# Policy Framework Paper – Universal Screener

## Empowering our Teachers and the Children that they Teach:

A policy framework highlighting how a universal light-touch screener can be implemented by teachers for early identification of children's learning difficulties.

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# 1. Executive Summary

- Early identification of cognitive and experiential barriers to optimised learning in classroom environments is a key step in reducing the high current levels of academic under-achievement, mitigating its impacts on individual quality of life and reducing the high societal costs.
- The established Year 1 phonics screening check provides important information that aids identification of children at risk of reading difficulties that emanate from delays in phonological language skills. However, it does not assess the risk of low levels of progress in other key achievement domains including writing, mathematics and science, or in reading comprehension.
- This document introduces a framework for the expansion of existing KS1 phonics screening, to include early assessment of children's development in four cognitive competencies known to be vital to children's successful engagement with the breadth of the primary curriculum: vocabulary, sustained attention, working memory, and phonics.
- A framework for a new national scheme for universal light-touch screening of these competencies in KS1 is presented. The objective is to improve educational achievement at the whole-school level through adoption of a more complete early warning system for a range of common learning difficulties that act as barriers to educational achievement.

The benefits of the augmented screening framework include:
  i) effective identification of the areas of difficulties and of strengths for individual children that are likely to impact on their future learning,
  ii) provision of teacher-friendly measurement tools and supporting materials that are more comprehensive than existing screening methods, easier to administer and straightforward to interpret and,
  iii) that will provide teachers with tailored information regarding children's profiles of areas of strengths and difficulty that will inform and guide appropriate, targeted classroom support at the earliest ages possible.

# 2. Scope of the paper

Educational research shows that the earlier that we can identify children at risk of or experiencing delay to their learning, the more effective accommodation and intervention approaches will be. This document outlines an evidence-based approach to implement teacher-led, light touch screening of children's individual strengths and weaknesses across key cognitive skills underpinning children's learning of the

foundations of the primary curriculum, beginning in Key Stage 1. It is envisaged that the screener would be designed to be teacher administered and interpreted, and aligned to already existing patterns of achievement monitoring within schools. The proposal is to extend current screening of phonics learning to include additional cognitive domains known to play important roles in student learning across the full breadth of the primary curriculum and beyond.

On the basis of substantial bodies of evidence, three areas of cognitive skill are recommended for inclusion in an expanded KS1 screener. They have been chosen because each would add valuable new information about a child's learning skills and possible future achievements beyond reading alone, in multiple areas of the curriculum. The first new area of assessment is the child's vocabulary knowledge. This a highly reliable indicator of general language abilities that are vital across all areas of the curriculum. The second is the ability to sustain attention to ongoing activities. Difficulties here can result in inattentive and restless behaviour in the classroom that disrupt formal learning. The final candidate for inclusion is working memory, the ability to hold and manipulate information for brief periods of time that is vital for classroom learning in areas including English, maths and science. Each of these cognitive abilities can be readily assessed through a combination of short questionnaires based on the teacher's existing knowledge of the child and in the case of vocabulary, a simple teacher-administered measure.

The profiles of individual strengths and difficulties generated by the screener would provide systematic new information for teachers about all their pupils with a much broader scope than phonics screening alone, which has specific value in flagging risk of future reading difficulties. It would arm teachers with knowledge that would help identify the particular cognitive and experiential hurdles for individual children and ensure that any significant needs that can either be met within or through augmentation of the regular classroom environment or requiring further support beyond this. It is recognised that much of a child's learning occurs outside of the school and that learning proceeds most effectively when schools and families work together. To promote this synergy it is envisaged that the screener profiles would be shared by teachers with parents and caregivers, providing a strong basis for close and effective school-home collaboration and enhancing the direct participation of families in developing appropriate individualised approaches to mitigate underlying cognitive risks. Insights from the screener would also be valuable in aiding the identification of children who would benefit from more detailed assessment and diagnosis, including the referral pathways most appropriate for individual children in the first instance. In this way, knowledge gained from the screener profile would not be considered as a proxy for the diagnosis of learning difficulties. Instead, it would provide a systematic and equitable means of informing and guiding the most effective support, if needed, required by the individual child.

This  document provides a framework for discussion of the pressing needs and context for extending early screening. It precedes detailed consultation with multiple stakeholder groups – including unions, teachers and head teachers, communities, and specialist education services - needed before the formal design and implementation of the measures, such as a potential small scale pilot, could commence.

# 3. The State of Play

Significant numbers of children in the UK struggle to attain the standard expected in the primary curriculum. In 2018/19, 12% of 11-year-old children left primary school unable to read with sufficient expertise to access the secondary curriculum. This proportion has risen to 41% in most recent (Feb 2023) reports by the Centre for Social Justice[1].  Since 2012, the phonics screening check has been implemented to aid early detection of children at risk of reading difficulties and is typically administered by teachers during Key Stage 1 (KS1)[2] .  Phonics ability alone, however, insufficiently predicts children's later literacy achievement, and are even less effective in identifying children at risk of low levels of academic attainment in other key areas of the curriculum including writing, mathematics, and science. Even accounting for some of the more transient effects of children's lost learning opportunity, associated with the COVID-19 pandemic, over one-third of all children are currently failing to meet achievement targets in one of more of these curricular domains at the end of KS1.

Research shows that persistent difficulties in academic achievement is associated with a range of long-term impacts on individual quality of life and incurs high levels of societal cost. Early identification of emerging difficulties is a key mitigator of impact of learning underachievement, yet conventional screening and assessment measures mainly describe and quantify current difficulties; they neither measure, nor identify, the underlying mechanisms that constrain learning. Learning in KS1 is characterised by the mastery of stages in the typical development of oral language, basic literacy and numeracy that are pre-requisite to progressing to the introduction of more complex scholastic skills. The optimal time to evaluate children's development of these early competencies is at a point prior to when they are expected to have mastered them, whilst they are learning the pre-requisite foundations of these skills.  Accessing and engaging with the Early Years curriculum revolves around at least four primary cognitive domains: vocabulary, the ability to sustain attention to tasks, skills in holding and manipulating information for brief periods in working memory, and the ability to decode new words using phonics[3].

The proposal is to implement a new national scheme for universal light-touch screening of these skills beginning in KS1 that will augment effective identification of difficulties and facilitate effective support at

the earliest ages possible. Its primary function will be to provide a universal screening programme with relatively low resource demands, delivered for the benefit of all children. It will also provide teachers with clear information about the strengths and weaknesses in the basic cognitive building blocks for learning of the individual child, accompanied by guidance about how to support the needs of pupils at risk of associated learning challenges.

It is envisaged that the insights gained from the screener would be used by teachers to adjust learning activities to make them accessible and appropriate for each learner. It could also be extended to inform children's families for how they could extend support for learning outside of school. The proposed scheme has additional potential to inform pipelining for further diagnostic assessment of those learners identified as being at risk of severe and persistent learning difficulties, ideally at a point before they experience sustained and entrenched academic underachievement.

### a. Current testing: the focus on phonics

Phonics knowledge provides the basic building blocks through which most pupils learn new words, and refers to the strategy of sounding out words in print using the rules that govern spelling to sound mappings characteristic of alphabetic languages, such as English. In the UK, children are administered the phonics screening check at the end of year 1, typically at age 6, with their results evaluated against competency (pass/fail) benchmarks. Attainment in 2021/22 was 75% of pupils, a 7% decrease from children who passed the test in 2019 (82%). Pupils who do not meet the standard expected, subsequently repeat the measure at the end of year 2. In 2021/22, 87% of pupils met this standard by the end of year 2, down from 91% in 2019.

Educational assessment of individual children experiencing learning difficulties is conventionally conceptualised as skills-based, geared primarily towards understanding what the child has learned and consolidated, and identifying areas that need additional work. Accordingly, the pass/fail nature of the phonics check has been criticised for encouraging teachers to 'teach to the test', as much as an emphasis on assessing synthetic phonics learning of the children that they teach. Phonics ability can be taught, and an overemphasis on this skill may unnecessarily shift the focus of underachievement away from the child and onto variability in the teaching of this skill. A significant limitation of the phonics check is that phonics knowledge alone provides imprecise prospective prediction of children's reading: up to 25% may not benefit from an exclusive focus on phonics approaches for reading, including most children with dyslexia and other SpLDs[4].

The proposed new KS1 screening programme shifts the focus away from measuring aspects of current educational attainment per se, towards extending the range of skills tapped by KS1 screening, to include a broader set of cognitive domains relevant to learning. These would include not only phonics (vital to support abilities to decode unfamiliar words) but also vocabulary knowledge, working memory and sustained attention. Together, these skills provide useful independent predictors of the comprehension and problem-solving abilities crucial to learning complex areas of the curriculum including mathematics and science. Effective and timely teacher-led assessment of these skills would better empower schools to design curricula according to children's instructional needs and diminish the value and impetus of teaching to the explicit requirements of a test.

It would also provide the substantive basis for the delivery of classroom-led approaches that not only augment areas for development but also capitalise on areas of cognitive strength, identified through the child's screening profile.

## b. Co-occurrence between learning difficulties.

Formal diagnostic labels such as dyslexia, dyscalculia, and developmental language disorder describe functional underachievement in reading, mathematics, and language respectively, and are among the most frequent diagnoses made in childhood. They are formally assessed by a broad range of educational, health and medical service professionals, each of whom may apply a different evidence base and associated assessment measures to derive diagnoses. In addition, there are also no agreed standards for choosing the appropriate diagnostic pipeline suitable for an individual child with persistent learning difficulties, and this can result in children receiving different diagnostic labels for similar profiles of difficulties in the underlying cognitive skills- phonological, working memory, attention- that underpin them.

SpLDs and other developmental conditions identified in childhood have high rates of co-occurrence within the same individuals, and at a frequency considerably higher than would be expected if their aggregation within the same individuals were random. The frequency with which neurodevelopmental conditions such as SpLDs co-occur raises important practical issues for how the educational needs of children with complex individual patterns of difficulty (and strength) can best be identified and accommodated. Children with multiple difficulties may experience greater interference with their learning, have poorer academic outcomes, and place greater demands on the resourcing available from the educational and tertiary services that support them. They also may not get sufficient opportunity to develop strategies in support of their own learning and may develop low self-esteem and poor mental health as a result.

Converging evidence highlights the limitations and pitfalls in the conventional approaches to SpLD

diagnosis, with current systems mainly providing single diagnoses. These in fact provide incomplete descriptors of the more common occurrence of complex and overlapping disorders. Reliance upon singular diagnostic categories risks introducing delays to families when accessing alternative and additional diagnoses for their children. Most systems, services, policies, and research are set-up to address single diagnosis. Inefficiencies inherent to these current systems in supporting children who don't fit diagnostic conventions, therefore can increase both financial and opportunity costs to families and other stakeholder groups, and delaying access to appropriate and sensitive diagnostic services, upon which additional support for children is often contingent.

Instead, the underlying cognitive mechanisms that confer both risk and resilience in both typical and atypical development would be better conceptualised and measured as continuous dimensions which confer risk probabilistically and are variably expressed at the individual level across the entire population. The four cognitive dimensions captured by the screening proposal here are in vocabulary, sustained attention, phonics, and working memory.

### c. The inequality of testing provision

All children experiencing learning difficulties regardless of domain of presentation (e.g., reading or maths) and severity, should have access to appropriate and targeted support from the earliest ages possible. With timely identification and sustained intervention, individuals have a greater chance of enjoying successful educational and occupational experiences and/or academic success. Currently, there remains a problem of equity and access to appropriate, high quality and timely assessment in UK education. Difficulties in attaining state-funded assessment for their children drives parents to seek assessments obtained privately. Here, long waiting lists for professional services impede the delivery of timely diagnosis and subsequent intervention. Time delays may be exacerbated by economic inequities. Inter-family variability in ability to pay for what often amounts to costly private assessments, increases inequalities in educational provision between those less and more well-off.  These barriers to provision may be compounded by institutional resistance within school systems to recognising and allocating resource for children with suspected or confirmed SpLDs. Paradoxically the more children with formal diagnoses within a school, the more strain it tends to put upon the individual school to deliver the support pursuant to recommendations, because of the frequent imbalance between the funding received and the cost of delivery of the provision recommended.

Fundamentally, there needs to be an incentive for schools to buy-in to such provision, either from Ofsted or other means, toward reducing variability in resourcing practice and increasing equity.  Compounding

these difficulties is an inequitable 'postcode lottery' regarding state-funded access to assessment and support for those struggling with educational attainment. Despite high numbers of trained specialist teachers and psychologists in the UK[5] , few appear to be working in the state school system. All schools need both the resources and availability of specialist support for addressing individual learning needs identified in the children that they teach and the training and empowerment of action necessary to implement them.

Current testing provision, when it is available, is largely focused on reading as an educational outcome, to the exclusion and detriment of maths, writing and other critical scholastic skills high on governmental agendas for educational improvement (e.g., STEM)[6]. Four key cognitive domains which constrain student learning of the broader curriculum: vocabulary, sustained attention, working memory, phonics, can be used to screen for prospective difficulties across a range of educational outcomes. When measured in conjunction with scholastic achievement outcomes, the implications for future assessment and intervention provision are increasingly valid, timely and precise.  For example, children with low vocabulary, but without difficulties in other areas, would be predicted to benefit from increased exposure to appropriate educational materials but without the need for targeted interventions in other cognitive areas. In contrast, a child with difficulties in phonological awareness, with or without lower vocabulary achievement, might benefit from targeted interventions. In combination the four measures could also identify children for whom current levels of underachievement are associated more with attentional allocation, engagement and control than with other cognitive domains.

## 4. The Proposal

**That a universal, light-touch, screener is delivered to children in year 1 to supplement the existing phonics check. Its aim is to identify those children who are at risk of 'something' which may require additional assistance in their learning development**

Between 14 and 30% of school-aged children require additional support for their learning[7].  A new national scheme for universal light-touch screening for the identification of these children, beginning in KS1 is proposed. The measure could be teacher administered and interpreted, with minimal extra training needed,  and would focus on characterising individual strengths and weaknesses across 4 key cognitive domains which constrain student learning of the primary curriculum: *vocabulary*, the ability to *sustain attention* to tasks, the ability to hold and manipulate information in *working memory*, and the ability to decode new words using *phonics*.

Universal screening of this nature can be designed and implemented cost effectively and could build upon the success and predictive validity of the universal Early Years Foundation Stage Profile (EYFSP). Children meeting developmental benchmarks as indexed by EYFSP have been shown to have higher odds of performing at expected levels on later academic assessments[8].  There is real potential value within classroom screening in tapping the expertise and knowledge of teachers, who are best placed to report observed characteristics of the children that they teach. The characteristics identified in the screener would be evidence-led and reflect consensus in applied and basic educational research. The screener should be simple to score and interpret to minimise the training and support teachers would need for its administration and reporting.

As needed, the screener could be supplemented with further light-touch direct assessments to detail individual progress in specific areas, e.g., reading and language comprehension. The aim would be to provide broad guidance about how to address weaker performance in each case, within the relevant educational and home learning environment of the individual child.

The screener could be designed using analogues of existing, validated tests, adapted for use and interpretation by teachers in classroom settings. Teacher-administered measures of these core cognitive domain exist in the public domain but have not been united within a single screening framework. Examples of existing measures include the following.

**Vocabulary** – The British Picture Vocabulary Scale (3rd ed.) NFER-Nelson. The BPVS3 is an individually administered, standardised measure that assesses a child's receptive vocabulary. For each question, the teacher presents a word orally and the pupil responds by selecting the picture that best illustrates the word's meaning from a range of (4) options.

**Sustained attention** - The Strength and Weaknesses of Attention-Deficit/Hyperactivity Disorder Symptoms and Normal Behaviour Scale (SWAN)[9] is an 18-item behavioural inventory that provides an index of attention from teacher ratings of observed student behaviour.

**Working Memory** - The Working Memory Classroom Screener[10] is a 15 item, teacher administered rating scale, designed help teachers identify students at risk of having difficulties with working memory that may disrupt their academic progress and behaviour in school.

**Phonics** – Information about the current phonics screener used in KS1 is available at:

https://www.gov.uk/government/publications/phonics-screening-check-2022-materials

### a. Rationale for early screening

The sooner that learning difficulties can be identified and addressed, the greater is the probability that children achieve their learning potential. Recent research has shown that more than 80% of children with dyslexia go through their entire formal schooling without being identified[11]. Variation in learning ability emerges from the complex interplay of biological and environmental factors. As such, learning disabilities do not just go away and instead, tend to be exacerbated with time and without intervention and support, which cannot be given without identification. At later ages, the difficulties may become more apparent; by this time however, children with persistent difficulties have typically already fallen well-behind the achievement trajectories of their peers.

These achievement difficulties may be compounded by social emotional factors such as frustration and anxiety and associated with other behavioural difficulties that impact on individual quality of life. In contrast, when the risks for learning difficulties are recognised early, both these direct and indirect consequences can be decreased.

"Currently, too many neurodivergent pupils are leaving school without a diagnosis which is essential for support." - Dyslexia in the Education and Criminal Justice Systems, Roundtable Report, December 2021

**The screener in practice (Figure 1)**
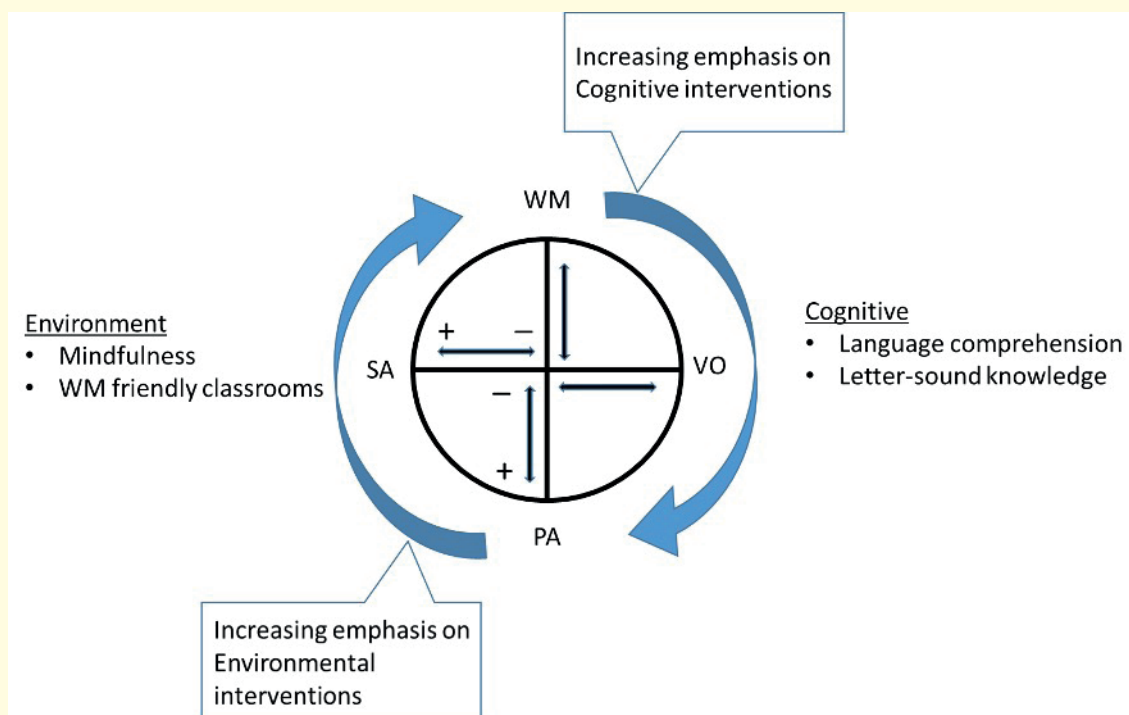


The circle at the centre of figure 1 represents an individual child's profile, obtained by teacher report across 4 quasi- independent dimensions that support and constrain learning of the primary curriculum. Each of these dimensions is measured on a continuous scale with relative strength and relative weakness as endpoints of the continuum. The curved arrows on the outside of the circle represent the potential types of accommodation or of intervention that might be appropriate for children identified with specific profiles across the dimensions. For example, child with comparative strengths on Working Memory (WM), Vocabulary (VO) and Phonics (PA) compared to Sustained Attention (SA), and who also is showing signs of underachievement in for e.g., reading, might benefit most from an environmental manipulation that facilitates increased effective engagement with the curriculum. In contrast, a pattern of low VO in isolation suggests a current delay in vocabulary acquisition which might be predicted to be resolved (as for children experiencing English as an L2) through regular school attendance and exposure to appropriate learning materials as typical.  A child with lower VO and in PA however, might suggest a more atypical pattern of language delay, which requires consideration of more intensive intervention and downstream diagnosis.

**b. How could screening benefit children's learning? An example from working memory**

Understanding working memory

Working memory refers to the ability we have to hold and use information for brief periods of time – sometimes for just seconds, and longer if we keep focussed on it and it's not too much to remember. We use it all the time as a sort of mental notepad – to remember instructions about how to get somewhere while we are doing something else such as driving, or to calculate how much our shopping will cost before we get to the checkout.

School-based learning relies very heavily on working memory and many pupils frequently experience overloaded working memory in structured classroom activities. This contributes to a high risk of underachievement across the curriculum at all ages. Signs of working memory overload are children:

- *needing to be reminded what to do next*
- *not listening to what's being said*
- *forgetting what they are doing or have done*
- *being easily distracted*
- *starting to follow instructions but not completing them*

Stakeholders in working memory

- *the child:* how can he or she experience a positive school experience in which they thrive academically and have good mental health?
- *the school:* how can they provide a classroom environment that provide a positive context for the child to learn effectively?
- *the family:* how can they understand and best support their child to fulfil his or her potential?

Assessing working memory

Teachers typically find it easy to use their knowledge of the child to judge how frequently the child behaves in ways indicating overloaded working memory. The assessment by questionnaire-based measures should take no longer than about 5 minutes per child and could readily be incorporated into a light-touch universal screener.

School support for working memory

Working memory capacity unfortunately cannot be directly boosted by training. But once a teacher knows that a child is showing signs of low working memory capacity, they can provide forms of support to minimise the working memory overload. They can also share their understanding with families.

There is increasing awareness by educational practitioners of working memory issues is the classroom and recognition of the need to prevent working memory failures. A recent example from Scotland is the development of accessible new material to support the implementation of working friendly classrooms[12] Working memory overload can be addressed by changes in practice that applies from the level of the whole classroom, group and individual child, by understanding:

• what conditions exert high working memory loads and how to minimise them
• what working memory overload looks like
• the characteristics of a working memory friendly classroom
• how to improve learning with working memory

# 4. Research Basis

By current diagnostic conventions[13] 'specific learning disorders [SpLD]' or 'specific developmental disorders of scholastic skills') are formally identified by a child's persistent difficulties in learning and using academic skills, with indicators specific to at least one of the following domains: reading accuracy and fluency, reading comprehension, spelling, written expression, numerical calculation or mathematical reasoning. These conditions comprise the most frequently diagnosed conditions of childhood- each affecting approximately 3 to 10% of the population[14]. This reflects that, on average, there is at least one child in every UK school classroom with difficulties severe enough to meet diagnostic criteria.

SpLDs encompass a set of formal diagnostic labels, describing characteristic differences in functional behaviour in how people think, perceive, and learn from their physical and social environments. These diagnostic categories are used world-wide and determined on the basis of behavioural features, usually obtained via some combination of standardised testing and clinically oriented observation.  In current assessment practice, rather arbitrary cut-off points are imposed by convention on these continuous measurement scales to create pseudo-categories of diagnoses.

This categorical logic becomes particularly problematic around the statistical cut-off points, as score differences with little to no relevance to the child's functional ability can make a big difference to the probability of whether or not they receive a diagnosis and the additional support and resource that often comes with it. Learning and disabilities thereof might better be characterised in terms of a spectrum of strengths and weaknesses; these dimensions vary continuously within individuals and across the population and do not require an absolute cut-off score as the core and defining feature of 'disorder'.

Current assessment based on behavioural features of achievement (e.g., reading or maths) suffers from additional limitations, in that neither objective (e.g., standard scores) nor subjective (e.g., clinical observations) descriptions of function can describe or predict the underlying causes of underachievement sufficiently, as descriptions of observable and measurable behaviour-are logically separate from the identification of their underlying causes. For example, a reading impairment of the same magnitude identified in separate children, could each result from one of more of a set of underlying mechanisms, which need not be identical in their presence or impact for each child[15].

Revised frameworks for assessment and diagnosis are beginning to reconceptualise SpLDs as complex products of continuous dimensions of risk and resilience rather than in terms of common, core underlying deficits (e.g., in phonics). Although not yet implemented in widespread assessment practice, an emerging multilevel understanding of diagnostic complexity provides a pragmatic and potentially powerful alternative to the collapsing of individual behaviour patterns into a few, seemingly ill-fitting diagnostic categories[16].

Four key cognitive domains have been shown to constrain student learning of the primary curriculum: i) vocabulary, ii) sustained attention, iii) working memory, and iv) the ability to decode new words using phonics.

### i. Vocabulary:

Vocabulary is a potent predictor of academic functioning and behaviour of school children. Vocabulary provides access to the curriculum throughout primary and secondary education and poses a significant barrier for children with developmental impairments of language who encounter difficulties with academic achievement across all measured curriculum areas compared to their typically developing peers[17]. Oral vocabulary predicts children's later reading development, particularly reading comprehension, but also impacts on domains that require specific word knowledge such as in mathematics and science.

Initial levels of vocabulary and communication skills at school entry and growth of these skills following onset of formal instruction predicts academic achievement[18].

## ii. Sustained attention:

Ability to sustain attention on tasks to the exclusion of distractors has been shown to provide children with a head start in math and reading from the onset of formal education[19]. Sustained attention is a strong independent predictor of attainment in language and problem-solving tasks such as in numerical reasoning and mathematics[20], where increases in the onset of attention difficulties in children between the ages 6 and 11 predicts subsequent declines in reading and math achievement[21]. There is cross-study consensus that attention skills at school entry predict subsequent reading and maths achievement[22] and this predictive validity may be increased with the addition of working memory measures[23].

## iii. Working memory:

The ability to hold information in mind for short periods and manipulate it if necessary is vital both for classroom learning and everyday abilities such as remembering instructions and mental arithmetic. Working memory capacity is the best single predictor of a child's current and future academic abilities[24] and this holds both for concurrent assessments and prospective prediction of reading and mathematical achievement[25]. Deficits in working memory are associated with poorer academic attainment including National Curriculum assessments[26] across a range of learning difficulties and ages[27]. Low levels of working memory skills are accompanied by characteristic patterns of classroom behaviour that can be readily identified by teaching staff.

# 5. Beneficiaries and stakeholders: Opportunities and threats arising from implementation of the initiative

The proposed for a universal light touch screener offers the following:

1. Early screening of risk that enables intervention at the earliest ages possible. Learning disabilities rarely resolve spontaneously and tend to be exacerbated with time and without intervention and support. Early identification and intervention is vital and opens the door to better attainment in educational contexts and beyond.

2. A balanced approach to underachievement across particular skill domains (e.g., reading, maths, science) rather than a more singular emphasis on reading. This would enable the curriculum and interventions to be tailored more to the individual needs of the child rather than relying a one-size fits all approaches based on presumptions of learning requirements of particular disorder categories that often do not capture the needs of the individual child.

3. Universal access to appropriate, high quality and timely assessment in UK education levels the playing field for families. Reducing the inequity of access to appropriate, high quality and timely assessment will minimise some of the key sources of differences between school systems and the abilities of families to garner adequate educational support provision and offers teachers the opportunity to adjust teaching to suit learning needs.

### a. Benefits to children and families

Benefits of this screener to children and families include:

Early identification.  Identifying children's needs early opens the door to better attainment in educational contexts. Currently 80% of dyslexic children leave school with their learning difficulties unidentified[28].  Just four percent of schools currently screen all pupils for dyslexia ; even fewer for dyscalculia or other SpLDs. In contrast, the early screening and the earlier intervention this facilitates can be used to levelling the playing field for children with difficulties, better addressing their learning needs and enabling them to develop their skills at a rate more commensurate with their age and ability.

Empowering our Teachers and the children they teach

Increasing understanding and reducing stigmatisation, through enhanced dialogue between parents and teachers. Identification of learning difficulties and their inherent complexities for individual children can help challenge commonly held adverse perceptions and stigmatisation of these conditions. These perceptions are reflected in unhelpful labels such as 'naughty', 'careless', or 'disruptive' and when used to describe individual children can impact negatively on their mental health and self-esteem. The proposed screener would provide enhanced understanding of individual strengths and weaknesses in key learning domains for all the stakeholder of children's learning achievement. Because the focus of the screening profiling includes cognitive strengths, there is potential to mitigate focus on deficit approaches to learning difficulties and many of the negative and largely unhelpful labels that come with them.

Reduction of opportunity cost through streamlined assessment. The extended screening afforded by this initiative will improve the identification of children at risk of complex co-occurring difficulties, which are often misidentified and inefficiently addressed within current diagnostic systems that rely upon the provision of single diagnoses. Implementation of a more sensitive and efficient diagnostic pipeline would lessen the risk to families in accessing alternative and additional diagnoses for their children, and the associated time delays and high financial costs of doing so. Early school-led screening, increases the chances that effective universal support for all children can be provided at the earliest ages possible, thereby reduce the stress and downstream financial costs to families and other stakeholders.

b.    *Benefits to teachers and schools*

Benefits of this screener to teachers and schools include:

Teacher empowerment. Adjustments and accommodations that come with early identification are crucial aspects of the intervention pathway for learning difficulties. Identification through the screener could empower teachers with the knowledge to make accommodations and adjustments in the content and delivery of the curriculum to best support these children (for example see example from working memory, pg. 13.) The screener would be constructed around reliable assessment elements that are easy for teachers to administer and interpret. With this approach, the buy-in for the screener from teachers and schools is expected to be relatively high.

Augmentation of SEND training. The initial teacher training programme currently lacks a strong focus on SEND. Broader screening across learning domains and the associated mechanisms to educational (under)achievement can augment understanding of how variability in educational outcomes across children arises, and with less emphasis on academic competencies (see above) and other metrics,

indicative of school- attributes rather than those of individual children.

Increased classroom productivity. Better informed teachers are better able to support their pupils on a day-to-day basis, adapting practice dynamically to children's needs. Overall, a greater awareness of the individual needs of the children in the classroom will lead to a better incorporation and delivery of teaching goals with learning benchmarks more child focused. For example, the National Foundation for Educational Research reports, "as reported last year, one of the key messages to emerge … is that many schools believe that a phonics approach to teaching reading should be used alongside other methods". The screener proposed would empower teachers, not burden them, and arm them with the knowledge to be able to best support their students.

Expedient paths to supporting children. The screener proposed offers a more effective and in-depth early warning system that would be expected to lead to more expedient referral and subsequent diagnostic provision. Schools armed with augmented information about individual children would be able to best support teachers in triaging the source of difficulties and reduce focus on the all-to-common behavioural effects that are often secondary to learning difficulties. These benefits extend to learning support teams in schools, which often consist of a variety of staff, with a range of non-teaching qualifications, tasked with delivering direct support to children.

Gateways for access arrangements. More efficient classroom screening and sensitive identification could provide indicators of ability to support access arrangements for assessment and for alternative means for evaluating pupil progress.

c. **Benefits to government and society**

Benefits of this screener to government and society include:

Equity of provision for all children. All research confirms the vital importance of early and sustained assessment and intervention for those struggling with literacy acquisition. The greater awareness of and provision for children with literacy difficulties entails the needs of children with other aspects of skill acquisition, including those who may also experience co-occurring or less severe difficulties, are often neglected. The introduction of a universal screener mitigates against variance in practice, access and resources associated with variability in postcodes and around local authorities.

Increased participation and sustainability of education. Early Identification is key to individual's success both in education and employment. Many challenges arise from failures of identification, including

damaging labels and rejection of participation in education. Identification and intervention in KS1 could help keep these children in school for longer and to mitigate against the potential impact of unaddressed learning difficulties that compound the socioemotional processing difficulties that arise from frustration and lack of engagement in school. The screener also redresses the balance of focus from an emphasis on reading to include other academic achievement outcomes, such as in maths and science. Numeracy underachievement is recognised, but its mechanisms and evaluation of intervention are rather underexplored, compared to reading. Screening for mechanisms of diversity in math achievement would augment STEM promotion agenda.

Appreciation of neurodiversity. Neurodiversity describes the idea that people experience and interact with the world around them in different ways; none is "right" and beyond typical ways of thinking, learning, and behaving, viewed not as 'deficits'.  Business and society are gaining increased appreciation of the value of divergent thinking in processing information and of decision making in enabling new approaches to old problems. At present, however, research shows that 3 out of 4 dyslexics hide it from their employers[29], and 80% of dyslexics are not even identified by the time they leave education.

Increased economic productivity. Low levels of literacy cost the UK an estimated £81 billion a year in lost earnings and increased welfare spending, impacting on 'the success of the economy as a whole'[30]. In contrast, enhancement of educational opportunity and outcomes potentiates individuals as economic agents through their lifetime. Per capita incomes are higher in countries where adults reach high levels of literacy proficiency and fewer adults are at the lowest levels[31]. In addition to literacy, this screener represents a unique mechanism to unlock greater numeracy in children, for the pursuit of STEM initiatives within the UK.

Streamlined assessment pathways. Categorical diagnoses of SpLDs is sustained by poorly fitting conventional diagnostic frameworks that blunt both the validity and impact of research and practice for stakeholder communities. Overburdened screening and assessment pipelines, that lack predictive validity for individual outcomes and which lack sufficient streamlining of the limited financial resources available, overburden individual families and particularly those who are more financially challenged. Advances in next generation healthcare such as the screener proposed here, will better capture complexity at the individual level, evolving practice and creating a broad multi-stakeholder evidence base that challenges and improves the validity and precision of screening and diagnostic practice.

Reduction of criminality and anti-social behaviour. Entry to the criminal justice system is linked with the rates of literacy and unaddressed learning difficulties. Research cited in the 2021 review of Neurodiversity in the Criminal Justice System (CJS) suggests that the prevalence of dyslexia could be as much as five times higher amongst the adult prison population (50%). Prisoners will enter the criminal justice system without their needs ever having been formally identified or supported. Conventional wisdom has previously held that antisocial behaviour causes poor educational outcomes. Greater understanding of the sources and reasons over a range of poor outcomes motivates the appreciation that behaviour can be a consequence of poor experience of the educational system as well.

## 6. Costing the proposal

Universal screening should be designed to be delivered with maximum cost-effectiveness, with requirements for training to administer and score the measures low to moderate as a priority. Such a light-touch screener ls likely to have relatively high buy-in from teachers. There are existing, non-proprietary tests that could be adopted for purpose and add financial advantage. An NFER survey of the costs on implementation of the phonics screener, conducted in 2014, showed that just under half (44 per cent) of respondents had reported that their school had incurred no additional financial costs in of support the introduction of the phonics screening check[32].  As an indication of staff costs for training and administration, the average time per year 1 teacher to train and administer the measure was approximately 10 hours, including an administration time of 11 minutes per pupil. Estimate costs for new screener would be in the same range as those incurred for the implementation of the phonics check given the brevity of the individual measures and the existing fit of the measures to existing areas of the curriculum.

# Glossary

- ADHD: Attention-deficit, hyperactivity disorder. One of the most commonly diagnosed neurodevelopmental disorders, characterised by a persistent pattern of inattention and/or hyperactivity–impulsivity that interferes with a person's functioning or development.
- Cognitive: patterns of thinking and/or reasoning. The mental process of acquiring knowledge and understanding of the world through thinking, experience, and the senses.
- Dimension: A feature of cognition, behaviour, or experience that occurs along a continuum, on which different individuals can have varying levels of a certain characteristic (high to low). This term contrast with a 'dichotomy' or 'category', which simply divides the presence or absence of a certain characteristic into groups.
- Co-occurring conditions: the presence of two or more diagnoses in the same individual. Many individuals diagnosed as having a neurodevelopmental condition carry more than one of these labels.
- CJS: Criminal justice system
- CPD: Continuing, or continuous, professional development
- Decoding: the process by which newly encountered words are sounded out using the spelling to sound rules characteristic of a given alphabetic language.
- Developmental language disorder (DLD): a communication disorder that interferes with the ability to learn, understand and use language.
- Dyslexia: A term characterised by a pattern of difficulties with word recognition, decoding and spelling.
- Dyscalculia: A term characterised by a pattern of difficulties with understanding and using numbers and their relationships.
- EYFSP: Early years foundation stage profile. A statutory assessment of children's development at the end of the early years foundation stage (known as a summative assessment) and is made up of an assessment of the child's outcomes in relation to 17 early learning goals (ELGs). Itis intended to provide a reliable, valid, and accurate assessment of each child's development at the end of the EYFS.
- Intervention. A specific formal or informal programme of support, which is often used to try to help the individual develop abilities in areas of difficulty.
- KS1: Key stage 1. The legal term for the two years of schooling in England and Wales. Normally known as Year 1 and Year 2, with pupils aged between 5 and 7 years.
- Neurodevelopmental: manifest at the level of the brain and arising throughout the process of development.
- Risk factor: an individually manifest attribute that can act as a predisposing barrier to both learning and wellbeing (cf. Resilience factor, ...a predisposing protective factor...)

- SENCO: Special educational needs coordinator. Typically, a school teacher who is responsible for assessing, planning and monitoring the progress of children with special educational needs and disabilities (SEND).
- SEND: Special educational needs and disabilities.
- Transdiagnostic: Not tied to, or independent of, a diagnostic label. Without placing too much priority or emphasis on whether or not individuals carry a particular diagnostic label.
- SpLD: Specific Learning difficulties. Difficulties in learning and using academic skills, as indicated by the presence of symptom or indicator that have persisted for at least 6 months, despite that provision of interventions that target those difficulties.
- STEM: An umbrella term for the related curricular disciplines of science, technology, engineering, mathematics

# Endnotes

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