

## Neurodiverse Differences

**Red** – Neurodiverse Difference.

**Black** – Challenges experienced by neurodivergent students.

**Blue** – Benefits of KAZ's Neurodiverse Typing Tutor and learning to touch type.

### Dyslexia

Dyslexia is a common language processing disorder, which hinders the learning of literacy skills such as reading, writing and spelling.

Students with dyslexia may experience problems with:

#### Disturbances related to visual stress

KAZ Typing Tutor's unique preference screen helps address disturbances related to visual stress by offering the user a selection of preferences to choose from – tailor making the course to each individual for optimum visibility comfort.

#### Cognitive Limitations

KAZ's multi-sensory 'accelerated learning' teaching method, enables students to learn using more than one sense (sight, sound and touch). With this method, information is more likely to be remembered and retained. Students can hone in on their most comfortable and preferred style of learning (visual, auditory or kinaesthetic – tactile pathways). If the teaching method closely matches the students preferred way of learning, learning becomes more natural, making learning easier and in turn faster – 'accelerated learning'.

#### Difficulties with spelling

With KAZ's unique accelerated learning teaching method incorporating 'muscle memory', spelling and vocabulary are engrained to memory, as spellings become a series of finger movements and patterns on a keyboard, dramatically reducing the likelihood of transposing and misspelling words.

Additionally, repetition of typing words helps with training students to recognise words by sight, saving the decoding process that often causes trouble when reading.

Spell checkers also highlight mistakes and offer alternatives.

**Poor and messy handwriting** - (this can lead to embarrassment, frustration and anxiety).

Teaching typing skills eliminates the need for neat handwriting, as touch typing automatises the translation of thoughts and ideas into written language. Errors can be easily edited without messy crossings out, resulting in neat and presentable work - automatically boosting confidence and self-esteem.

**Slow work rate** - (due to poor penmanship).

Quick and accurate typing can reduce the amount of time spent on a piece of work, and often increases the amount of work produced.

Additionally, when used in exams, if the student can type efficiently, ideally without even thinking about it, they can concentrate on the question at hand, concentrate on creative writing and most importantly, type quickly enough to actually finish their paper.

### **Poor Working Memory**

The KAZ course is presented in a structured and light hearted manner and has been designed NOT to overload the working memory. The program is broken down into short modules and allows the student to work at their own pace. Additionally the student is allowed to return to previous modules at any time should they wish to refresh. Typing allows the student to work in a non-linear fashion, where they can process their thoughts first and structure them later.

### **Dyspraxia**

Dyspraxia is a form of developmental coordination disorder (DCD), affecting fine and / or gross motor skills, coordination and the ability to plan, process and perform sensory / motor tasks in a smooth, coordinated way.

Students with dyspraxia may experience problems with:

**Coordination, fine / gross motor skills and physical dexterity** (this can make writing tiresome and even painful).

Teaching typing skills can help reduce physical pressure, cramp and pain in hands and wrists, as pressing keys on a keyboard can be much easier compared with gripping and manipulating a pen or pencil. It also eliminates the need for accurate letter formation and spacing words on a page. Additionally, with practise and repetition, typing can enhance / develop fine motor skills, hand-eye coordination and physical dexterity – in turn helping handwriting skills.

**Poor and messy handwriting** (this can lead to frustration and anxiety).

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**Difficulties with speech** (caused by difficulties with the brain coordinating and communicating with oral motor muscles such as those in the face and tongue).

Teaching typing skills offers an alternate method of communicating.

## **Attention Deficit Disorder with Hyperactivity (ADHD)**

Research suggests ADHD could be connected with several factors: Hereditary, chemical imbalance, brain changes, toxins, brain injury/disorder or poor nutrition, infections, smoking and substance abuse during pregnancy.

Students with ADHD may experience problems with:

### **Attention skills**

Breaking down lessons into short modules that can be repeated as necessary (as in the KAZ program), can help with concentration and focus, as can sitting down to regular short sessions at a computer.

### **Cognitive Limitations**

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### **Difficulties with spellings**

With KAZ's unique accelerated learning teaching method incorporating 'muscle memory', spelling and vocabulary are engrained to memory, as spellings become a series of finger movements and patterns on a keyboard, dramatically reducing the likelihood of transposing and misspelling words.

Additionally, repetition of typing words helps with training students to recognise words by sight. Spell checkers also highlight mistakes and offer alternatives.

**Poor and messy handwriting** (this can lead to embarrassment, frustration and anxiety).

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## **Autistic Spectrum Disorder (ASD)**

Autistic Spectrum Disorder (ASD) is a lifelong developmental disorder characterised by difficulties in social interaction and communication, by repetitive patterns of thought and behaviour and on how they perceive the world around them.

Students on the autistic spectrum may experience problems with:

**Social interaction** (this can lead to anxiety and depression).

Teaching typing skills enables them to communicate **without** the need for social interaction – reassured by the fact that computers do not have faces or emotions.

**Difficulties with verbal / non- verbal communication** (sometimes due to apraxia – a motor skills difficulty, affecting the ability to plan and coordinate the muscles of the mouth, throat and face).

Teaching typing skills offers an alternate form of communication.

### **Cognitive Limitations**

KAZ's multi-sensory 'accelerated learning' teaching method, enables students to learn using more than one sense (sight, sound and touch). With this method, information is more likely to be remembered and retained. Students can hone in on their most comfortable and preferred style of learning (visual, auditory or kinaesthetic – tactile pathways). If the teaching method closely matches the students preferred way of learning, learning becomes more natural, making learning easier and in turn faster – 'accelerated learning'.

**Perfectionism** (due to obsessive compulsive behaviours can lead to frustration, anxiety and stress).

**Poor and messy handwriting** (due to either weak muscles of the fingers, wrists, arms and hands or dyspraxia – can lead to embarrassment, frustration and again anxiety.

Teaching typing skills eliminates the need for neat handwriting, as touch typing automatises the translation of thoughts and ideas into written language. It can help develop fine motor skills and hand-eye coordination, particularly if the program is multi-sensory. It also eliminates the need for accurate letter formation, gripping and manipulating a pen/pencil and spacing words on a page. Additionally, errors can be easily edited without messy crossings out, resulting in neat and presentable work - automatically boosting confidence and self-esteem.

**Frustration** (Able-bodied autistic student's minds work faster than their hands can write – this again can cause frustration with inadequacy).

Teaching efficient typing skills enables them to type at speed, allowing them to keep up with their thinking.

### **Difficulties with spellings**

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Spell checkers also highlight mistakes and offer alternatives.

### **Attention skills**

Breaking down lessons into short modules that can be repeated as necessary (as in the KAZ program), can help with concentration and focus, as can sitting down to regular short sessions at a computer.

## **Tourette's**

Research indicates that Tourette's may be a genetic condition affecting the central nervous system, causing involuntary, repetitive tics of movement and sound.

Students with Tourette's may experience problems with:

**Involuntary tics** (related to the hands, fingers, wrists, arms, neck, head and eyes).

**Cramping in hands**

**Coordination, fine and gross motor skills and physical dexterity** (this can make writing tiresome and even painful).

Teaching typing skills can help reduce physical pressure, cramp and pain in hands and wrists, as pressing keys on a keyboard can be much easier compared with gripping and manipulating a pen or pencil. It also eliminates the need for accurate letter formation and spacing words on a page. Additionally, with practise and repetition, typing can enhance / develop fine motor skills, hand-eye coordination and physical dexterity – in turn helping handwriting skills.

**Poor and messy handwriting** (due to involuntary tics can cause embarrassment and frustration).

**Perfectionism** (due to obsessive compulsive behaviours – can also lead to frustration, anxiety and stress).

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**Slow work rate** (due to poor penmanship).

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KAZ's Neurodiverse Typing Tutor equips the user with a '**skill for life**'.

**In order to help all our assessors, we have created a new DSA/NMH page on our website:** [www.kaz-type.com](http://www.kaz-type.com)

- From here they will be able to access information on our Neurodiverse edition: <https://kaz-type.com/neuro-edition.aspx>
- View a complete tutorial on how to use the course on our You Tube channel: <https://www.youtube.com/watch?v=v5axTWMXMPQ>
- Online / Download Products:

