

## **Justifications of KAZ - Neurodiverse Differences - Student's Challenges**

KAZ's Neurodiverse typing tutor was developed with advice and guidance from Dr. Sue Fowler and her team at the Dyslexia Research Trust (Reading Clinic and Oxford University). It teaches typing skills whilst minimising visual disturbances by means of a unique preference screen, tailor making the course to each individual for maximum visibility comfort. It is suitable for individuals with one or a combination of the following neurological differences: **Dyslexia, Dyspraxia, ADHD, ASD, Tourette's, Visual Disturbances, amongst others.**

The program uses a unique and proven 'accelerated learning' teaching method. Incorporating both 'muscle memory' and 'brain balance', the multi-sensory approach engages the major senses of sight, sound and touch simultaneously, radically enhancing memory retention and recall - which is why it is so effective.

The combination of KAZ's preference screen and its proven accelerated learning teaching method delivers a student tailored, simple but effective course.

The disturbances experienced by neurodivergent individuals can make writing and producing a piece of work extremely challenging. The level of concentration and effort involved can be laborious, exhausting, frustrating - causing anxiety and low self-esteem and can affect the overall structure and quality of a piece of work, or at its extreme, deter the individual from wanting to write at all.

Efficient typing skills and using a computer can help eliminate many of these challenges and frustrations and early acquisition familiarises users with the keyboard, allowing them to fully appreciate the tools available to them through touch typing and using a computer.

Other assistive technologies such as speech to text can also help address some of these challenges but learning to touch type meets all these challenges whilst equipping the student with a portable skill for life - one they can carry beyond the classroom and into work and life.

Our DSA AT Bundle consists of both:

1. Download Neurodiverse Edition - valid for 10 years
2. Online City & Guilds Assured Edition - with assessment module).

On successful completion of the City & Guilds Edition, students will receive a digital certificate and badge from a world wide recognised body they can showcase on their social media profiles, CVs and job applications. We hope this will incentivise them to complete the training and provide them with a valuable tool going forward.

**Dyslexia, Dyspraxia, ADHD, ASD, Tourette's, amongst others.**

**Red** – Neurodiverse Difference.

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

**Blue** – Justifications 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:

### **Visual Disturbances**

KAZ Typing Tutor's unique preference screen helps address visual disturbances by offering the user a selection of preferences to choose from. Once chosen, their preferences are 'saved' and applied throughout the course – tailor making it 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 tactile pathways). If the teaching method closely matches the student's 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, the program uses only '**real words**' and repetition of typing these words helps train students to recognise them 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. Additionally, 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 students can type efficiently, without even thinking about it (subconsciously) – their 'conscious' minds can concentrate on the question at hand,

concentrate on creative writing but most importantly, type quickly enough to 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 in order to hold focus and concentration and allows the student to work at their own pace. Additionally, they are allowed to return to previous modules at any time should they wish to refresh.

Working at a computer allows students 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 and 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, particularly if the program is multi-sensory – in turn helping handwriting skills.

**Poor and messy handwriting** - (this can lead to embarrassment, 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 students 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:

### Poor 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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### 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 in order to hold focus and concentration and allows the student to work at their own pace. Additionally, they are allowed to return to previous modules at any time should they wish to refresh. Working at a computer allows students to work in a non-linear fashion, where they can process their thoughts first and structure them later.

### 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.

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

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

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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 students 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 students 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 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 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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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, poor coordination, fine and gross motor skills and physical dexterity** - (this can make writing tiresome and even painful).

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**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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