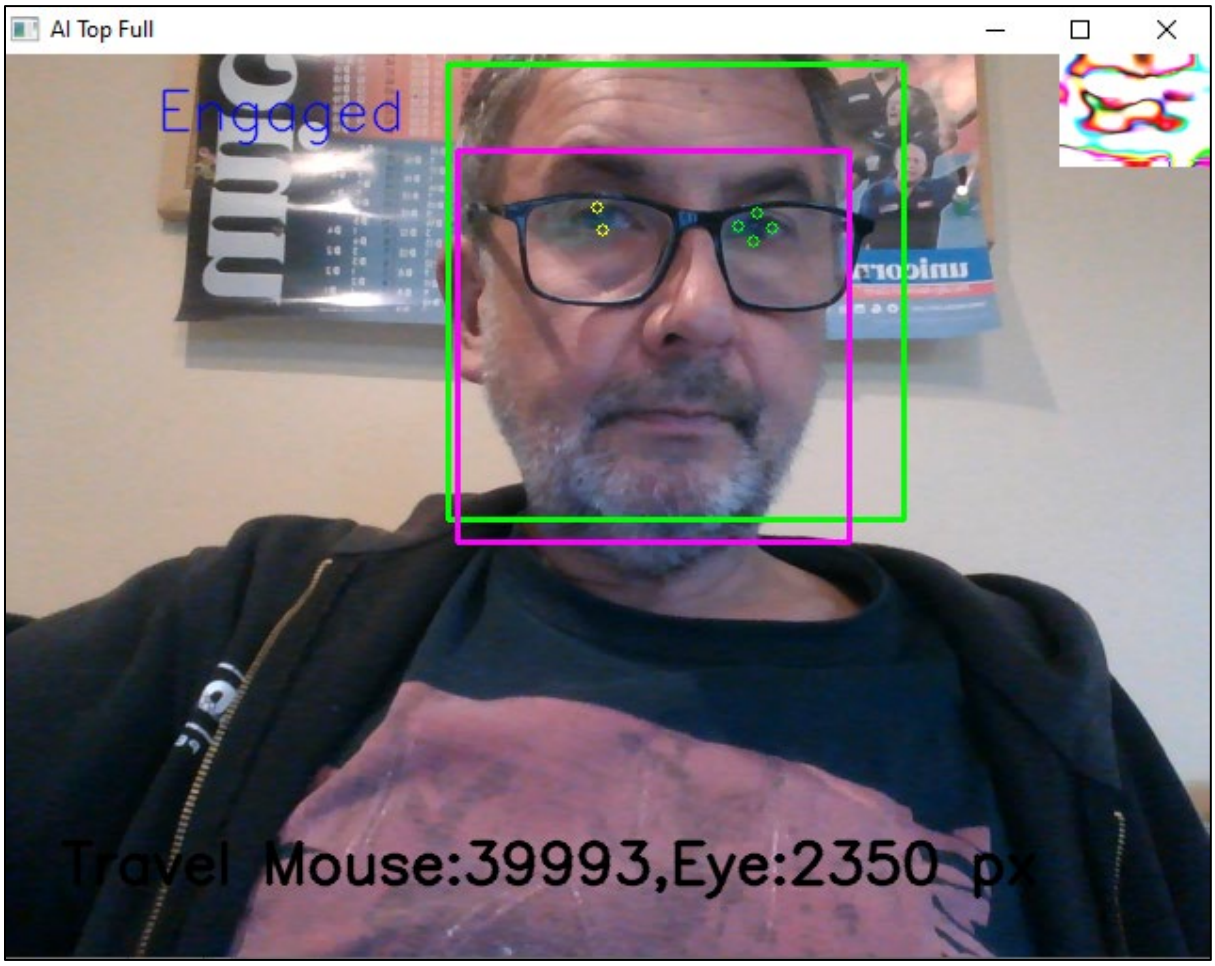

Figure 7 User states now recognised and tracking

At this point data is sent out via the Azure system and can be accessed by the Android AI-TOP Application associated with the relevant classroom.

Positioning of the camera

The student being observed should be in full view of the camera on the device running the ASDMate app.

Setting up a Classroom to link to the App

Enter the same classroom ID in the App startup screen as you did in the ASDMate Startup. This creates the link between the Windows tracking software and the Teacher feedback app.

Running the AI-TOP App

The installed App can be run from the AI-TOP icon which is either on the background, or can be located in the app list.

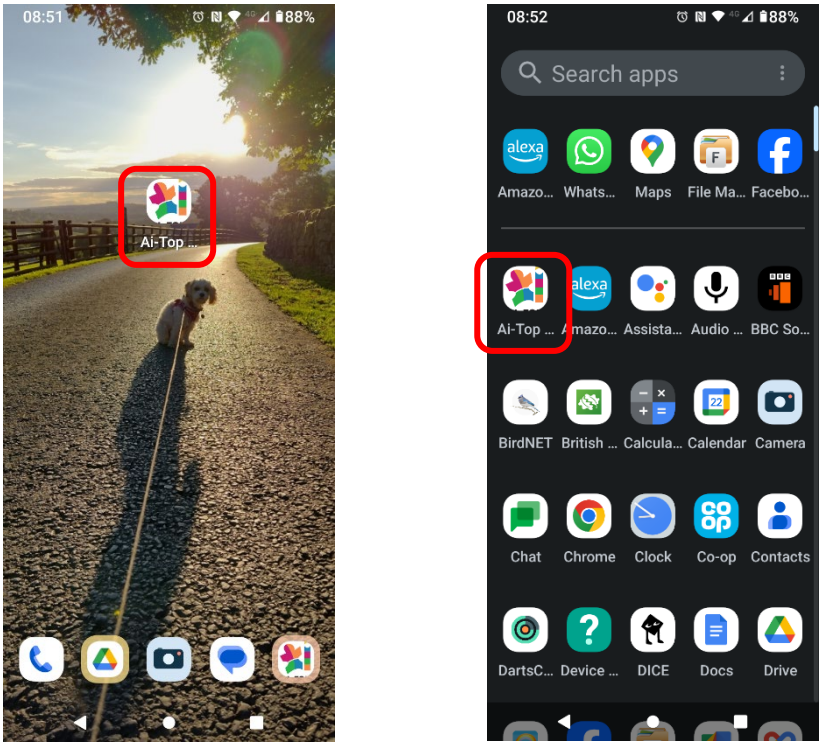

Figure 8 Starting the AI-TOP App

Enter correct classroom (The same one you set up in the ASDMate) to link to your pupils, in Figure 2 the class entered was 7c.

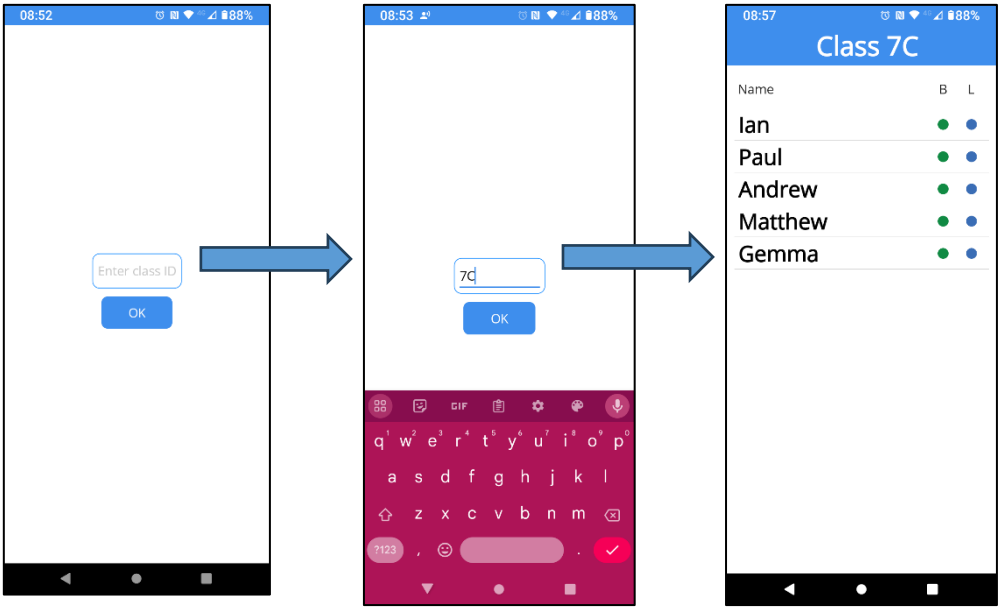

Figure 9 Connecting to your Classroom

Using the AI-TOP App teacher facing dashboard

The main class screen shows a summary of all monitored students in the class. The dots on the right hand side denote the status of each child in terms of behaviour and learning. The dots change size and colour depending on the status of each student. Also any negative state promotes that particular student to the list top to make it easy and fast for the teacher to locate the most urgent interventions required. In Figure 5 there is a progression from a calm classroom through to one then two students requiring interventions.

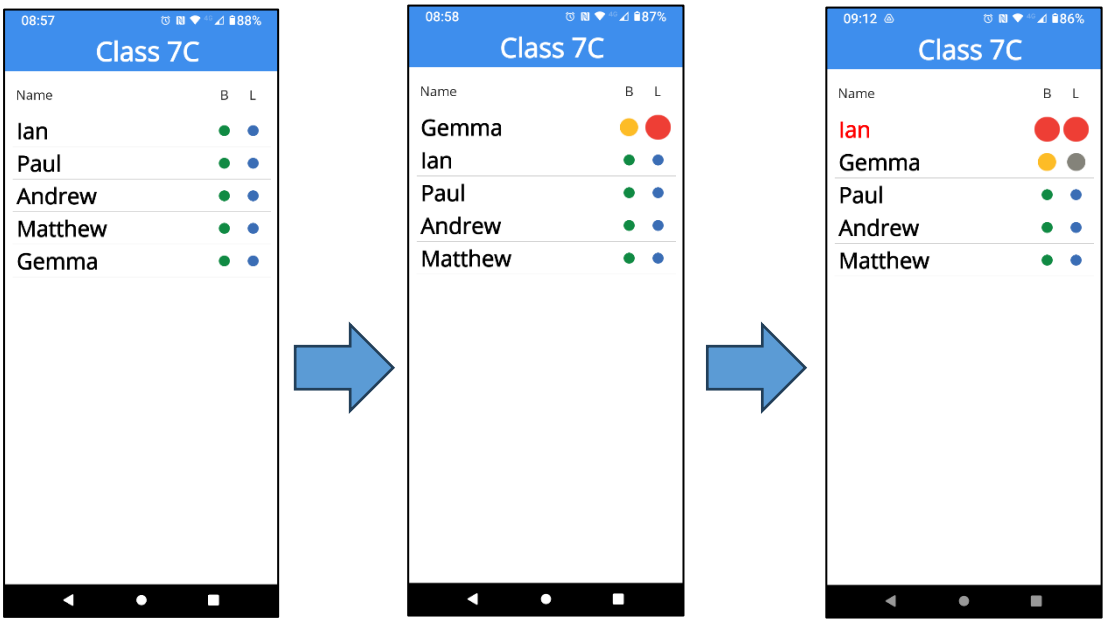

Figure 10 Main Class Screen

Understanding the Data

There are 2 sets of dots as described in Figure 6. They relate to learning (or level of engagement) and Behaviour (ASD dysregulation detection).

Behaviour dots are:

- Green – Neutral
- Yellow – Rumble
- Red – Meltdown

Learning dots are:

- Blue – Engaged
- Grey – Bored
- Red - Frustrated

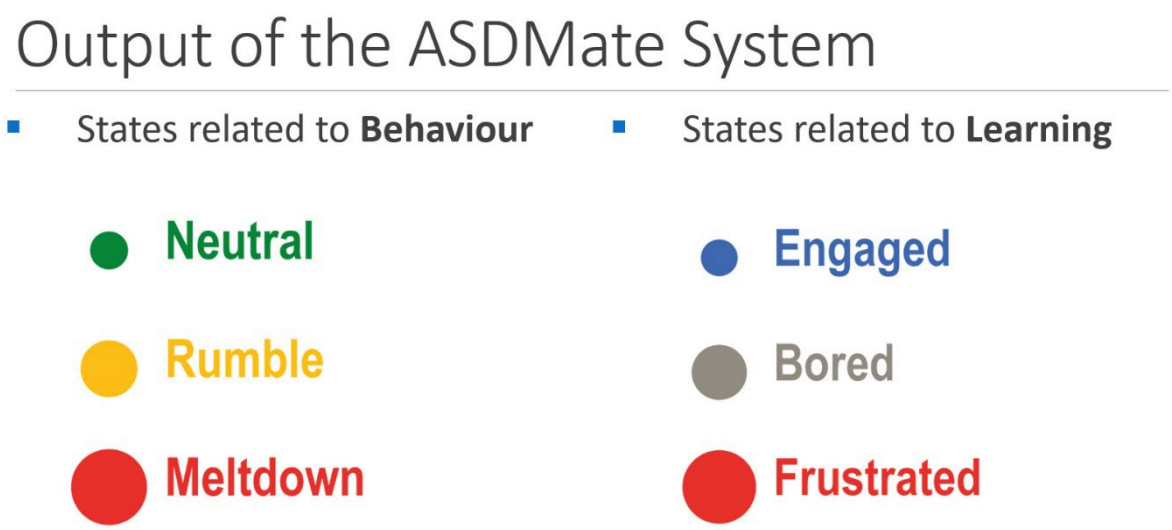

Figure 11 The meaning of the state dots in the app

Accessing Detailed Data from the App

By clicking on a name in the list you access a screen detailing the states of behaviour and learning along with an estimated heartrate as read by the system and a predicted emotional state based on body posture and facial expressions. Three of the student's details in class 7C are shown in Figure 7. The back arrow at the top left of these screens takes you back to the main class screen.

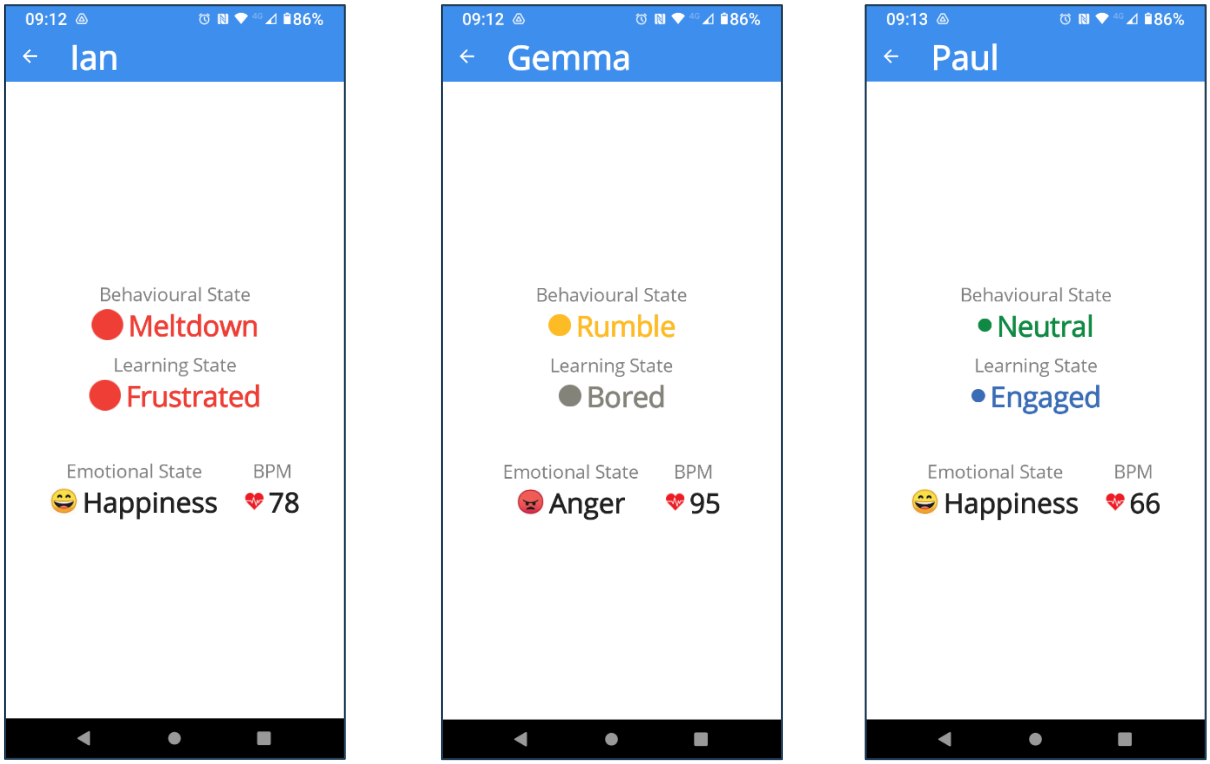

Figure 12 Detailed data screens for 3 of the 7C students

How to be prepared to use the descriptive map of effective pedagogical approaches?

Teachers and parents are provided with a mobile application and algorithm which measures the engagement and attention of learners and predicts rumble or meltdown moments, and provides information on appropriate mitigations via pedagogical adaptations. A descriptive map specifically about engagement measures developed for a previous project is included as Appendix 1.

What's Next?

The what's next section has been developed to help teachers, TA's, SENCO's and Parents/Carers to identify key stressors causing anxiety and distress to enable the young person to return to calm state.

You have the information …now what do you do with it?

Knowing that a student is dysregulated is only the first part of a process, now that you know (or have the evidence to show) the important thing is what to do next.

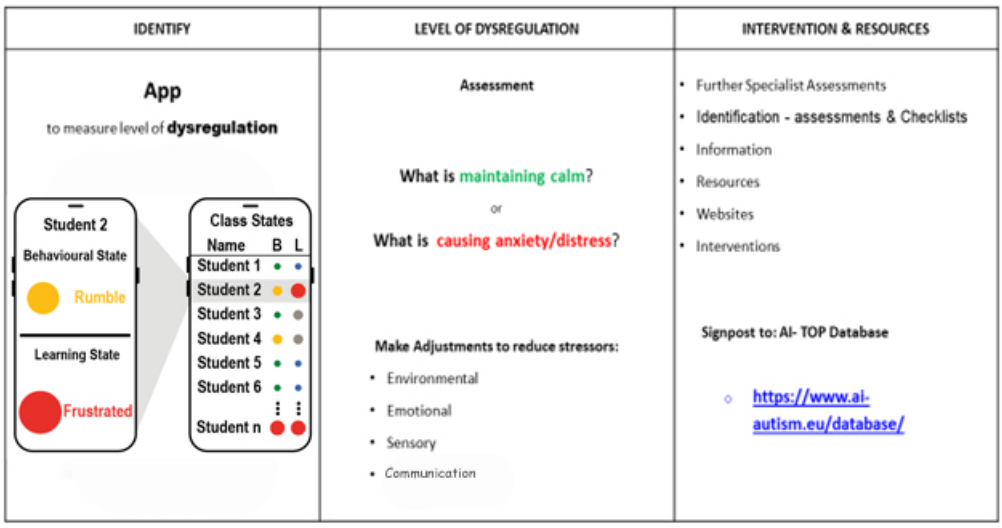

Figure 13 Identification, Assessment and Intervention

The information the app provides may be used in two ways as described in Figure 13. It can be used to recognise periods of calm and engagement, where a teacher may reflect on why the status of the learning was good. It may also be used to identify a period or instant of disengagement or emotional dysregulation, where again the teacher will want to intervene with planned interventions and can perhaps consider reasons for the disengagement or dysregulation, and ways it could be reduced or prevented in future.

In AI-TOP, we have identified 4 main areas for making adjustments to reduce stressors. We discuss these in the next sections.

Environmental

What are environmental factors?

Environmental factors can affect the autistic learner and impact on their learning. The general classroom appearance and organisation, including noise, bright colours, smells and clutter can be overwhelming for a learner. A clearly organised and low-arousal environment with visual cues and signs should offer information adjusted to the understanding of the pupil.

What interventions to use?

The learning environment needs to be adapted to meet the needs of autistic pupils. We need to carefully observe the pupil in a range of activities and environments to understand the best way to achieve this.

This means attending to noise levels, colour schemes, and smells, and avoiding clutter. An audit of the key areas is the best way to understand the impact of the learning environment. Complete an environmental checklist (see link below). This would enable key areas to be identified.

Link to resources

The AI-TOP Database:

https://www.ai-autism.eu/database

Environmental checklist

AET new Environmental checklist

Inclusive Classroom and Learning Checklist

http://isrg.org.uk/wp-content/uploads/2023/07/ictchecklist.pdf

Autism Friendly Classrooms

https://www.slideshare.net/pookyh/autistic-friendly-classrooms-3-things-to-try

Autism Friendly School

https://isrg.org.uk/wp-content/uploads/2023/10/nas_autismfriendlyguidelines.pdf

Sensory

What are sensory factors?

Our sensory processing and integration form the foundations for our learning and development and how we understand and respond to the world. It is estimated that up to 95% of autistic pupils experience sensory processing differences. Sensory processing is an automatic process of the brain that organises input from our senses and attributes meaning to what is experienced.

Sensory processing differences can include:

- Being over-sensitive (hyper) – not coping with strong smells/noisy environments.
- Being under-sensitive (hypo) – not responding to pain, hunger, or thirst.
- Having difficulty filtering out irrelevant sensory information.
- Difficulties in taking in and responding to sensory information.
- Reduced body awareness – difficulty co-ordinating themselves and planning and may seek out additional movement or heavy work play/activities.

Learners will not simply have an over-sensitivity or under-sensitivity. They can fluctuate between the two. It should be a priority for all practitioners to complete a Sensory Preferences and Differences Profile (see link below) and discussing sensory needs with the learner's family. Once they have done this, they can then make adjustments based on the needs of the individual learner.

What interventions to use?

- Organise the classroom to minimise sensory experiences that may be distracting or uncomfortable.
- Use clear labels and visuals around the room.
- Create a safe place or quiet area.
- Put felt pads under chair legs to prevent the scraping sound of chairs being pushed back on the floor.
- Always consider the environment and what has been going on, e.g noise, smells, proximity to others.
- Think about how strong perfumes, deodorant, and patterned clothing could bother children who are sensitive to smell and visual information.

Link to resources

Th AI-TOP Database:

https://www.ai-autism.eu/database

Sensory Preferences and Differences Profile

http://isrg.org.uk/wp-content/uploads/2023/07/sensorypd.pdf

Emotional

What are emotional factors?

Distressed behaviours are often a sign that something is overwhelming and making the learner feel anxious. The learner is not trying to give you a hard time, the learner is having a hard time. There will be a reason for behaviour, and often it is the leaner's only way of communicating at that time.

Levels of stress and anxiety can be affected because the learner:

- Might not understand what they are supposed to do.
- Might be anxious about failure.
- Experiences sensory overload.
- Cannot express their needs.
- Is unsure what is going to happen next.
- Is upset about an event that has just happened or that is going to happen.
- Finds changes in routine difficult.
- Might not know what is expected of them.

Heightened stress and anxiety can affect:

- The ability to communicate.
- The awareness of others.
- The ability to concentrate and learn.
- The ability to process information.
- The ability to make choices.
- The pupil may also show a fight-or-flight response.

What interventions to use?

- Timetable extra physical activity exercises or breaks into an autistic learner's day to alleviate stress.
- Implement short movement breaks away from work.
- Help the learner recognise the bodily sensations of anger or anxiety, such as quickly beating heart, sweaty palms, or being tense.
- Create a calm space (e.g. calming music or activities).

- Have a book to write worries or anxieties down in or worry box to place them in. Create a calm space (e.g. calming music or activities).
- Provide photos of things that can help.
- Have a box of calming items.
- Identify trigger points and situations by using STAR charts (See link below) or ABC charts.
- Include activities where learner's can show their knowledge and abilities to practitioners and peers.

Link to resources

Link to resources

The AI-TOP Database

https://www.ai-autism.eu/database

Star Chart:

http://isrg.org.uk/wp-content/uploads/2023/07/starchart.pdf

5 Point Scale

https://isrg.org.uk/wp-content/uploads/2023/10/5pointscale.pdf

ABC Chart

https://isrg.org.uk/wp-content/uploads/2023/10/abcchart.pdf

Communication

What are communication factors?

Autistic learners will have a wide range of social understanding, communicative, and language abilities and differences. Social communication can require a huge effort for autistic learners. They may not have a desire to communicate with others, know how to communicate with others, or understand the speech and non-verbal communication of adults and children. These differences are likely to be heightened if the right support is not in place.

The learner might have differences in terms of both *receptive* communication and *expressive* communication. Receptive communication includes understanding the following:

- Words and phrases
- Body language
- Tone of voice
- Facial expressions

Expressive communication includes being able to *express* what the pupil wants or needs, whether that is by using speech or non-verbal means.

What interventions to use?

- Say the learner's name first followed by an instruction.
- Give clear and precise instructions.
- Use concrete language, e.g. 'put the book on my desk' paired with a pointing gesture.
- Use positive and directive language, e.g. 'Joshua: put your feet on the floor' rather than 'Joshua, stop kicking.'
- Give the learner time to process information.
- Avoid idioms, or if you use them, explain them.

Using visual strategies can facilitate learning and promote independence by:

- Enabling the learner to 'see' the task.
- Providing additional time for processing.
- Continuing to be referred to after the spoken instruction is given. They can be looked at, sequenced, rehearsed, and learned.
- Helping the learner identify and carry out the stages of a task.

Link to resources

https://www.ai-autism.eu/database

Visual Timetables:

http://isrg.org.uk/wp-content/uploads/2023/07/visualtimetables.pdf

Now and Next

https://isrg.org.uk/wp-content/uploads/2023/10/nowandnext.pdf

Social Scripts

https://isrg.org.uk/wp-content/uploads/2023/10/socialscripts.pdf

Considerations

There are several things to consider here when using the app to measure periods of calm and dysregulation that need to be investigated further.

Once you have identified that a student is often dysregulated in class you need to unpick this. Is it a particular time of day that they are not engaged, is it a particular lesson, is it a type of task e.g. written. I would suggest that the app is then used for a longer period of time, perhaps over a whole week to try and establish patterns of calm and dysregulation.

	Session 1 9.30 – 10.30	Break	Session 2 11 - 12	Lunch	Session3 1.30 – 2.30	Session 4 2.30 – 3.30
Monday	Note the lesson & the level of engagement					
Tuesday						
Wednesday						
Thursday						
Friday						

You can then begin to establish if there are patterns to the dysregulation.

Furthermore you can then go on to examine and adjust your teaching to ensure that you are being inclusive and that there isn't something you can do (from the inclusive checklist) that would help to increase the periods of calm for the student.

Teaching Style

Different students learn in different ways, some students learn best in an auditory way, others are more visual learners. It is always good practice to use a variety of different teaching styles to cater for the different ways of learning in your class. Just a variety of different ideas you can use are:

Group work, practical tasks, oral presentations, question and answer sessions, picture/visual elements to the lesson, discussion, peer mentoring, independent work, and worksheets.

If a student is having difficulty engaging with tasks, try different methods of teaching, monitor and record which type of teaching method is more likely to ensure that they are engaged.

Have a look at the checklist, see what things you already have in place and then consider things that you will try/introduce in order to try and increase the pupil remaining calm. Do this as a plan, do and review cycle to see if some of the things make a difference. Give the change/new idea time to work, e.g. trial it for a least a few days (not all the ideas on the checklist are relevant for all pupils, only choose things that are relevant to that particular pupil)

Trial a wobble cushion	Session 1 9.30 – 10.30	Break	Session 2 11 - 12	Lunch	Session3 1.30 – 2.30	Session 4 2.30 – 3.30
Monday	Note the level of engagement					
Tuesday						
Wednesday						
Thursday						
Friday						

You can try several ideas from the checklist, for example you might find that a student is far more engaged with a visual timetable.

Nothing Works!!

If after you have exhausted all of the suggestions to try and reduce dysregulation in the what's next section, then it might be time to seek advice. Your school SENCo would be your first port of call, alongside speaking to the parents about your concerns.

The SENCo will want to know what things you have tried, in order to reduce stressors in the classroom, and you will have record of and details of all the different things you have tried.

It may be that there is an underlying difficulty which needs further investigation, and referral to a specialist is needed.

Appendix 1 – The Pathway + Inclusive Classroom and Teaching Checklist

Adaption of Classroom Environment	
Are resources clearly labelled and within easy reach – personal kit?	
Is furniture arranged to accommodate needs?	
Is seating planned effectively?	
Are there adaptions for pupils with Hearing Impairments e.g. Audio microphone hearing loop?	
Are there adaptions for pupils with visual impairments e.g. magnifier?	
Do they need an adjustable table height/chair?	
Do they need a writing slope?	
Do they need a non-slip mat?	
Is the lighting suitable?	
Do they have a fixed seat/carpet place/table place?	
Do they have/need a personal workstation?	
Consider language used in displays	
Is there a breakout space?	
Is there a sensory room?	
Are wobble cushions available?	
Are pencil grips available?	
Are fidget toys available?	
Do you adjust font size/style for different pupils?	
Is coloured paper/overlays available?	
Are there adapted workbooks e.g. large lined?	
Is the room clear of distraction obstacles?	
Do pupils know the daily routines are they supported visually e.g. visual timetables?	
Adaption of teaching materials	
Do you use different sized fonts?	
Do you use different coloured backgrounds?	
Do you use cloze procedure?	
Are all tasks differentiated?	
Do you include kinaesthetic resources and experimental learning?	
Do you use audio text resources?	
Do you use visual cues and resources?	
Do you break tasks down into smaller parts?	
Are pupils given a close personal copy (not from IWB)?	
Do you have bilingual and phonics dictionaries?	
Do you have graphic novels?	
Do you use comic strips?	
Do you use storyboards?	
Is there alternative ways of recording other than written e.g. talking photo albums or group work with one person as the scribe?	
Are there opportunities to use mind maps?	
Are objects, pictures and symbols used to teach vocabulary, to make stories more active and support engagement in other lessons?	
Adaption of Instruction	
Do you understand the language levels of children and the language demands in the environment?	

Do you teach children strategies to say when they don't understand?	
Do you Chunk instructions?	
Do you use Simplified language?	
Are there Visual prompts?	
Do you use signs and symbols?	
Are pupils given checklists (visual)?	
Do you pre teach tricky vocabulary?	
Is key vocabulary displayed?	
Do you use modelling?	
Do you use scaffolding?	
Do you use writing frames?	
Do you always use name of pupil before instruction?	
Do you use peer support/group working?	
whole Class Teaching	
Are all pupils clear about the structure and objectives of the lesson?	
Is the aim and purpose of the activity clearly articulated to pupils?	
Are pupils given opportunities within lessons to say when they don't understand?	
Do you check for understanding of lesson content?	
Do you check understanding of the task?	
Are there strategies in place for those who need help to remember instruction and task e.g. visual cues and checklists?	
Are questions pitched to challenge pupils at all levels?	
Do you use questions to ensure engagement?	
Is time is given for responses e.g. thinking time, talk to partner time?	
Are pupils given time and opportunity to help each other?	
Is there paired work or group work?	
Are pupils explicitly taught how to listen?	
Do you check to ensure all have achieved learning outcome at the level expected for them?	
Group Work/Independent work	
Are tasks clearly explained/modelled?	
Is there opportunity for modelling, rehearsing, consolidating, generalising and transferring the learnt skill?	
Is work suitably achievable by pupils of different level?	
Are pupils explicitly taught how to work together in groups?	
Are there a variety of resources/materials available?	
Is there a distraction free area for those that need it?	
Are pupils being taught strategies to help them to continue when they are stuck?	
Are tasks linked to/reinforce learning?	
Are tasks extended or simplified for pupils (differentiated)?	
Are tasks more open/closed depending on pupil need?	
Are there alternatives to writing e.g. IT laptop with software?	
Are there alternatives to recording all answers on paper e.g. role play or PowerPoint?	
Is there help for pupils who need it to access text?	
Do you use scaffolding to help writing e.g. writing frame?	
Is there different groupings used to use pupils strengths/help their difficulties?	
Is ICT used to increase access?	
Are there opportunities to talk through their thoughts and ideas?	

Is there opportunities to explain their work?	
Behavioural Adaptions	
Is feedback given to the child/young person at regular intervals?	
Is expected behaviour to fulfil rules taught to pupils?	
Do specific pupils have individualised targets and linked rewards?	
Do you use specific interests to engage pupils in conversation?	
Are pupil's work/ achievements displayed on the wall	
Are sanctions and rewards understood by parents and pupil's?	
Are sanctions related to behaviour and within a clear hierarchy of severity?	
Are rewards readily achievable?	
Are rewards given fairly and consistently?	
Is there a clear behaviour policy and do you understand it?	
Do you consistently apply the behaviour policy?	
Are there whole class rewards?	
Are the pupils aware of the routines and rules?	
Are there sanctions in place for all pupils?	
Are sanctions consistently applied?	
Do you keep pupils on task?	
Do you plan work so that pupils are kept busy/appropriately challenged?	
Additional adults in the classroom	
Do they help access to the lesson by explaining, simplifying, signing or scribing?	
Do they work with individual pupils to help them focus?	
Do they remind pupils of how to access instruction e.g. look at your checklist, what do you do next?	
Do they help pupils to rehearse and answer to a question the teacher has asked?	
Do they understand and provides resources to help pupils understanding?	
Do they give appropriate praise and encouragement?	
Do they support teachers with behavioural management?	
Do they observe pupils for assessment purposes?	
Do they monitor progress of pupils towards individual targets?	
Do they ensure pupils have understood task?	
Do they support teacher planned differentiation?	
D they work with groups of pupils?	
Do they work with whole class whilst teachers work with small groups of individuals?	