

Supporting autistic pupils in primary computing

Session 2: Applying generic pedagogy in computing

Learning Outcomes

- Recognise how generic approaches to supporting autistic learners can be used in computing lessons
- Explore how to increase motivation and engagement in creative media and data units
- Develop strategies to support collaborative working



Main barriers to learning

- Sensory overload
- Social communication & interaction differences
- Difficulties with flexibility & change
- Challenges with abstract concepts & generalisation
- Difficulty with executive function



Image Generated with AI



Sensory Overload

Image Generated with AI



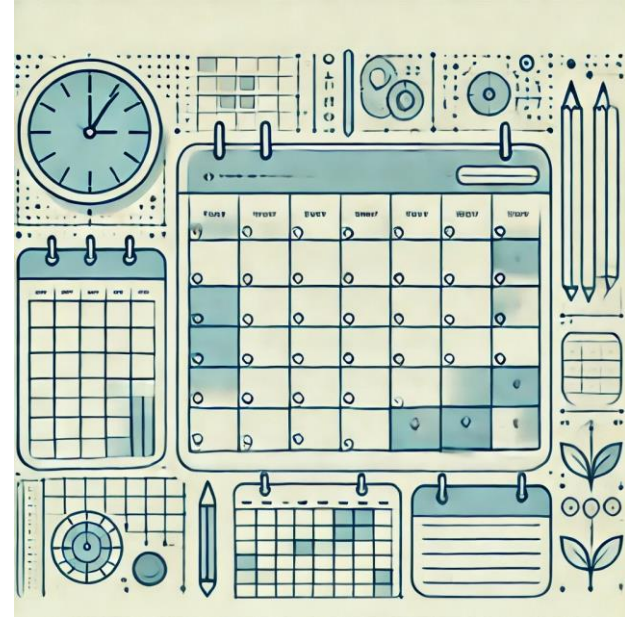
Reducing sensory overload

- Consider seating position
- Reduce clutter within eyeline
- Low light areas
- Avoid strong perfume/aftershave
- Fidget toys & weighted blankets
- Reduce brightness of screen
- Headphones!



General approaches in learning adapted for computing

- ✓ Questioning
- ✓ Vocabulary
- ✓ Accessible materials
- ✓ Structure & Routine
- ✓ Completing tasks
- ✓ Engagement



Questioning

- Keep the questions clear and precise
- Allow sufficient time for processing
- Tailor the question to the pupil's learning ability and needs
- Reduce risk and provide praise
- Use visuals to support comprehension
- Provide different ways to respond e.g. [Plickers](#), place counter in a cup, agree/disagree

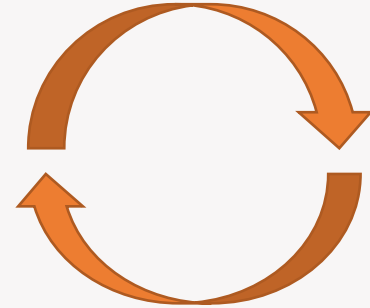


Vocabulary

- Pre-learning
- Displays
- Image supported glossaries
- [CAS Include - image-supported glossaries](#)
- Barefoot Computing – [Computer Science key terms](#)

Infinite loop

A command that runs a section of code forever



Structure & Routine

“Establishing structured learning environments has been proven effective for creating conditions that will enhance the academic development of students with autism” (Muchetti, 2013)



Structure & Routine

- Key skills – routine & repetition
- Anticipate transitions
- Minimise distraction of technology (e.g. paper-based starters)
- Manage expectations, e.g. unplugged lessons
- Now & next cards
- Visual timetable
- Clear rules



Structure & Routine

At the start of the lesson:

- line up
- stand by your chair
- sit down and log in
- turn off your screen
- begin the starter sheet

At the end of the lesson:

- save your work
- log out
- make sure the mouse and keyboard are tidied away
- stand by your chair
- push your chair in

Ground Rules

- Avoid swivelling, spinning & travelling with the chairs
- Only adjust chair once in lesson
- No drinks or food
- Only touch **your** computer
- Do not touch cables & other equipment
- Only go on sites that you have permission to use
- Be kind to the equipment



Completing tasks

- Clear instructions – image supported
- Breakdown into smaller sub-tasks
- Task sheets
- Provide models and templates
- Build in success
- Problem-solving approaches for failure
- Timers & clear expectations
- Extension tasks



A template created by Teacher was shared with
you, start designing now



Party Time!

Come to Joseph's
party at Space World

Monday 7th February

*Image from Y3 Desktop Publishing, lesson 2
from the Teach Computing Curriculum, This
resource is licensed under the Open
Government Licence, version 3. For more
information on this licence, see nccce.io/oql.*

Accessible materials

- Provide image support
- Audio recordings or videos to revisit content at their own pace
- Avoid idiom & jargon
- Cognitive load of materials
- Text to speech and dictation tools



Engagement

- Adapt projects to suit specific interests
- Reduce risks & threats
- Quick wins
- Quizzes, puzzles & competitions e.g. [Bebras](#)



Adapting units – engagement

Y1 Digital
Writing

Y2
Pictograms

Y3 Stop-
frame

Y4 Data
Logging

Y6 Webpage
Creation

Y5 Flat-file
Databases





Eric's story

We made a fire and a den.



It was a sunny day.



Collaboration & Group Work

“Autistic students may find working in a group difficult; they may want to be involved in group work but find the social demands or transition to the group setup difficult.”

<https://best-practice.middletownautism.com/approaches-of-intervention/differentiating-the-curriculum/>



Collaboration & Group Work

Tour Guide Activity

<https://teachinglondoncomputing.org/wp-content/uploads/2014/12/activity-tourguide.pdf>



Collaboration & Group Work

Tour Guide Activity <https://teachinglondoncomputing.org/wp-content/uploads/2014/12/activity-tourguide.pdf>

- ✓ What strategies were employed?
- ✓ How effective were they in enabling collaboration?
- ✓ What could be improved?



Collaboration & Group Work

- Signpost group work in advance
- Introduce group work gradually
- Carefully consider groupings and pairings
- Provide visual supports detailing the roles and tasks within the group (e.g. Driver / Navigator in Pair Programming)
- Provide choice of role where appropriate
- Establish shared rules for group work
- Consider the physical environment
- Emphasise the group's collective effort
- Use peer support



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