

SPECIAL EDUCATIONAL NEEDS

STAFF GUIDE



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DIRECTOR'S MESSAGE

Dear colleagues,

As Singapore moves towards becoming more inclusive, we see more students with Special Educational Needs (SEN) pursuing post-secondary education. We warmly welcome these students to join us in their learning journey.

The process of learning can be a challenge for our students with SEN. To facilitate their learning, we strive towards making education in Temasek Polytechnic (TP) more accessible for them.

This SEN Support Guide aims to provide relevant information and ways we can support our students with SEN. We trust that this guide will serve as a useful and practical resource as you help the students achieve their academic goals.

We are truly thankful for all your efforts and guidance in supporting their learning in TP.

Yours Sincerely,

Samuel Wee
Director
Student Support & Career Services

WHY THIS GUIDE

In line with the Enabling Masterplans (2007-2011); (2012-2016); (2017-2021), Temasek Polytechnic (TP) is committed to providing equal opportunities for students with Special Educational Needs (SEN) through an integrated approach.

This guide serves to provide information on the various SEN conditions as well as the support we can render to these students. Lecturers, tutors and Care Persons (CP) who interact with students on a regular basis can use this guide as reference when assisting students with SEN. Course administrators, Liaison Officers for Student Internship Programme (SIP), Co-Curricular Activities (CCA) advisors and other staff members may also benefit from the information included in this guide.

HOW TO USE THIS GUIDE

This guide consists of four sections:

- A. Special Educational Needs
- B. SEN Support Framework
- C. Support Strategies for Tutors
- D. Universal Design for Learning
- E. Resources

It is recommended to read parts A and B to understand more about what SEN is and the support available in TP. To find out more about what you can do to assist the students, you can refer to parts C and D. Part E contains some resources that are useful for you to know with regards to supporting students with SEN.

VISION AND GUIDING PRINCIPLES

Vision

Temasek Polytechnic seeks to develop an inclusive community that promotes a culture of openness, understanding and mutual support in order for students with SEN to:

- a. Have a holistic education experience; and
- b. Attain independent living skills and be equipped to access meaningful employment upon graduation.

Guiding Principles

R – Respect individual differences and accept persons with disability as part of human diversity

E – Emphasise self-advocacy and self-determination

S – Strive for equitable access and full participation

P – Partner important stakeholders for community support

E – Ensure needs-based intervention and support

C – Commit to an inclusive physical and social environment

T – Train persons with disability to be independent and work-ready

A. SPECIAL EDUCATIONAL NEEDS (SEN)

WHAT IS SPECIAL EDUCATIONAL NEEDS?

According to the Ministry of Education (MOE), a student is considered to have SEN when he/she fulfills all the criteria:

- a) Has a disability
- b) Displays:
 - Difficulty in learning compared to the majority of peers of the same age; or
 - Difficulty accessing educational facilities catered for majority of peers of same age; or
 - Some areas of impairment, in terms of social, academic, physical or sensory functioning
- c) Requires different and/or additional resources beyond what is conventionally available.

CLASSIFICATION OF SEN

The SEN conditions that are supported may include but not limited to the following difficulties:

Broad Category	Condition
	Physical Impairment Total or partial loss of bodily functions or a part of the body (E.g. Cerebral Palsy, Spina Bifida, Muscular Dystrophy, Dyspraxia etc.)
Physical and Sensory Difficulties	Deaf / Hard-of-Hearing Partially or completely unable to hear sounds in one or both ears (E.g. Central Auditory Processing Disorder, Sensorineural hearing loss)
	Visual Impairment Decreased ability to see to a certain degree that is not fixable by usual means such as glasses (E.g. Visual Processing Disorder, Glaucoma, loss of central/peripheral vision)

Broad Category	Condition
	<p>Autism Spectrum Disorder (ASD) Difficulties in social communication and engage in restricted and repetitive behaviours</p>
Social and Behavioural Difficulties	<p>Attention Deficit Hyperactivity Disorder (ADHD)</p> <ul style="list-style-type: none"> • Inattention: Easily distracted, difficulty sustaining attention • Hyperactivity: Fidgeting and moving around in the seat • Impulsivity: Blurting out answers, lower impulse-control
	<p>Dyslexia Difficulties in reading, spelling, writing and processing letter sounds</p>
Learning and Language Difficulties	<p>Dyscalculia Difficulties in understanding number concepts and acquiring arithmetic skills</p>
	<p>Developmental Language Disorders Difficulties in processing linguistic information, comprehension and production of spoken and written language</p>

TERMINOLOGY TIPS

Some of terminologies we should take note of:

Avoid	Use this instead
Deaf and dumb, deaf and mute	Deaf, hard-of-hearing, hearing loss
Wheelchair bound	Wheelchair user
Crippled, invalid, lame	Person with physical disability
Spastic	Person with cerebral palsy
Disabled students	Students with disabilities
Student is suffering from....	Student who has
Disabled people	Persons with disabilities
Normal	Persons without disabilities
SEN Students	Students with SEN

B. SEN SUPPORT IN TP

SEN SUPPORT FRAMEWORK

I. Positive Behavioural Interventions and Supports (PBIS)

In supporting the students with SEN, we adopt the Positive Behavioural Interventions and Supports (PBIS). PBIS is an evidence-based three-tiered framework that consists of four key features:

- It is a whole-school approach
- Involves matching support to needs through a tiered approach
- Involves partnership with different stakeholders like support specialists, tutors, parents, and external agencies
- Based on problem solving approach and functional behaviour analysis (FBA)

Essentially, PBIS allows a systematic approach by providing interventions in a timely progressive manner depending on intensity of student needs. It takes a preventive and proactive approach to support students positively. Hence support intensity increases as we move up from Tier 1 to Tier 3. Figure 1 shows the three tiers in PBIS.

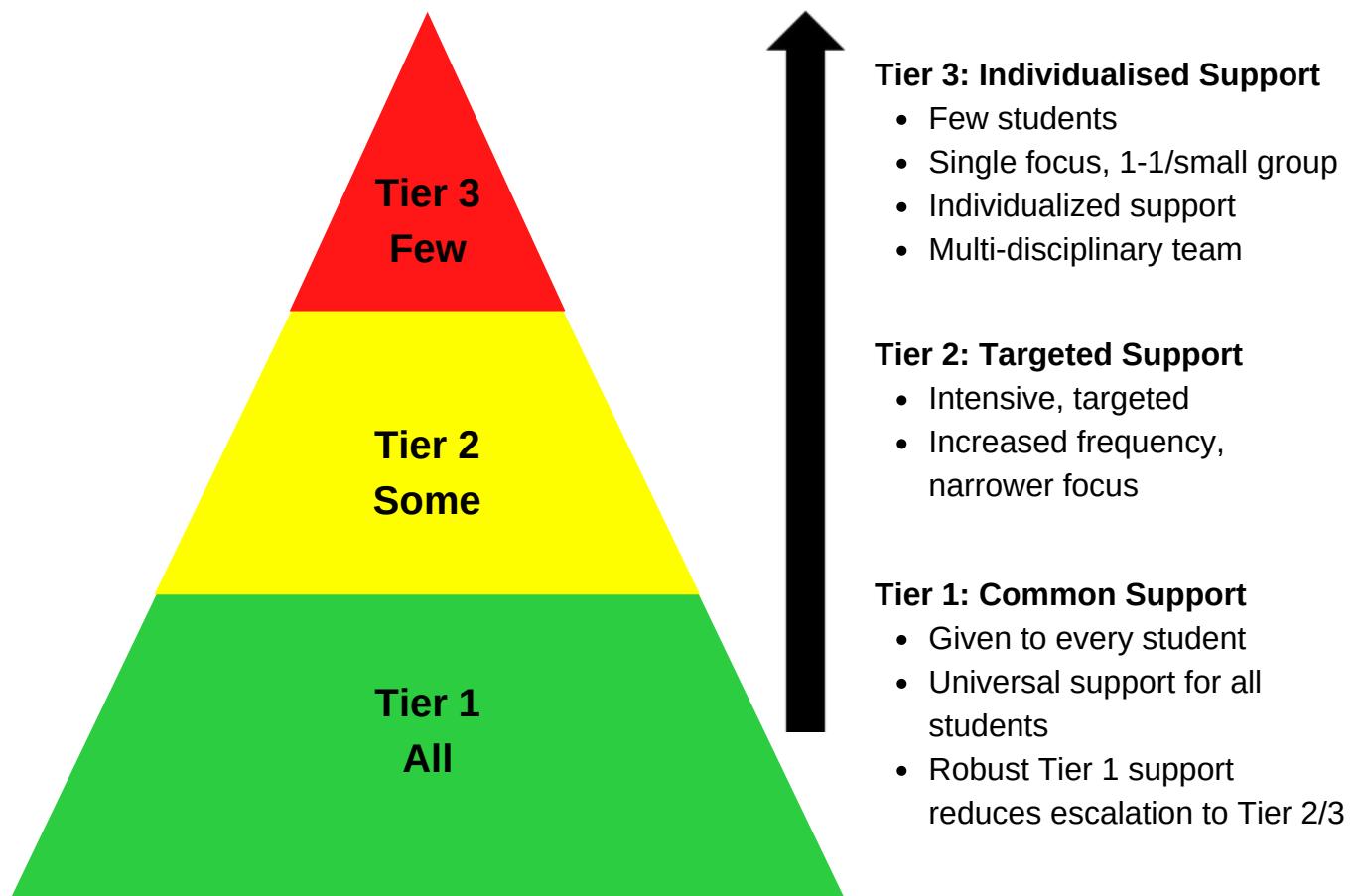


Figure 1. Positive Behavioural Interventions and Supports (PBIS)

"Disability need not be an obstacle to success"

- Stephen Hawking

II. SEN Support Throughout TP Journey

A) Pre-admission: Course and SEN enquiries

Upon the release of GCE O and N levels results, prospective students will choose and apply to their preferred diplomas. In order to make informed decisions, students with SEN are likely to reach out to the Student Support & Career Services department (SSCS) and/or the Course Academic Team to enquire about the course requirements and the SEN support that is available in TP. Meetings involving the SEN Support Officer, student, as well as the course team help to bring clarity to the students' concerns.

B) Enrolment:

- Identification of students who require greater support**

During enrolment, students may disclose their SEN condition to TP via:

- SEN support information from MOE and previous schools
- Medical examination during enrolment period:
 - Self-declaration form
 - Doctor's certification
- Notification from course team after enrolment

After which, SEN Support Officers will identify the students who might require greater support and reach out to them.

- **Transition meetings**

SEN Support Officers may make the first contact or coordinate a meeting prior to course commencement with the student, their parents and respective schools to further understand the student's needs, clarify course expectations and discuss necessary support. The care of students with severe SEN is considered by way of a Personal Evacuation Plan (PEP) which is drawn up jointly by the Course Chair/ Care Person with the student. PEP is a detailed plan for students with physical and/or sensory difficulties in the case of emergencies and the need to evacuate for safety. It will be reviewed every semester as there may be changes in the classroom arrangement and access.

- **Campus walk-throughs**

For certain students who face difficulties in their mobility (e.g. physical impairment, vision loss), the SEN Support Officers will arrange for campus walk-throughs to show these students around. It is important for them to know the accessible areas such as ramps and lifts to navigate around the campus.

"Any time you have a more inclusive environment, you're able to see fresher ideas, broaden your perspective and get the best version of people."

- Craig Cincotta

- **Access accommodations (e.g. Time extension)**

Students with SEN can receive access accommodations if they require them for their exams and other forms of course assessments. Some examples of such accommodations are enlarged paper, extra time and taking exam in another room. For access accommodations, there are two tracks.

Fast-track: Students who enter TP and have received access accommodations for the O levels will automatically be granted the access arrangements

Non-fast track: Students who did not opt-in or did not have access accommodations in their previous school in the MOE list – Course Chair will need to put up a request for the student, together with supporting documents (i.e. medical letters, assessment reports).

For more information on the guidelines for Access Arrangements for students with SEN, please refer to the document [here](#).

C) On-going support:

- Purchase of Assistive Technology (AT)**

Students who require more assistance in their learning may go through an AT assessment to identify the needs and suitable devices/services. The assessment will be conducted by the SEN Support Officer. After which, students will try the recommended AT to determine the suitability and effectiveness. Purchase of AT devices/services will tap on the SEN Fund.

- Adjustments to Physical Environment**

Depending on the needs of the students, some might require adjustments to the classrooms. For example, convenient locations of classroom for students who are on wheelchairs, with greater space for them to move about. For students who use magnifiers to assist them to read, bigger tables are recommended. The SEN Support Officer will work with lecturers/tutors as well as the student to plan on the most conducive arrangement.

- Skills-based Sessions (e.g Social skills, Time management)**

Transitions from secondary schools or ITE might pose a challenge to students due to the nature of polytechnic requirements. As part of transition support, SSCS conducts workshops to equip students with time management and study skills. For students who prefer individualised support, one-to-one sessions with SEN Support Officers are also available.

Apart from that, social skills trainings are also available for students who might face difficulties in their social interactions. Individual and group sessions are conducted for these students to acquire the necessary skills for social communication.

- **Financial Assistance**

Some students might be going through financial struggles that impede their learning or cause them significant stress. When facing these difficulties, behavioural indicators such as absenteeism, low academic grades, and late submissions for assignments might surface. It will be useful for lecturers and tutors to check in with students. School bursaries and scholarships are available for students to apply. If required, they can refer to this website for more information regarding [financial assistance](#).

- **Emotional Support**

During the course of their learning journey in TP, there may be times that students experience stress and anxiety. It is therefore important to monitor and check-in with students on their levels of coping and mental wellness. Students with SEN might experience higher levels of stress as they struggle with keeping up with their lessons and completing assignments. Several behavioural indicators can be signs that the students are going through a tough time. For more information on ways to provide emotional support, please refer to the Pastoral Care Guide [here](#).

If you notice the students' mental wellbeing is in need of professional help, it might be beneficial to encourage the student to make an appointment with TP counselling team via the booking system [here](#).

"I wish for a world that views disability, mental or physical, not as a hindrance but as unique attributes that can be seen as powerful assets if given the right opportunities "

- Oliver Sacks

D) SIP Support

When students move on to Year 3, internships are mandatory. SEN Support Officers will work with the Liaison Officers (LO) as well as the supervisors to support students with SEN in their SIP. Some examples of support are work skills proficiency, available accommodations and adjustments in the company, and alignment of disclosure and expectations between student and employer. For more information on SEN Support for SIP, you may refer to the SIP SEN Navigator Guide [here](#).

Apart from these support, the SEN Support Office organises SIP Preparatory Programmes yearly for students. Students will learn interview skills and effective communication for workplace. The SIP Preparatory Programme aims to prepare students for their SIP and future employment.

E) Pre-employment: Transition to Work

Upon graduating from TP, students with SEN might face difficulties securing employment due to their disabilities. Support from TP extends to assisting them in terms of employment opportunities. There are mentorship programmes available from external organisations such as SG Enable that assist these students in gaining meaningful employment.

SEN SUPPORT TEAM

I. Student Support & Career Services (SSCS)

The SEN Support Division within SSCS consists of SEN Support Officers who are specialized in assisting students with SEN in gaining access to educational facilities. Some of the support provided to the students with SEN by the SEN Support Division are:

- Working together with the students and evaluating their needs
- Developing a Learning Support Plan (LSP)
- Communicating with parents and the academic team so that students have various support systems
- Conducting AT Triage to identify the most suitable AT devices
- Engaging the students in workshops and programmes to optimize learning opportunities
- Assisting students in their Student Internship Programme (SIP) and post-graduation employment
- Working with other departments such as Financial Assistance and Student Care when necessary

II. SEN Support Champions

The SEN Support Champions (SSCs) share a common passion to support students with diverse needs, and to explore and advocate for accessible learning environments. As appointed staff members, they provide ground support to students and their colleagues relating to SEN matters in their respective schools. Bimonthly, the eight SEN Support Champions meet as a Community of Practice (CoP) led by the Learning Strategist from the SEN Support Division.

The regular CoP meeting is a platform for the SSCs to share and grow expertise through case sharing and short presentations. Aligned with the whole school approach, SSCs further work closely with various school personnel to implement the Positive Behaviour Interventions and Supports (PBIS). This includes coordinating and implementing support by partnering different stakeholders like tutors, students, parents and SEN Support Division to provide effective support for students with high needs.

For more information on SSCs, please refer to the document [here](#).

"No disability or dictionary out there, is capable of clearly defining who we are as a person"

- Robert M. Hensel

C. SUPPORT STRATEGIES FOR TUTORS

TUTOR'S ROLE IN SUPPORTING STUDENTS WITH SEN

Tutors play a vital role in guiding the students in their learning. Some students with SEN may not seek help even when they are struggling. It will be beneficial for tutors to actively reach out and check in with the students.

Some of the questions that you can ask during check-ins:

- How are you coping with the school term?
- What are some aspects that you enjoyed?
- What are some challenges/difficulties you are facing?
- What might help you cope better?
- For modules that student seem to be struggling with: How do you find (module)? What are the parts that you have difficulty with? What can be done to help you understand the module better?

Some observations to take note when students:

- Submit his/her assignments late and miss deadlines
- Miss class tests and project presentations
- Produce low quality work
- Attend classes late
- Have difficulty sustaining attention (i.e. fidgeting, moving, distracted)
- Take a longer time to respond
- Engage in socially inappropriate behaviors (i.e. blurting out often, giving inappropriate comments)
- Seem to struggle with social communication – reading social cues
- Show difficulties in expressing his/her thoughts and ideas in a coherent manner
- Have many spelling errors in his/her work
- Not respond to instructions or when he/she is called
- Repeatedly seeks clarification for verbal instructions and during lessons
- Misunderstands verbal language
- Appear withdrawn or isolated; difficult to join in social situations
- Show difficulties in group discussions

If you know any of your students with SEN are struggling to cope, the following are some of the strategies you can employ to support your students.

SUPPORT STRATEGIES

I. Physical and Sensory

Deaf / Hard-of-Hearing

Challenges

- Partially or completely unable to hear sounds in one or both ears
- They might use hearing aids or cochlear implants to assist their hearing
- Unable to hear accurately / poor sound localisation
- Communication abilities might be affected

Classroom strategies

- Face the person when speaking
- Speak one at a time when in a group
- Speak clearly and ensure your face/lips can be seen, so that they can lip-read
- Attract his/her attention before speaking (e.g. tapping on shoulder, waving)
- Repeat questions/answers from other students
- Write/type instructions or announcements
- Ensure that the environment is not noisy and avoid multiple sounds
- Add in captions/subtitles for videos, provide visual materials
- Ensure that the student has understood the content and instructions
- Allow more time for students to process the information conveyed verbally
- Provide recordings of lectures
- Provide lecture materials in advance

Focused Support

- Frequent check-ins with students on their learning
- Ask the student if there are points/content that they missed out
- Allow the use of AT devices if student is using (i.e. Roger devices, video recorders, speech-to-text software, notetaking services)

Visual Impairment

Challenges

- Decreased ability to see to a degree
- Not fixable by usual means such as glasses
- Ranges from mild to total loss of vision

Classroom Strategies

- Identify and speak directly to the student
- Ask before making physical contact
- Read out written information
- Ensure that materials/powerpoint slides are in contrasting colours
- Ensure that texts are in appropriate font size and font type
- Try to avoid situations where the screen/environment is too glaring
- Allow more time for students to read and process the information
- Allow extra time / separate room for examinations if required
- Provide a scribe if required
- Provide reading / physical assistance if required
- Slides and materials should not be overly cluttered
- Set time for breaks in the lessons for students to rest their eyes
- Provide lecture materials in advance

Focused Support

- Frequent check-ins with the students on their learning
- Ask the student if there are points/content that they missed out
- Allow the use of AT devices (i.e. screen magnifiers, text-to-speech software)
- Allow the student to sit in the front of the classroom
- Arrange lesson venues near to one another; or in one classroom
- If lesson venues are far apart, allow grace period for the students to travel

Physical Impairment

Challenges

- Total/partial loss of a person's bodily functions or a part of the body
- Difficulties in accessibility and mobility
- Challenges in daily living activities
- Might require wheelchair or caregiver

Classroom Strategies

- Ask if assistance is required
- Avoid touching the wheelchair without permission
- Ensure that the environment is accessible (e.g. ramps, classroom space, lifts)
- If possible, use ways of assessments that are accessible to the students
- Ensure that equipment and materials are accessible
- Allow additional time for examinations and tasks, especially where bodily movement is involved (i.e. practical sessions)
- Provide a scribe if required
- Allow breaks during lessons for students to rest as they might experience fatigue easily or pressure sores

Focused Support

- Place yourself at a comfortable eye level when conversing
- Arrange lesson venues near to one another; or in one classroom
- If lesson venues are far apart, allow grace period for students to travel

II. Social and Behavioural

Autism Spectrum Disorder (ASD)

Challenges

- Difficulties in social communication (e.g. Reading social cues, engaging in two-way conversations, understanding abstract language)
- May appear unresponsive and display inappropriate gestures
- Sensitive to noise and/or touch
- Repetitive behaviors (e.g. – tapping)
- Issues with coping with unexpected changes and situations
- May struggle with making friends and peer relationships
- Might face difficulties in regulating emotions

Classroom Strategies

- Be patient and allow time to process and respond
- Speak literally
- Give clear and specific instructions
- Avoid touching the student
- Ensure that the environment is not too bright or noisy to avoid sensory overload
- Use visual materials and write out instructions

Focused Support

- Engage in conversations with student to allow practice and exposure to communication, create opportunities to bring about awareness for the student
- Use positive encouragements as reinforcements
- Pre-empt the student of any possible changes (i.e. change in schedules)
- Break down the content so that it is more manageable
- Facilitate a community of support

Attention Deficit Hyperactivity Disorder (ADHD)

Challenges

- Inattention: Easily distracted, difficulty sustaining attention
- Hyperactivity: Fidgeting and moving around in the seat
- Impulsivity: Blurting out answers, lower impulse-control
- Can be forgetful and disorganised
- Some students are on medication to help them with their ADHD

Classroom Strategies

- Ensure that student is on track and following the assignment deadlines
- Allow student to sit at the front of the classroom
- Use eye contact and ensure that the student is paying attention
- Use of activities that can engage the student
- Provide praise and encouragements to reinforce their efforts to sustain attention
- Facilitate a community of support
- Break down instructions and content into chunks

Focused Support

- Frequent check-ins with the student on their learning
- Allow the use of fidget items to help them keep focus without disturbing others

"It's a time to focus on abilities, not disabilities"

- Jason Shawndale Steen

III. Learning and Language

Dyslexia

Challenges

- Difficulties in reading, spelling, writing and processing letter sounds
- Might learn at a slower pace
- Examples: word reversals (eg – d and b), transposition (eg – felt and left)
- May mispronounce words when reading

Classroom Strategies

- Allow additional time for them to read and process
- Use visuals to enhance understanding (pictures/diagrams/mind-maps)
- Repeated practice and re-tests
- Use sans-serif fonts for example, Arial, Comic sans, Calibri
- At least font size 12, 1.5 spacing
- Use of multi-sensory methods of teaching and not just words
- Give breaks during lessons that involve a lot of reading
- Facilitate a community of support
- Break down instructions and content into chunks

Focused Support

- Frequent check-in with student on their learning
- Provide genuine praise and encouragement
- AT devices like text to speech and/or speech to text, reader pen, spell and grammar check

IV. Crisis Support

When supporting students, there may be emergency situations that call for crisis support. It is therefore important to equip ourselves with information beforehand on ways to manage when it happens. Depending on the level and category of cases, different actions can be taken. The levels of emergency range from “Little or no danger” to “Life-threatening danger”. To find out more about the levels of emergency and response required, you can refer to the [Student Crisis Support Guide](#).

With regards to Crisis Support for SEN Students, understanding the student well can be beneficial in handling their meltdowns. There are signs that indicate possible meltdowns. For example, looking distressed, engaging in intense repetitive behaviors, or seemingly whispering or talking to oneself. When they engage in such behaviors, they are trying to manage and cope with the emotions. It is important to notice these indicators and intervene by removing the triggers before an escalation occurs. In the unfortunate event where a meltdown happens, do take note of the following:

- Alert relevant authorities (SSCS)
- Identify and remove triggers and dangerous objects
- Do not restrain the student
- Do not repeatedly tell the student to calm down as this may further trigger him/her
- Make use of visuals (writing down/drawing) to communicate

D. UNIVERSAL DESIGN FOR LEARNING (UDL)

UNIVERSAL DESIGN FOR LEARNING (UDL) GUIDELINES

UDL is a way of thinking about teaching and learning that helps give all students an equal opportunity to succeed and recognising that every individual has a unique way of learning. It offers flexibility in the ways students access learning materials and environments, engage with them and show what they know. UDL is intended to increase access to learning by reducing physical, cognitive, intellectual, and organisational barriers to learning, as well as other obstacles.

Here are some basic UDL tips and strategies which you can consider applying for your teaching modules. Please note that the list is non-exhaustive.

Online

1. Provide handouts ahead of time, in accessible electronic format
2. If your teaching is lecture-based, provide the students with guided notes. Guided notes are handouts that outline lectures, audio-visual presentations, or readings, but leave blank space for students to fill in key concepts, facts, definitions, etc

Lectures

1. Create slides with a solid background (e.g. white text on black background) and use a sans serif font, such as Arial or Verdana with a minimum size of 14 points
2. Read key information presented on slides, blackboard etc. aloud to ensure effective communication to all, including those with visual impairments, auditory learners and students sitting behind any obstruction
3. Make a conscious effort to speak at a slower pace so that students can understand you, especially those whose English is not their first language
4. Face the class when speaking to allow students with hearing loss to read your lips. This will also encourage engagement and interaction with all students
5. Speak in a way that puts the person before the disability, such as “person with disability”, “person with autism” etc.
6. Reinforce key points using a variety of formats (e.g. verbally, graphically, or through demonstration) and explain why they are important
7. Use open-ended questions to check for comprehension. Before calling on someone, allow students enough time to formulate a response either by pausing for a count of ten, having the students record their responses on a piece of paper or electronic device, or having them share responses with their classmates
8. Allow recording of classes if possible. This can be particularly useful for the students who struggle to keep up during the lecture
9. Make sure videos are captioned or contain a text transcript available for the students with hearing loss and those lacking listening comprehension

Classroom Activities

1. Provide multiple means for student participation and engagement. For example, encourage classroom discussion through the use of small group activities, role-play, debates, think-pair-share, case studies, one-minute papers, or other activities that give students more than one way to interact in class
2. When possible, offer the students opportunities to make decisions about their learning. For example, you could give them a choice between multiple essay prompts for an assignment, or give them the option of working solo or in groups to complete an in-class exercise

Assessment

1. Use a variety of assessment methods (e.g. papers, learning journals, presentations, tests, quizzes, oral exams)
2. Provide the students with the opportunity to complete an assignment in various formats (i.e. a paper, podcast, class presentation etc.)

Additional Support

1. Regularly check in with the students with disabilities on a one-on-one basis to discuss their progress and answer questions they may have.
2. Encourage them to seek support either with the course team or with SSCS.

For more information on UDL, you may refer to:

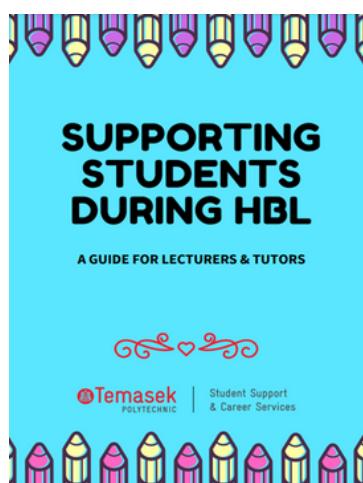
CAST <https://udlguidelines.cast.org/>

E. RESOURCES

HOME BASED LEARNING (HBL)

During home based learning (HBL), some of the students may struggle with attending classes or accessing the lectures. For students who are deaf / hard-of-hearing, catching the information and content during online lessons can be challenging. They are likely to miss certain parts of the lesson when they are unable to hear clearly and accurately. Students with visual impairments might find it difficult to see the materials shared during the lessons. Apart from them, completing certain tasks might pose as a challenge for students with physical impairments. In addition, those with ASD/ADHD can be distracted during online lessons and miss out instructions. There might also be students with learning difficulties that require more assistance during HBL.

Therefore, it is important to do frequent check-ins with the students to ensure they are able to learn effectively and provide support if they are struggling. Interactive lessons can also help to keep the students engaged. For more information on the strategies to support SEN students during HBL, please refer to this [guide](#).



SEN FUND

MOE has set aside funding to provide SEN-based, student centric assistance to Polytechnic students with SEN.

The student must be a Singapore Citizen taking full time diploma and declared SEN condition to the institution with statement of diagnosis from medical professional. Assistance provided will be based on needs assessed by medical professionals, based on the following:

- Physical impairment, learning and behavioural conditions = \$5,000
- Vision and hearing loss = \$25,000

Funds will be used to purchase AT devices or support services for official course related activities (eg: lectures).

"We need to give each other the space to grow, to be ourselves, to exercise our diversity. We need to give each other space so that we may both give and receive such beautiful things as ideas, openness, dignity, joy, healing and inclusion"

- Max de Pree

ASSISTIVE TECHNOLOGY (AT)

Some of the commonly used AT Devices/Services:

Alternative computer devices (e.g. mouse, keyboard)

These alternative computer devices are useful for those with physical disabilities that struggle with mobility.

Compact keyboards, trackball mouse and joystick mouse are suitable for students with fine motor limitations.

Keyboard with larger print have high visibility keys that are easier to see. They are suitable for those with visual impairments and low vision users.



Compact Keyboard



Trackball Mouse

Joystick Mouse



High contrast, larger print keyboards

Magnifiers with Optical Character Recognition (OCR)

Magnifies printed materials on to a large monitor. Monitor is adjustable and can be raised and tilted for users to get a better angle.

Beneficial for students who have low vision and have difficulties reading or seeing printed texts.



Video Magnifier

Image taken from Freedom Scientific

Assistive listening systems (e.g. Roger On>Select)
Microphone that transmit audio from speaker directly to hearing aids. Listener can select who to listen to.

Useful for students who are deaf/hard-of-hearing.

Refer to:
<https://www.phonak.com/sg>



Portable microphones: picks up sounds in various situations

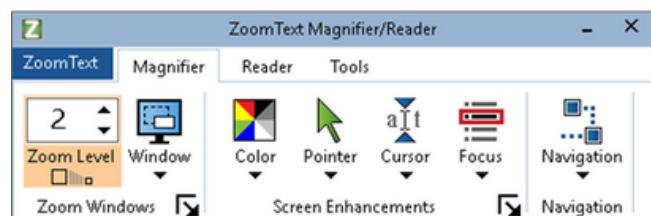
Image taken from Phonak

Text enlargement software
Text-to-speech software

Reads out the texts on the screen. It also enlarges the font shown on the screen.

Useful to those with low vision

Refer to:
<https://www.zoomtext.com/>



Zoomtext

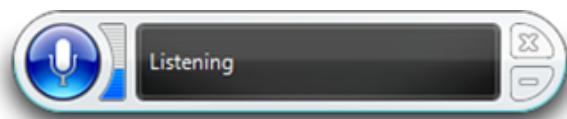
Image taken from Freedom Scientific

Speech-to-text software
(Otter AI, Microsoft Dictation, Windows Speech Recognition)

The software records audio and converts them into texts.

Useful for students who are deaf/hard-of-hearing.

Refer to:
<https://otter.ai/>



Microsoft Dictation

Image taken from Dual Writer

Reader pen (C pen)

Reads out the text when scanned. Built in dictionary and captures lines of text.

Suitable for those with Dyslexia as well as low vision users.



Image taken from C Pen

Word prediction software

Software that assist in spelling and predicts the next word.

Beneficial for students with Dyslexia or those who struggle with spelling.



Image taken from Lightkey

Smart Pens (e.g LiveScribe 3)

Handwritten notes are converted into text.
Syncs recorded audio.

Beneficial for students with Dyslexia.

Refer to:
<https://www.livescribe.com>



LiveScribe 3

Image taken from Lifescribe

**"There is no greater disability
in the society than the
inability to see a person as
more"**

- Robert M. Hensel

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