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Education

# A REVIEW OF CONTEMPORARY MODELS OF FUNDING INCLUSIVE EDUCATION FOR STUDENTS WITH DYSLEXIA

## A REPORT COMMISSIONED BY THE PROGRAM FOR STUDENTS WITH DISABILITIES (PSD) REVIEW UNIT OF THE DEPARTMENT OF EDUCATION AND TRAINING FOR THE STATE OF VICTORIA

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# Contemporary Models of Funding Inclusive Education for Students with Dyslexia

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A report commissioned by the Program for Students with Disabilities (PSD) Review Unit of the Department of Education and Training for the State of Victoria

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## Glossary of Acronyms

| | |
|---|---|
| ACT | Australian Capital Territory |
| ADHD | Attention Deficit Hyperactivity Disorder |
| ARACY | Australian Research Alliance for Children and Youth |
| ASD | Autism Spectrum Disorder |
| AVT | Advisory Visiting Teachers |
| DECD | Department for Education and Child Development |
| DETE | Department of Education, Training, & Employment |
| EAP | Exceptional Access Program |
| ERIC | Education Resources Information Centre |
| ICSEA | Index of Community Socio-Educational Advantage |
| IEP | Individual Education Plan |
| LD | Learning Disability |
| LEA | Local Education Agency |
| LSU | Learning Support Units |
| NAPLAN | National Assessment Program – Literacy and Numeracy |
| NCSE | National Council for Special Education |
| NSW | New South Wales |
| NT | Northern Territory |
| NZ | New Zealand |
| QLD | Queensland |
| RAM | Resource Allocation Model |
| RCT | Randomized Control Trials |
| RTI | Response to Intervention |
| SA | South Australia |
| SEG | Special Education Grant |
| SEN | Special Educational Needs |
| SES | Socio Economic Status |
| SESP | Special Education Support Program |
| SET | Special Education Teacher |
| SNPI | Special Needs Profiling Instrument |
| USA | United States of America |
| TA | Teacher Aide |
| TAS | Tasmania |
| UK | United Kingdom |
| VIC | Victoria |
| WA | Western Australia |
| WSSLS | Whole-School Student Learning Support |

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# Executive Summary

This report was commissioned by the Program for Students with Disabilities (PSD) Review Unit of the Department of Education and Training for the State of Victoria. It provides a systematic analysis of local and international funding models with a focus on those that foster best practice inclusive education for students with dyslexia. A particular emphasis is on identifying models used by various jurisdictions across Australia. It further provides recommendations for consideration in relation to funding models that could best support inclusive education within the Victorian context.

Funding models are critically reviewed as to their potential effectiveness for the Victorian context. Key considerations when choosing appropriate funding models to support students with dyslexia are highlighted. Recommendations for consideration based upon best practice models potentially most applicable for supporting students with dyslexia within inclusive classrooms are outlined.

Students with dyslexia have an identified early onset reading-based specific learning disability that is neurobiological in origin and typically results from a deficit in the phonological component of language. Students identified with dyslexia may struggle to decode words, have slow or laboured reading, and have difficulty in comprehending text. Unlike their peers, these difficulties are not diminished with maturation or through additional exposure to print. No two individuals with dyslexia have similar learning profiles. Depending on the severity of the condition, students with dyslexia could have mild to significant needs.

Identifying best practices and what interventions work best for students with dyslexia depends on a range of issues. Early diagnosis and intervention are essential to ensure appropriate support is given. Overcoming the difficulties faced by students with dyslexia may require specific pedagogies to meet individual strengths and needs. Interventions should be evidence-based, systematic, well structured, include direct teaching, time for learning and consolidation and provide frequent periods of revision to take account of individual characteristics. Response-to-intervention continues to emerge as a significant evidence-based teaching strategy. Direct systematic daily phonological awareness training combined with phonics instruction was evaluated as the most effective especially when provided during the early childhood years. For older students, instruction requires more intensive work for much longer periods. Intensive one-to-one interventions by themselves are not sufficient to remediate reading deficits, as the critical factor is the content of the intervention and the method of instruction.

Analysis of funding models to facilitate the implementation of inclusive educational policy demonstrates that very few systems provide funding models specifically for this targeted group of students. In many systems, students with dyslexia are included within the category of those with learning difficulties. In other systems, students with dyslexia are not acknowledged as a different category. This report considers funding models that, consequently, would have the potential to incorporate support for learners with dyslexia, even though they may not be emphatically mentioned. In almost every region, funding is based upon the level of student need rather than the type of disability.

Internationally, most countries are utilising a range of methods to support students identified with learning difficulties. This typically involves a school-based through-put model with funding provided direct to schools or districts to support the majority of students who exhibit mild to moderate additional learning needs, which could include those with dyslexia. This allows schools the autonomy to utilise the funding according to the actual needs of students within their school community. Additional resources may also be provided based upon demographic challenges such as for students in rural or remote schools, low SES areas, disenfranchised groups, or if their needs are complex and concomitant with another disability. It is also apparent that a greater emphasis is beginning to be placed on implementing output funding models that will ensure the quality of education received by the additional funding and make schools and districts more accountable for using the funds to improve the learning outcomes of students with additional support needs.

No State or Territory within Australia provides funding specifically for students with dyslexia. Support for students with dyslexia is mostly available through general funding to schools for supporting students with learning difficulties. In some States and Territories, through-put funding includes additional loadings for students with learning difficulties which could be utilised at the discretion of the schools. Some systems provide output funding based on low NAPLAN scores that might also include students with dyslexia. District or State-wide consultants were frequently available including specialists in supporting students with learning difficulties.

Most jurisdictions have indicated in their policy documents that they have in-built measures of accountability, transparency and equity for the use of general funds. How these measures are operationalized however, remains unclear from the information available. Funding and resourcing of education for students with dyslexia must be seen in context. Any new funding model must include a process for measuring the effectiveness of the use of funding by viewing the impact that it makes on improving student learning.

Nine key areas have been identified that require attention when deciding on the most appropriate funding models for supporting students with dyslexia (see Figure 1). These areas are particularly pertinent when considering how to support students with dyslexia within regular classrooms. Each of these should be reviewed in detail for the specific context of Victoria prior to deciding on an approach to adopt. The model selected should aim to minimize performance differences between schools while maximizing the progress of all students at each stage of schooling. Funding support should be output focused; designed and used to promote improved student performance.

Three funding models have emerged from this review as current best practice for potentially supporting learners with dyslexia. These are recommended for consideration for providing more effective and equitable approaches to ensuring the needs of students with dyslexia are met. Some systems have opted to use only one or two of these. It would seem, however, that systems which are applying a combination of all three models are providing a more streamlined approach to provision for students, with greater flexibility for supporting the diversity of student needs within different schools across a range of social and geographical regions. It is possible that Victoria may be able to develop one model that captures the best ingredients of different models described below:

1. **Through-put funding** - With the more socially inclusive landscape of schools, it has increasingly become important to consider how to provide additional funding for students like those with dyslexia, who are ineligible to access targeted input funding but who still require additional support. Through-put models have emerged and are generally determined on a per capita funding basis that takes into consideration a number of pertinent aspects of schools. Best practice models include base-line funding for all students and additional support for school type (kindergarten, primary, secondary), geographical region, educational disadvantage, socio-economic status (based on ICSEA), and the number of students identified by the school as requiring additional learning support (with or without a defined disability). Students with mild to moderate support needs, including those with specific learning difficulties and dyslexia, are generally supported under this model.

2. **Output funding** – This model is linked to an increased school liability for ensuring students are achieving desired outcomes. In Australia, funding is increasingly allocated according to results on national NAPLAN scores, thus providing a state-wide equitable means for identifying the percentage of students within a school who are achieving in the lowest stanine. Such a model is significantly less onerous for schools as the funding is automatically allocated without the need for labelling or categorizing students. This funding can be used to target students with dyslexia identified through NAPLAN as requiring support in literacy or numeracy.

3. **State or District-wide funding** - Most systems also provide district or state-wide personnel who can be accessed by schools through a consultancy model. Schools can either access this support through the state system directly or consultants are made available within school districts or school clusters. Such support could include access to specialist teachers for dyslexia that can assist in providing information about resourcing, planning and curriculum development. They can also visit schools to observe students' needs and work collaboratively with classroom teachers and school-based teams to develop appropriate interventions.

Increasing school-based funding provides greater authority to schools regarding decision-making. Nevertheless, systems need to ensure that the increased autonomy is balanced with effective accountability mechanisms. Compulsory professional learning for school leaders should be seen as key to ensuring improved student outcomes are achieved resultant from the affiliated funding being provided to schools.

The biggest effect on student learning is recognized as being attributed to the differences in individual teachers. The effectiveness of existing preparation programs and also mentoring for new teachers, therefore, needs attention to ensure that teachers are able to implement quality programs for supporting all students with dyslexia within regular classrooms.

Funding education for students with dyslexia is complex. Best practice requires that such children have access to all related services as early as possible. It is critical that the funding of students with dyslexia is not seen as the direct cost related to the education of a particular student. Schools also need funding to ensure that they can continue to support students who may not have been identified with a label of dyslexia but who still experience the same learning difficulties.

6 August 2015

# 1. Key Objectives

1.1. To undertake a systematic review of local and international funding models with a focus on those that foster best practices in inclusive education for students with dyslexia; and

1.2. To provide recommendations for consideration in relation to funding models that could best support inclusive education within the Victorian context.

# 2. Introduction

This review presents an exploration of how best to fund students with dyslexia within inclusive school settings. Funding models to facilitate the implementation of inclusive educational policy have demonstrated that there is currently no agreed-upon method for the support of this group of students. In many educational systems, students with dyslexia are not identified as a specific group. In the USA, for example, students with dyslexia would be classified under the broader category of having a 'learning disability' (LD). Support for these students tends to be incorporated into additional support provided by schools for students with learning difficulties. Consequently, this report reviews literature wherever possible related directly to students with dyslexia, but in most instances the focus is on the broader group of students with specific learning difficulties within which those with dyslexia are subsumed.

# 3. Methodology

In order to identify articles for the review, electronic databases (ERIC, PsychInfo and Google scholar) were searched using keywords such as "specific learning disability " and "funding models"; "dyslexia", "inclusive education" and "funding models". As a key focus of the review was to look at contemporary funding models, the search was restricted to articles published since 2005.

We also included policy documents that were available in the public domain and relevant to the review. Abstracts of all identified articles were read to determine the eligibility of the identified articles for inclusion in the report. It became clear that the majority of the articles identified in the process did not describe funding of students with specific learning difficulties and/or dyslexia. Instead, most articles described funding for all students with disabilities and referred to education of students with milder forms of disability (such as learning disability or dyslexia) in various parts of the report. It is not a surprising finding considering most jurisdictions that provided education to students with LD, nationally and internationally, did not have separate models for funding students with LD compared to students with other disabilities. We made every possible attempt to glean and report information that would be useful for funding of inclusive education for students with LD. We also checked the references of all identified articles to identify additional articles for the review.

Another key focus of this review was to identify funding models used by various jurisdictions across Australia to fund the education of students with LD. A slightly different approach was employed to identify literature for inclusion in this review. We first examined the policy documents available on State-wide departmental websites. After reviewing the material, we drafted specific questions that addressed unclear information available on the websites. For example, were there separate funding models for students with dyslexia? The Department of Education representatives were contacted through email and asked to address these questions to provide additional information. In some cases telephone interviews also were conducted to gather/clarify information provided.

It is critical to note that a large majority of the articles that we identified did not use the term 'dyslexia'. A more common term used internationally is learning disability or specific learning difficulties. Therefore, the review will cover funding models and information relating to students with learning disability and/or specific learning difficulties and be used to inform the future funding of inclusive education policies for students with dyslexia.

# 4. Defining Dyslexia

Dyslexia, a condition associated with problems learning to accurately and fluently read words in a printed form, is not currently a separate disability category. However, students with dyslexia are viewed as having an early onset, reading-based specific learning disability that is neurobiological in origin and typically results from a deficit in the phonological component of language (Shaywitz, 2003). Dyslexia is characterized by difficulties recalling letters and their sounds; decoding and spelling of words; a slow reading rate; and poor listening and reading comprehension ability (O'Connor, Bocian, Beach, Sanchez, & Flynn, 2013; Salend, 2015; Wanzek, Al Otaiba, & Petscher, 2014). As a result, despite average or above average cognitive abilities, students with dyslexia struggle to instantly recognise as many words as typically developing readers and their attempt to pronounce unknown words frequently produce many errors, mainly because they will not be efficient in making letter-sound relations (phonics) when asked to read at their grade level.

These reading difficulties often lead to negative educational outcomes for students with dyslexia that include: (a) an avoidance of reading and writing; (b) challenges accessing and comprehending content area knowledge across the curriculum; (c) a hindered ability to develop disciplinary literacy; and (d) lowered teacher expectations, self-esteem and feelings about school in general (Kennedy & Ihle, 2012).

However, it is important to keep in mind that many of these students also show strengths in terms of their curiosity, creativity and have achieved educational and professional success. They also may exhibit strong cognitive and verbal skills that allows them to reorganize information, problem solve and achieve at high levels.

While decoding errors are usually observed in children at a very young age, it is important to note dyslexia does not explain all reading problems experienced by students. Auditory deficits, intellectual deficits, a poor educational environment or problems with spelling rules can also explain students' reading difficulties. When these causes have been eliminated, the diagnosis of dyslexia can be more confidently applied (Dehaene, 2009).

Agencies such as the British Dyslexia Association insist that dyslexia is essentially different from other more mild learning difficulties. The Dyslexia-SPELD Foundation in Western Australia propose that there are two major defining features that have been generally accepted as predicting dyslexia. These include difficulties in phonological awareness with word recognition and poor spelling, which are unexpected in relation to other general cognitive abilities.

Recent research has reported that there is generally little difference in the number of males or females who are diagnosed but that there is a strong genetic link within families. Students identified with dyslexia may struggle to decode words, have slow or laboured reading, and have difficulty in comprehending text. Unlike their peers, these difficulties are not diminished with maturation or through additional exposure to print.

# 5. Best Educational Practices for Students with Dyslexia

The key purpose of this review is to identify contemporary funding models to support education of students with dyslexia. The discussion of funding models needs to be seen alongside what these students need to succeed in inclusive classrooms. The following section is based on the review of meta-analytical and scoping studies commissioned by state or national departments of education to identify the best possible ways to educate students with learning difficulties (including those with dyslexia) and/or services required for them to succeed in the schooling system.

In some countries such as the UK and many European systems, it is evident that the emphasis is on most students being able to be taught effectively through the use of generic approaches within regular classrooms (Ridell, Tisdall, & Mulderrig, 2006). Conversely, in other countries such as the USA, pedagogy is premised on evidence-based and universally designed practices and differentiated instruction for students with different learning strengths and challenges (Salend, 2015).

Reliance on in-class differentiation through quality differentiated teaching practice to support all learners places the main emphasis on teachers having appropriate skills to be able to assess individual learning strengths and needs, implement appropriate research-based interventions and monitor learning progress. In this manner, the greatest support should be directed towards professional development for teachers, education assistants, and peripatetic staff involved in working directly with the students.

In education systems where a regimented curriculum is advocated, teachers may have limited autonomy or time to develop more flexible approaches for supporting a range of students with different learning needs (Didaskalou & Vlachou, 2004). Concomitant with the increasing push towards including all regular class students in national testing, these may work against increasing inclusive approaches to learning for students with special learning needs (Cuban, 2012; Haager & Vaughn, 2013; Moats, 2012).

Identifying what interventions work best for students with dyslexia depends on a range of issues. These include: what students need to know at a particular grade level and the reading level expected for their developmental stage; the intensity of instruction (times per week and teacher-student ratio); the optimal duration of treatment; the degree to which the gains are maintained after intervention has ended; what teacher skills are needed; what other characteristics the student has that will contribute to the success or failure of the intervention (i.e. language deficits, attention problems, strong cognitive, creative, and verbal skills); and whether the intervention has a focus on prevention or intervention.

Overcoming the difficulties faced by students with dyslexia may require specific pedagogies to meet individual strengths and needs. The pedagogies may include access to phonic based programs that explicitly teach decoding and encoding skills. Interventions must be multisensory using intensive, structured and systematic approaches. The Dyslexia-SPELD Foundation of Western Australia proposes that intervention must involve a daily program for a limited time of 15-30 minutes undertaken by a trained specialist or tutor.

Overall, with regard to promoting decoding skills, randomized control trials (RCT) have shown the teaching of letter-sound knowledge, phoneme awareness, and linking letters to sounds within the context of book reading to be the most effective. Reading comprehension can be improved by vocabulary instruction, providing experience with listening comprehension, oral narratives and figurative language.

A meta-analysis of 22 reading interventions (Galuschka, Ise, Krick, & Schulte-Kome, 2014) that met stringent criteria for randomized control trials was undertaken to assess the impact of phonemic awareness instruction (fostering the ability to recognise and manipulate phonemes in words); phonics instruction (interventions that systematically taught letter-sound correspondences and decoding strategies); reading fluency training (interventions that include guided repeated word reading); reading comprehension training (comprised of tasks in which students learn to extract textual information); auditory training (training involves students identifying non-linguistic auditory stimuli); medical treatment (participants receive drugs to enhance reading and spelling); and coloured overlays (interventions in which students read with coloured filters or overlays). The results demonstrated that phonics instruction was the most frequently investigated intervention and the only intervention whose effect on reading performance of students and adolescents with reading disabilities was statistically confirmed, demonstrating that reading difficulties can be ameliorated with appropriate interventions.

Similar findings had already been identified in a large-scale critical review of treatments for students with dyslexia that included studies between 1998 and 2003 (Alexander & Slinger-Constant, 2004). Included in their review was the National Reading Panel's meta-analysis of reading research and how it could be applied to classroom interventions. The effects of alphabetics (phonologic awareness; reading and spelling skills); fluency; comprehension; teacher education; and the effects of computer technology were examined. The Panel did not find strong evidence for the value of alphabetics but did find that direct systematic phonological awareness training combined with phonics instruction produced significant effects for at-risk readers in kindergarten and first grade. While older students responded to the same type of instruction, the gains were not as large. There was also a difference in how younger and older students responded to such interventions. For example, the younger child responded best to small group instruction (2:1 or 3:1) whereas the older students responded best to one-to-one instruction and small group instruction. Younger students responded better to 4-5 days a week instruction while older students required not only more intensive work but for longer durations. Gains maintenance was similar for both groups. Computer instruction was an effective aid, but not in isolation. Characteristics that impeded progress were similar for both younger and older students and included poor attention and behaviour control; naming deficits; and weak verbal ability.

The importance of individual characteristics on learning was also identified in a study that identified rate of response as a significant predictor of outcome (Velluntino, Scanlon, & Jaccard, 2003). In their 6-year longitudinal study of 'at-risk' first graders, students fell into two distinct groups - 'readily remediable' and 'treatment resisters'. Although all the students had significant phoneme awareness deficits, their main variances lay in the differences in their cognitive and language based abilities. The 'treatment resisters' had difficulties in rapid naming, working memory, short-term verbal memory, and the ability to articulate words quickly. It was concluded the 'treatment resisters' lacked the appropriate environmental stimulation needed for the development of a strong phonologic system.

Examining the question of intervention intensity, a longitudinal study of the Reading Recovery Method was undertaken by Tunmer and Chapman (2003). They showed that the program was ineffective for 30% of the referred students. The Reading Recovery Method has been a popular early intervention program involving one-to-one, out of class tutoring for 12 to 20 weeks for six year olds identified with reading problems. Yet Reading Recovery has been criticized for not including explicit phonics or phonological awareness training. The students who did not respond to the Reading Recovery Method were all found to have significant phonological deficits, which probably accounts in part for their lack of progress. Significantly, when tested one year later, those students that did well on Reading Recovery did not do any better than the control group receiving appropriate classroom instruction. Tunmer et al.'s findings indicated that intensive one-to-one interventions alone were not enough to remediate reading deficits; the critical factor being the content and method of instruction.

In a later study, Bowyer-Crane et al. (2008) set out to determine what sort of intervention could strengthen at-risk students' literacy skills. In a randomized control trial, two groups of Year 1 students at-risk for poor literacy development were exposed to one of two interventions. The first intervention targeted phonology with a reading program that included training in letter-sound knowledge, segmenting and blending and reading from grade appropriate books and was delivered each day for 20 weeks by trained teaching assistants. The second intervention was designed to improve spoken language skills. The students that received the phonological training did significantly better than those who received the oral language training on measures of phoneme awareness, letter-sound knowledge and reading and spelling skills. Of equal importance, the gains were maintained after the intervention had been completed. Fifty percent of the phonology group was no longer considered at-risk while, in the oral language trained group, 68.1% remained at-risk. Remarkably, 7.1% of the phonology plus reading instruction group's performance had improved to a level to be classified as above average readers.

Most recently a review was undertaken of students identified with dyslexia involved in a special reading class placement for between two and three years in Ireland (Casserly & Gildea, 2015). Findings indicate that this was a positive experience for all children in the class with academic, social, emotional, behavioural and attitudinal gains. In particular, the students made progress in reading accuracy, comprehension and spelling. Of concern, however, was the lack of collaborative opportunities between the reading and mainstream teachers and a lack of differentiation of curriculum content in the mainstream classroom.

Early identification, ongoing assessments, and evidence-based practices are essential components to help foster the reading skills of students who experience significant reading difficulties (Lemons, Kearns, & Davidson, 2014; Murray, Munger, & Clonan, 2012). One model that has gained prominence in North America and is gaining popularity in other countries (e.g. Scotland and Ireland) as a cost effective way to provide early diagnosis and evidence-based interventions to support the reading and literacy skills of students with reading-based disabilities is Response-to-Intervention (RTI) (Fuchs & Fuchs, 2007; McIntosh, MacKay, Andreou, Brown, Mathews, Gietz, & Bennett, 2011). RTI is a multi-level prevention, assessment, and instructional data-based decision model that can be employed to assess the extent to which students with dyslexia respond to and need more intensive and individualized research-based interventions (Salend, 2015). The RTI model employs 3-4 different levels of tiered instruction and ongoing progress monitoring to provide a graduated series of more intensive, high-quality classroom, group, and individualized instruction and research-based interventions to students whose progress monitoring data show that they need them. Tiers are differentiated with respect to the evidence-based practices employed, the size of the instructional groups, the specificity of the instructional goals and the content mastery levels, the frequency, duration, and location of the instructional activities, the nature and frequency of progress monitoring, and the number and educational expertise of the of educators involved (Mellard, McKnight, & Jordan, 2010).

Assistive technologies are helping students with dyslexia access text-based materials and foster their reading, writing and spelling performance (Salend, 2015). Various lightweight text scanners and optical character-reading systems with speech synthesis can recognize letters, group letters into words, read words, and provide the correct pronunciation of words in a sentence in several languages. Technology-based screen- and text-reading programs read text aloud by word, letters or by phonetic markers; or convert words, sentences, and paragraphs into fluent speech as the text is digitally highlighted (Bruhn & Hasselbring, 2013; Greer, Rowland, & Smith, 2014). Digital books can foster reading fluency and text comprehension for students with dyslexia by allowing them to select options that help them read and understand text (Ciampa, 2012; Larson, 2013). Traditional, talk-type, speech to text, speech-recognition or voice-activated word processing, spell checkers, thesauri and dictionaries, word prediction and cuing programs can help students with dyslexia improve their writing and overcome spelling difficulties (Straub & Alias, 2013).

## 5.1 Summary

Early diagnosis and intervention are essential to ensure appropriate support is given to children with dyslexia and LDs. There are many evidence-based interventions for dyslexia. Unfortunately, in the area of dyslexia, there are also many interventions that have no acceptable evidence base. To be valid, interventions should be systematic, well structured, include direct teaching, time for learning and consolidation, frequent periods of revision to take account of child characteristics such as limited attention span. To most effectively address the needs of students with dyslexia, interventions should include training in letter sounds, phoneme awareness, and demonstrating how letters and phonemes can be linked when reading and writing (Snowling, 2013).

Response-to-intervention continues to emerge as a significant evidence based teaching strategy to address the educational needs of students with learning disabilities. Other interventions found to be successful include those that focused directly on phonics and were provided in a consistent manner. Direct systematic phonological awareness training combined with phonics instruction was evaluated as the most effective especially when provided during the early childhood years. In particular, younger children respond best to intervention when given on a daily basis. When working with older students however, instruction required more intensive work over much longer periods. Intensive one-to-one interventions by themselves were not sufficient to remediate reading deficits, as the critical factor was the content of the intervention and the method of instruction.

# 6. Funding Models for Students with Dyslexia - International Context

When reviewing funding models for supporting learners with dyslexia in inclusive education, it became clear that very few systems provided funding models for this targeted group of students. In many systems, students with dyslexia were included in the more generic category of those with learning difficulties. In other systems, they did not acknowledge students with dyslexia as a different category. Consequently, this review considers funding models that would have the potential to incorporate support for learners with dyslexia, even though they may not be categorically mentioned.

There is little doubt that approaches to funding influence the provision for students with special educational needs. Mitchell (2015, p124) states that "there is a reciprocal relationship between funding and such issues as paradigms of special educational needs, categorisation, Response to Intervention, decentralisation, accountability, parental choice, inclusive education and special schools."

According to Moore et al., (2007) the push for reform of funding models is grounded upon three key concerns:

a) The increasing number of students identified with additional learning needs and the resulting increase in costs for schools to provide for these students;
b) Unease over the efficiency with which resources are used; and
c) The impact of funding models as incentives for contraindicated practices (such as placement in special education facilities), over-identification and misdiagnosis of students.

While strict qualification criteria through categorization models at a systemic level aim to ensure equality of provision, this does not necessarily allow for contextual or social strata group differences or urban versus rural needs to be taken into consideration. Yet funding schools in a more generic way without increased accountability equally does not automatically ensure appropriate support for all learners. This is particularly pertinent in Australia where there are noticeable patterns of socio-economic and indigenous disadvantage in school performance at both intra- and inter-state levels (Lamb & Teese, 2012).

Many systems are endeavouring to juggle fiscal constraints while ensuring that reforms to support the increasing movement towards inclusive education in a more cost-effective way are being more critically evaluated (Banks et al., 2015). The continued uses of categorical systems for resource allocation that are contrary to philosophies of inclusive education, nonetheless, remain controversial (Banks & McCoy, 2011).

There has been a very noticeable trend over the past decade across all developed countries in regard to the allocation of funding to support students with additional learning needs. Yet it would seem that funding for learners with special educational needs internationally remains in flux (Banks, Frawleyc, & McCoya, 2015). Although there exists considerable deviation in funding models, most countries are spending between 12% and 20% of their education budget on resources for special education. A review of international literature undertaken in 2007 on studies of funding models for special education (Moore, Ferrier, Long, Sharpley, & Sigafoos, 2007), identified four key aspects:

- Funding for students with disability is dominated by an accommodation model where funding is provided to accommodate the needs of students (e.g. curricula, environment, assessment, instruction);
- Funding models emphasize process—due process, procedural adherence, fiscal accountability—rather than outcomes such as student learning;
- The level of funding varies with assessments of the intensity of support needed; and
- Funding models are primarily in two dimensions—funding is allocated directly to parents or to schools/districts or it is based on categories of disability or estimates of the proportion of students with disability in the population.

Most countries appear to be moving from a national or district funding model, whereby all funds are allocated on a categorical basis through a competitive process monitored by education systems, to a more devolved system. This school-based approach aims to allow for local decision-making regarding the use of funds to enable attention to be given to the specific needs of individual students within local contexts.

While a school-based funding model will enable increased autonomy, its efficacy is grounded upon school leaders having a clear understanding of inclusive education and delivering national objectives to meet the needs of all learners (Banks et al., 2015). Delegating funds to schools for decision-making, rather than to individuals, conversely, does not always guarantee the purposes for which they will be used (Ridell, Tisdall, & Mulderrig, 2006). According to Williams, Lamb, Norwich and Peterson (2009), there remains insufficient clarity about what services are expected to be delivered and what outcomes are expected to be achieved. Such models, thus, may require greater accountability and monitoring to ensure that students with special needs are the correct recipients of the funding and that learning outcomes are improved. For example, in Sweden funding is allocated directly to schools through local municipalities. Considerable local variation consequently occurs in access to funding by individual students and this seems to have led to an increase in the use of special settings where resourcing is guaranteed (Ridell et al., 2006). Similarly, in Greece funding for students with special needs is devolved to school level but limited funding and a rigid curriculum does not allow for sufficient differentiation to support all learners. It remains to be seen how the current austerity measures will influence funding of education of children with disabilities in Greece.

In New Zealand, there are two levels of funding. Funding is allocated to all schools via an operations grant to provide for all the students in their schools. To support students with special education needs, schools receive a further Special Education Grant (SEG) based on how many students it has requiring additional support and its decile ranking (New Zealand Ministry of Education, n.d.). No additional funding is available depending on the number of students with Special Educational Needs (SEN) in the school, thus tending to disadvantage high decile schools.

The SEG funding is provided for additional in-class support for students likely to be having difficulties with learning but their needs are not high enough to receive support through the Ongoing Resource Scheme. The SEG funding is used to support learners with mild to moderate support needs, including those with learning disabilities which would include students with dyslexia, mild autism, ADHD, or other such conditions (New Zealand Ministry of Education, n.d.). Use of the SEG is determined by the school depending upon the needs of the students in their school and may include:

- Resources and materials;
- Training for teachers on issues relevant to students with special education needs;
- Extra services involving specialist advice or help with teaching or providing training seminars provided by psychologists, behaviour consultants, physiotherapists and other specialists etc.; and
- Additional teacher or teacher's aide time.

(New Zealand Ministry of Education, n.d.)

In addition to the grants, schools in New Zealand can access specialist resource teachers through their area cluster group for support with students with learning and behaviour difficulties, vision, hearing or physical disabilities.

In most countries (e.g. Alberta in Canada and Finland), students with dyslexia or learning disabilities are classified as having "mild to moderate" level of needs and their education is funded through whole school block grants (Jahnukainen, 2011). Readers need to be cautious in making generalisations about funding models in Canada (or in USA) as there are vast differences in the way education of children with disability is funded across different provinces (or states in the USA). Kolbe, McLaughlin and Mason (2007) undertook an extensive review of funding of special education in New Jersey, USA. The New Jersey State Department of Education fund special education at four different tiers based on the severity of needs and categories. Students classified in Tier 1 receive lowest special education funds and those classified in Tier 4 receive the highest dollar amount within the special education grants. Students with learning disability or dyslexia are usually placed in Tier 2. The authors criticised the tiered system of funding used in New Jersey. They stated that "the existing "tiered" structure, based on disability categories and program categories, does not capture the intensity and corresponding costs of educating a particular student. As a result, there may be incentives for districts to "over-classify" students so that they qualify for a higher tier of reimbursement." (p. 32).

Other researchers have also identified some of the drawbacks of using the tiered system of funding in New Jersey. For example, Molenar and Luciano (2007) (Cited in Kolbe, et. al, 2007) investigated the funding system in New Jersey and found that over a five-year timeframe, the number of students in the lowest tier (students who only need related services) increased by 26.3%, and the number of students reported in Tier 2 (students with LD or dyslexia) decreased slightly. A significantly different trend was noted for students classified in Tier 3 and 4. The number of students in Tier 3 (students with moderate level of disability) increased by 48% and, in Tier 4 (students with severe level of disabilities), the number of students increased by 65.9%. It was easy to conclude for authors that the pattern in increase in number of students at Tier 3 and Tier 4 was directly related to the funds available for students in Tiers 3 and 4 (usually 3 to 4 times of the amount provided in Tier 2). Clearly, it shows that the way special education is funded can sometimes incentivise over-identification of students as having more severe disabilities. The issue clearly needs to be taken into consideration when developing new funding models.

When reviewing the impact of different funding models on improved student learning, there has been very limited research that is evidence-based. A major review of the literature undertaken by Sigafoos, Moore, Brown, Green, O'Reilly, and Lancio (2010) was only able to identify 10 studies that had investigated the outcome of five broadly different funding models. Even then, these studies relied on limited data such as surveys, analysis of existing data sources, or qualitative analysis of the funding models. Such information provided stakeholder perceptions and enrolment trends but were limited in their ability to measure the actual impact of the funding reform on student outcomes.

The five funding models identified by Sigafoos et al (2010) were related to the broad categories of discretionary, categorical, voucher, census-based, or cost-based. These reflected a continuum of approaches from census-based at one end to categorically-based at the other. Of note was that most applications of the models investigated in reality included elements of more than one approach to funding. Each of these models was seen to have noticeable benefits but also a number of detriments. Table 1 summarises the findings noted by Sigafoos et al. (2010).

**Table 1 - Five funding models identified by Sigafoos et al. (2010)**

| Model | Explanation | Benefits | Detriments |
|---|---|---|---|
| Discretionary funding | Provision of additional funding or allocation of a percentage of the school budget for special education purposes | ▪ Increased capacity to provide SEN services, but only for schools that received extra funding<br>▪ Development of innovative, age-appropriate programs<br>▪ Did not significantly increase the percentage of students identified as having high support needs | ▪ Increased use of alternative placements<br>▪ Narrowing of curriculum offerings<br>▪ Substantial administrative costs associated with the identification process |
| Categorical | A set amount of additional funding is provided for each student with an identified disability (may be given to the school or to the parent) | ▪ Strengthened parent choice and increased expenditure on direct services | ▪ SEN funds being used primarily to hire teaching assistants<br>▪ Curtail accountability to parents<br>▪ Create inequities for students with SEN<br>▪ Increased litigation related to special education entitlements |
| Voucher | A direct public payment to parents to cover their child's public or private school costs – payable directly to the parent or the school chosen by them | ▪ Increased access to preferred and more specialised services | ▪ Effects of voucher programs on educational outcomes and cost-effectiveness is unclear |
| Census-based | Funding received by a school district or LEA based on the number of students and weighted by SES or type and degree of disability | ▪ Did not appear to reduce SEN enrolments in regular schools | ▪ Increasing SEN costs |
| Cost-based | Based on estimating the actual costs of providing special education services (allocated to schools according to the number of students meeting the definition for mild or more severe / multiple disabilities) | ▪ Costs contained by first estimating the actual per-student cost | |

None of these five models identified by Sigafoos et al., (2010) were seen to be related to either a significant increase in costs or a difference in the learning outcomes of the students identified as having SEN. Sigafoos et al., (2010) concluded that a potential way to classify funding models might best involve the application of two axis: 1) a census- to categorical-based continuum and 2) a district- to parent-controlled continuum. Within these models, funding could be further allocated according to demographic and constitutional variables including SES, rural or urban, and type of disability.

## 6.1 Input, through-put and output funding models

Funding models may also be classified as input, through-put, or output funding. Input funding (also called demand-driven or categorical funding) is based on allocating individual funding to identified students based on the severity of a student's needs (Ferrier Long, Moore, Sharpley, C. & Sigafoos, 2007; Mitchell, 2015; Pijl, 2014). This model firmly locates the problem within the child applying a deficit approach to allocating support. Pijl (2014) identified three distinct disadvantages of input funding. Firstly, by focusing on individuals with disability and a search for pathology, efforts to include the student in the mainstream classrooms would be difficult. Secondly, teachers and parents often put assessment authorities under pressure to manipulate assessment results to show that the child has a higher degree of need to maximise funding. This behaviour has increased the cost of funding. Lastly, the funding model incentivises schools to ask for additional funding for each additional task it is required to perform. The practice is sometimes referred to as a form of 'grant addiction'. A number of other authors have also identified that input funding can be counter-productive to inclusive practices (Riddell, Tisdall & Mulderrig, 2006; Shaddock, et, al, 2009). Riddell et. al (2006) noted that when funds are directly linked to identification of disability, there are high chances of litigation by parents to prove that their child has a disability.

The through-put funding model, alternatively, provides funding through block grants allocated direct to local authorities, districts or schools. This may be census-based with funding allocated according to weighted characteristics. While this places less emphasis on a child's individual needs and reduces the labelling issue, it places greater responsibility in the hands of the school or local authorities. Pijl (2014) identified several advantages of the through-put model. Firstly, it reduces bureaucracy as schools and local authorities can decide for themselves how to use the budget. Secondly, schools have more flexibility in using the budget as per their discretion. Thirdly, the system is less prone to engage in strategic behaviour to over-identify disability. Lastly, it encourages schools to be more inclusive. According to Banks et al. (2015) this type of funding, nevertheless, leads to inaction at a school as the funds are allocated regardless of any accountability for student outcomes. Many countries adopt a combined input and through-put approach. For example, Sweden mainly utilizes a through-put model that is supported by an input approach for students with high support needs being education in special schools. This model is the main type of potential access to support for students with dyslexia. Nonetheless, it relies on schools being prepared to allocate funding to supporting students with dyslexia out of this general budget.

The output (or outcome) model has tended to be overlooked by countries when determining how to fund students with additional learning needs. Yet it would seem undeniably germane that the intention of additional funding should ultimately be linked to improved student learning. By focusing on quality outputs, it has been proposed that special education can be more effectively aligned with the current accountability agenda applied for students without special educational needs (Shaddock, MacDonald, Hook, Giorcelli, & Arthur-Kelly, 2009). A typical measure to monitor this is through the use of documented Individual Education Plans (IEPs). To ensure greater accountability for funding, more education systems are now moving towards a model of measuring student progress or outcomes as a means of assessing the impact of funding reforms (Banks et al., 2015). Alternatively, some systems are using national testing to identify schools where achievement is in the lowest 10% and then automatically allocating additional funds to support these learners. In this way, students with dyslexia who are performing below expected levels in literacy would be able to receive support through schools providing appropriate intervention programs.

This outcome approach is noticeably evident in the UK where their new *Special Educational Needs and Disability Code of Practice* (Department for Education & Department for Health, 2015) provides a greater emphasis on measures of accountability for funding use. While it still proposes a combination of funding models using both input and through-put funding approaches determined by a local funding formula, this is linked more closely to measures of outputs.

A new model proposed for Ireland (NCSE, 2014), similarly, adopts this approach. Their projected funding model involves an outcome model together with a through-put perspective that allows schools greater autonomy whilst still retaining a process for increased accountability for student learning by monitoring and evaluating procedures. The proposed new system of funding is based on educational need rather than disability category. It is expected that the model will limit the need for labelling, thus reducing the stigmatizing of students, and the current administrative burden placed on schools to obtain funding (Banks et al., 2015). However without accountability per se for resource allocation, this model relies heavily on schools 'doing the right thing' by appropriately managing resources to ensure that students with SEN are targeted to receive suitable support. For accountability, therefore, it is proposed that school outcome measures will include standardized testing in addition to profiling; although this approach has been cautioned as potentially disenfranchising schools to achieve to retain funding (Smith & Douglas, 2013).

## 6.2 Summary

It would seem that countries are not adopting a single approach to funding students with dyslexia. In practice most are not specifying dyslexia as a separate category for funding but are utilising a range of methods to support students identified within the broader category of learning difficulties. These typically involve some form of through-put funding provided direct to schools or districts to support the majority of students with SEN who exhibit mild to moderate additional learning needs, which would include those with dyslexia; together with input funding directly linked to the more severe needs of a small number of individual students and allocated direct to the school or parent for the identified child, which would not include students with dyslexia. It is also important to note that no two individuals with dyslexia have similar learning profiles. Depending on the severity of the condition, students with dyslexia could have significant needs. It is also apparent that a greater emphasis is beginning to be placed on implementing output funding models that will ensure the quality of education received by the additional funding and make schools and districts more accountable for using the funds to improve the learning of students with additional support needs.

Important questions regarding establishing any new funding model for students with dyslexia would be what practices and services should be delivered to support students with dyslexia in inclusive education and how resources can best be allocated to enable them to receive comparable quality education and achieve to their potential alongside their peers. Based on international models, most students with mild or moderate additional learning needs would seem to be supported by school-based through-put funding. This allows schools the autonomy to utilise the funding according to the actual needs of students within their school community. Additional resources may also be provided based upon demographic challenges such as for students in rural or remote schools, low SES areas, disenfranchised groups, or if their needs are complex and concomitant with another disability.

# 7. Funding Models for Students with Dyslexia – Australian Context

According to a major report undertaken by the Australian Research Alliance for Children and Youth (ARACY), all Australian States and Territories have firmly established structures for supporting students with learning difficulties (Forlin, Chambers, Loreman, Deppeler, & Sharma, 2013). Many procedures, though, are quite complex for identifying the eligibility of students and the type of support required. Funding decisions are needs based with support being offered at different levels, often through elaborately articulated frameworks.

Table 2 provides a summary of the current funding models applied in the different jurisdictions. These data are obtained via Government web sites and by contact with representatives from the different departments of education, wherever possible, in order to confirm the currency of these models. In some instances it was not possible to endorse this information.

**Table 2 - Funding models employed in all states and territories of Australia for students with learning difficulties**

| State | Funding Model | Mild to Moderate Needs – Students with Learning Difficulties | Staffing | Regional Resource Teachers |
|---|---|---|---|---|
| WA | Through-put & Output | Through-put<br>Student-centred funding model based on number of children and school level (commenced 2015)<br><br>Output<br>Funding allocated to schools for the number of children in the lowest 10% of NAPLAN scores | | District consulting teachers for Tier 1 & 2 support for students with mild to moderate support needs |
| NSW | Through-put & Output | Through-put<br>Student-centred funding model based on number of children, school level and climate<br><br>Output<br>'Every Student Every School' resource allocation for low level adjustments based on 3 year data from NAPLAN | School Learning Support Team | |
| NT | Input | Input<br>Based on application through Support Service Request Form in consultation with Student Services Case Manager<br>Special Needs using Special Needs Profiling Instrument (SNPI) | Special Education Teacher (SET)<br><br>School Support Team<br><br>School Contact | |

| State | Funding Model | Mild to Moderate Needs – Students with Learning Difficulties | Staffing | Regional Resource Teachers |
|---|---|---|---|---|
| Qld | Through-put | Through-put<br>Whole-school student learning support resources (WSSLS) | School Team,<br>Case Manager / School Contact Person | Advisory visiting teachers (AVT)<br>Therapists<br>Teacher Aides |
| TAS | Through-put | Through-put<br>'Fairer funding Model'<br>Base funding per capita + loadings for five key areas of disadvantage linked to Schooling Resource Standard | Support teachers in each school | Learning Service Teams (Regional) include:<br>Speech & Language Pathologists |
| SA | Input | Input<br>Disability Support Program allocated on a per capita basis through Education Office in collaboration with team leaders | Team leaders | Regional Disability Coordinators |
| ACT | Input | | Student Support | |
| VIC | Through-put | Through-put<br>Base funding per capita + equity loadings for student family occupation, middle years, secondary years and mobility | Student Support Group | Student Resource Package |

*Note*. Information presented in the table was gathered from a range of sources and it was not always possible to verify the currency of data due to constant reforms occurring across the States and Territories.

Many states like WA do not acknowledge the term dyslexia but use the broader concept of Learning Difficulties. However, NSW, Queensland and Victoria do use the term, but do not fund specifically for this.

## 7.1 Western Australia

Western Australia has changed their funding model from one that was considered to fund school types and programs through "numerous funding lines using complex multipliers and formulas" (Department of Education, 2013), to a more simplified system based on equity of funding for individual students. The model relies on four key principles of fairness, responsiveness, flexibility and transparency. How these principles are operationalized remains unclear from the information available. All schools are financed through a one-line budget and receive funding depending on the number of students and school level: kindergarten, primary, secondary. Additional funding is provided for students with disability and principals need to ensure that the total value of this funding is directed to the student's individual needs (Department of Education, 2013). This additional input disability allocation has two components 1) individual allocation for students with an eligible disability; and 2) separate educational adjustment for those who require teaching and learning adjustments but may not be eligible for the disability allocation. The second type of funding is not targeted or student specific.

In WA, schools do not need to apply for the second allocation for students who require adjustments, but who do not have a diagnosed disability, as this is automatically provided to schools based on the proportion of students in the lowest 10% of NAPLAN results. This funding is to support students with additional needs or a disability that is undiagnosed or does not attract the Individual Disability Allocation. Students with a learning disability (including those with dyslexia) are eligible for support from this funding as determined by the school.

## 7.2 New South Wales

In NSW, funding for students is progressively being determined using the Resource Allocation Model (RAM). This is underpinned by five core principles of student and school need; evidence-based; efficiency and transparency; certainty; and sustainability and adaptability (McGilchrist, 2014). It remains unclear how the five core principles are operationalized in NSW. Similar to the WA model, RAM provides baseline funding for all schools depending on the location, climate and type of school. Additional targeted and equity loadings are applied to schools for students requiring low-level adjustment for significant learning difficulties including dyslexia, mild intellectual disabilities, language delays and disorders, or behaviour difficulties. Funding is determined by a three-year review of NAPLAN data.

New South Wales is increasingly using student profiling as a means to determine support required for a student (Smyth-King, 22 June, 2015). The department has developed a tool to assist teachers to determine the skills, strengths and educational needs of their students with disabilities (including students who have difficulties in various learning domains). The profile can then be used to meet the learning and support needs of the individual students. The tool determines what support is required by the teacher to support the student. The development and use of the tool seems to be a significant step towards a non-categorical system of supporting students with disabilities. It is important to note that the profiling tool is not used to determine level of funding for an individual student. However, the tool has the potential to be used for the purpose.

## 7.3 Northern Territory

The Northern Territory Department of Education Strategic Plan 2013-2015, *Creating Success Together,* covers all aspects of education for all students. Support for students with a disability is provided using a 'bottom-up' approach at three levels within the Student Support Service Model framework which is based on a Response to Intervention (RTI) approach (Northern Territory Government (n.d.). At Level 1, support is to be provided through whole school / whole class programs and initiatives. At Level 2, the School Support Team identifies cohorts of students with specific learning needs which could include those with dyslexia and develops programs providing specific support for these students using the Special Needs Profiling Instrument (SNPI). Level 3 is for students requiring intensive individual support through the Special Education Support Program (SESP) and would not include students with dyslexia.

The Special Needs Profiling Instrument is used by the Northern Territory to determine the level of additional support required for students considered to be 'at-risk' i.e. students who are identified by the school support team as being at educational risk due to academic, behavioural, emotional and/or social difficulties and may show early warning signs of disorder or disability (Northern Territory Government, 2014).

## 7.4 Queensland

In Queensland, additional resources are provided to schools rather than to individual students to support programs for all students in a school, including students with disability who either do or do not meet EAP criteria (Queensland Department of Education, Training & Employment (DETE), n.d.). This support is allocated through the Whole-school Student Learning Support Resources (WSSLS) model. These resources are managed by the principal to support the delivery of high quality education programs within an inclusive school setting, which may include the engagement of additional specialist teaching staff. Some programs may be designed to support a wide range of students with disability whilst others might support a smaller identified group including those with learning or reading difficulties such as dyslexia (Queensland Department of Education & Training, 28 June, 2013).

## 7.5 Tasmania

The changes to the support for schools in Tasmania are underpinned by two major reforms, namely, an amendment in how schools are funded and a plan to make schools better (Tasmania Department of Education, 2013). Funding is designed to address educational disadvantage and facilitate a high quality education for every student. Tasmania is focusing changes upon five evidence-based areas for better schooling: quality teaching; quality learning; empowered school leadership; meeting student need; and transparency and accountability. Schools will need to have a School Improvement Plan through which they will use the funds to meet the individual learning needs of their students. This may involve using the funds for professional learning for staff, mentoring new teachers, access to better skilled support staff, early literacy and numeracy interventions, developing partnerships or purchasing digital resources. Existing programs such as 'Raising the bar', 'Launching into Learning' and 'Special programs for students with disability' will continue to be funded.

In Tasmania, they have introduced a '*Fairer Funding Model*' that is being phased in over a six-year period from 2014-2019 and used to distribute the Better Schools funding. This model links all funding to a schooling resource standard and includes a per capita base fund depending upon school type (primary, secondary, district high or senior secondary) with additional loadings for five disadvantaged groups:

- Students from low socio-economic backgrounds;
- Students with disability;
- Aboriginal and Torres Strait Islander students;
- Students who need help with English; and
- Schools that are disadvantaged by their size or remoteness.

Geographical location and infrastructure needs are also considered when allocating additional funding. Each school is allocated a support teacher from 1- 5 days per week. Their role is to support school and classroom teachers to improve outcomes for students with disability or additional support needs.

Support for students with learning difficulties including those with dyslexia is usually provided through the Fairer Funding model that is allocated to schools.

## 7.6 South Australia

The South Australia policy provides that any course, program or service should be designed so that it can be modified to enable a student with a disability to participate (South Australian Department for Education & Child Development (DECD), 2014). The current model of support for students includes three aspects of student centred, school-based and targeted initiatives. Through-put funding provides per capita allocation, plus additional equity funding for disadvantaged groups including student family occupation, middle years, secondary years and mobility. Language support programs are also offered to mainstream schools when needed. These additional loadings are determined from the school's annual census that provides detailed information of student enrolment. Students with learning difficulties or dyslexia who are not identified formally are supported through the equity school-based funding model at the school's discretion.

Targeted short to long-term initiatives that are State-wide intervention programs are provided on the basis of information from the school census on the school population or application of expression of interest. These programs are inclusive of students with disability and additional learning needs.

## 7.7 Australian Capital Territory

The ACT provides Learning Support Units (LSU) located in primary and high schools and colleges for students who have an intellectual disability or ASD (Education & Training Directorate, 2015). Disability Education Partners work in teams to support schools to develop, plan and evaluate strategies for ensuring student access, engagement and participation in schooling.

## 7.8 Victoria

The current model of support for students in Victoria includes three aspects of student centred, school-based and targeted initiatives (Alan Wilson, Personal Communication, 22 June, 2015). Through-put funding provides per capita allocation, plus additional equity funding for disadvantaged groups including student family occupation, middle years, secondary years and mobility. Language support programs are also offered to mainstream schools when needed. These additional loadings are determined from the school's annual census that provides detailed information of student enrolment.

Targeted short to long term initiatives that are State-wide intervention programs are provided on the basis of information from the school census on the school population or application of expression of interest. These programs are inclusive of students with additional learning needs.

## 7.9 Summary

Regarding funding support for students with dyslexia, no State or Territory provided funding specifically for these students. Most jurisdictions across Australia have indicated in their policy documents that they have in-built measures of accountability, transparency and equity but how these measures are operationalized remains unclear from the information available. Support for students with dyslexia varied across States but was mostly available through generic funding to schools for students with learning difficulties. In some States and Territories, through-put funding included additional loadings for students with learning difficulties which could be utilised at the discretion of the schools. Some systems provided output funding based on low NAPLAN scores that might also include students with dyslexia. District or State-wide consultants were frequently available including specialists in supporting learners with learning difficulties.

Despite the various types of funding, both Shaddock et al. (2009) and Hattie (2005) have noted that there is not a substantial amount of evidence that finance itself has a direct and major effect on student outcomes. While Hattie has suggested that the lack of association may be due to the fact that sources of data are generally from well-resourced countries, Mitchell (2015) found that learners who spent time in well-designed, well-resourced classrooms that were quiet and well ventilated produced better learning outcomes. However, a strong direct causal relationship between finances and outcomes has yet to be established. The biggest effects on student learning can still be attributed to the differences in individual teachers (Hattie, 2005; Shaddock et al., 2009).

# 8. Key Considerations for Funding Students with Dyslexia

Nine key areas have been identified that require consideration when selecting the most appropriate funding models for supporting students with dyslexia within an inclusive school environment.

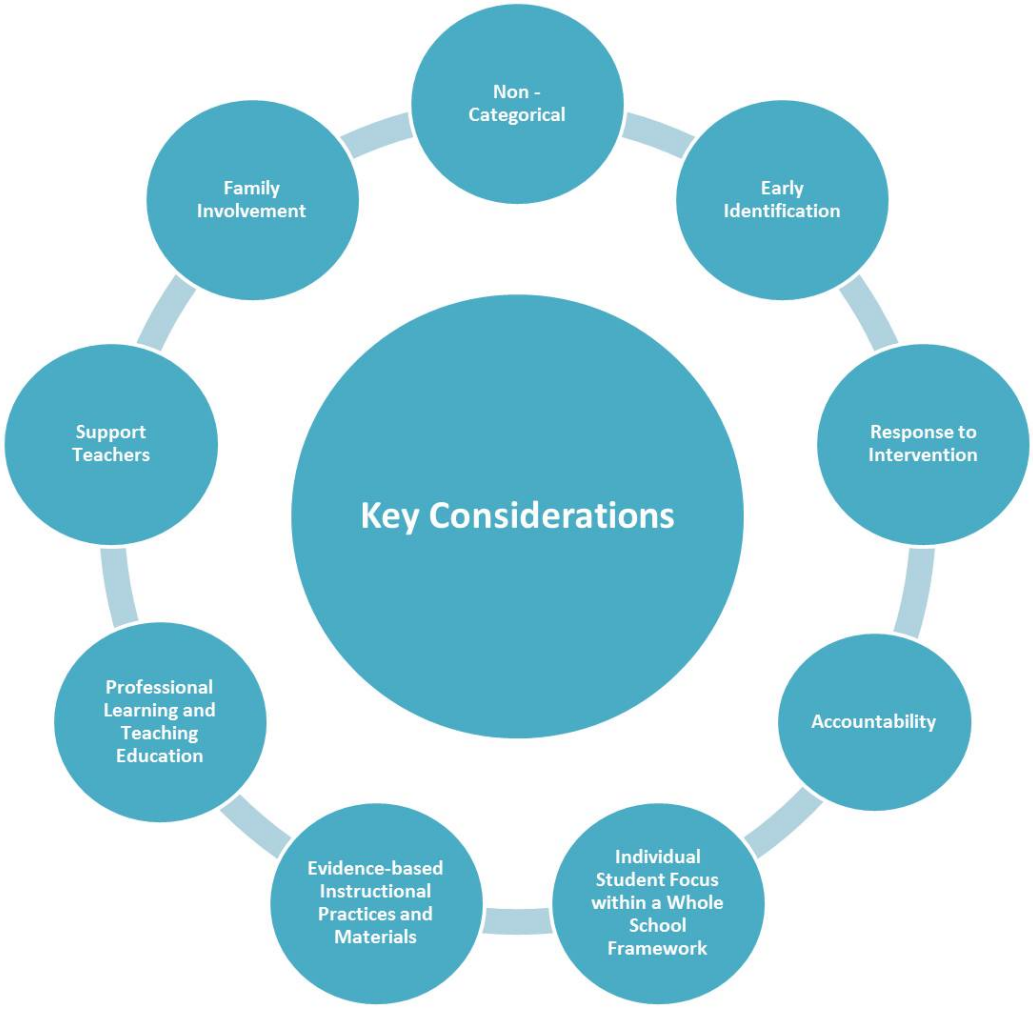


**Figure 1 - Key Considerations for Funding Students with Dyslexia**

## 8.1 Non-categorical

A key finding that has emerged from the review is a need to have funding models that take account of the learning needs and strengths of students and their adjustment requirements. For example, European Agency for Special Needs Education (D'Alessio & Donnelly, 2013, p.55) advocates "a move away from any form of classification system that leads to the labelling and/or placement of pupils based on categories of need". Clearly, there is a shift away from "diagnoses" towards careful strength-based assessment of the interaction between the student and the environment. This will avoid labelling and aims to reduce or eliminate the cost of assessments to determine eligibility and level of funding. When allocating funding using input funding models, there is a tendency to heighten the amount of support that is required in order to obtain more funding. We did not locate any jurisdiction that was applying input funding to support students with dyslexia. Clear and succinct funding models are, therefore, needed to ensure that funding claims are not augmented but accurately reflecting a student's strengths and needs. Moving away from categorical system is not easy. However, there are some systemic level efforts that show that it is possible. For example, Lebeer et al. (2010) developed a framework of graded learning support in an attempt to move away from the medical model of disability towards a truly inclusive education system in Belgium. The implementation of the framework has shown that, despite some challenges, it is possible to move the system away from a medical paradigm to a more inclusive one. Individual learners receive support at five levels, not only in relation to their functional difficulties, but also in relation to environmental barriers.

## 8.2 Early identification

Based on their findings, researchers have consistently stressed the need for early identification and intervention for students with dyslexia. For this reason, there is a substantial volume of research that has established the antecedents of dyslexia in the preschool ages. As students with learning difficulties including dyslexia have been found to show significant improvement when interventions have been administered in the early years, it is critical that funding should be available to support the earliest possible identification and to provide effective early intervention programs.

## 8.3 Response to Intervention

The cognitive skills such as letter-sound knowledge and phoneme awareness are useful only for predicting outcomes on a group basis, making accurate predictions at an individual level is far more difficult. Because of this, Snowling (2013) expresses strong doubts about the value of costly screening and assessment procedures. Instead, a response to intervention (RTI) approach (Fletcher & Vaughn, 2009) was recommended as an alternative. The RTI approach involves monitoring the progress of students during intervention as opposed to taking a static assessment of their skills. Those students with the highest need are identified by their failure to respond to effective teaching. This strategy was identified by the Rose Report (2007) that focused on the identification and teaching of students with dyslexia. The Rose Review strategy involves each child receiving 'quality first' teaching in an inclusive mainstream classroom. Students identified with problems at this stage are then provided with small group catch-up instruction and at the third stage the child is provided with an individualized intervention. Employing this approach, the learner does not have to experience failure to a point where they meet diagnostic criteria, instead they are offered help as soon as they fall behind their peers.

## 8.4 Accountability

Accountability should be integrated in any funding model. Schools need to be accountable to the funding agency and report how the funds provided to schools (a) improved the academic and social outcomes of students with dyslexia and (b) assisted the teaching community in better implementing inclusive practices. Sodha and Margo (2010) recommend that schools should be given more responsibility for the learning of all learners, including those with additional needs. The more responsibility schools have for the education of all their learners, the better they become in implementing inclusive education. Sodha and Margo (2010), however, cautioned that on-going monitoring actions, both internal and external to schools, are needed to ensure that schools continue to maintain the gains.

## 8.5 Focus on individual students within a whole-school framework

Good practice in inclusive education in Australia was summarized in the ARACY Report at both whole-school and in-class levels (Forlin et al., 2013). Good practices at a whole-school level included:

- Adjustments to school culture, policies and organizational practices;
- Development of support structures through collaborative planning;
- Strength based assessment whereby collaborative teams focus on the student's strengths and uses this information to design and implement the student's educational program and to address the student's challenges;
- Appropriate regimes of funding support and access to state-wide consultants;
- Provision of and access to equitable learning opportunities for all students; and
- Encouraging quality-teaching practices by all staff.

At an in-class level, good practices included:

- Differentiating, adapting, or introducing alternative curricula;
- The use of evidence-based and culturally responsive practices;
- The application of universal design for planning and instructional and assessment accommodations;
- The use of assistive and adaptive technologies;
- Individual planning through an IEP; and
- A focus on quality teaching for all students.

## 8.6 Evidence-based instructional practices and materials

Key to the success of interventions to remediate dyslexia are detailed guidelines about the instructional steps that schools and teachers should follow. Evidence-based instructional practices and appropriate assistive technologies should be identified and then be clearly described in a handbook that teachers or teachers' aides can follow systematically. In the US where many states have legislation mandating the support students with dyslexia must receive, guidelines are provided to teachers by way of handbook, such as the Texas Dyslexia Handbook, Mississippi Dyslexia Handbook, Lorraine Wojahn Dyslexia Pilot Reading Program and the Texas Scottish Rite Dyslexia Literacy Program (Youman & Mather, 2012). Universally designed accommodations also need to be considered for students with dyslexia such as allowing them extended time for reading tasks, additional reading time during exams.

## 8.7 Professional learning and teacher education

Students with dyslexia require intensive instruction by highly trained teachers (Moats, 2009). Such instruction involves an individual who can teach phonological awareness, phonics and fluency. For some students, this can be undertaken in the classroom supported with individual or small group instruction. It has been recognized that teacher preparation is a crucial element in helping students with dyslexia and other additional needs. To this end, practice standards for the teaching of students with dyslexia have been adopted by Texas and are currently being proposed in California, Hawaii, Arkansas, Washington, Colorado and Wisconsin (Youman & Mather, 2012).

Unfortunately, some teachers do not have sufficient knowledge to differentiate speech-sounds from letters; the ability to detect phonemes in words; knowledge of graphemes combinations that represent phonemes; the conventions of syllable divisions; the linguistic constituents of a sentence; and the ability to recognise students' difficulties with phonological, orthographic and syntactic learning (Moats & Foorman, 2003). What also needs to be recognized, as a challenge for schools, is that some teachers themselves will have dyslexia (Callens, Tops, Stevens & Brysbaert, 2014; Glazzard & Dale, 2013). The key questions with respect to professional learning that needs to be resolved are how much content knowledge about teaching students with dyslexia should be expected of a classroom teacher and what is the difference between the knowledge needed by a classroom teacher and a specialist.

## 8.8 Support teachers: A school-based inclusion team

Every system that we reviewed had enacted some form of school-based support team. In some instances, this was a dedicated role led by a deputy principal, in others this was led by a special education teacher, and in others a school-team of several teachers undertook this role. In the US, a literacy specialist is employed at school level to support students with learning disabilities. These learning specialists often work in team teaching arrangements with regular classrooms teachers to support the students. The best starting place for supporting students with dyslexia would be to enhance the skills of regular class teachers to improve their general pedagogy so that evidence-based interventions can be implemented as early as possible and that difficulties can be addressed before they become entrenched and increasingly difficult to remediate. Teachers, therefore, need to be well trained and knowledgeable if they are going to be able to support learners with difficulties within school interventions (McGee & Morrier, 2005). This training could occur within a school by applying a collaborative model led by a dedicated school–based inclusion team to identify training needs and organise opportunities for teachers to access it. Mentoring teachers, literacy coaches and arranging shared observations are also useful support programs for teachers. For children with dyslexia, it may still be necessary to provide intensive programs offered by appropriately trained staff to enable them to catch up to their peers.

## 8.9 Family involvement

Family involvement is a key element in student achievement, particularly in the early school years. The majority of parents see themselves as being primarily responsible for their child's reading development (Evans et al., 2004). It has been observed that direct literacy instruction by parents was the most important factor that contributed to their child's reading and writing skills (Senechal & LeFevre, 2002). When parents were trained with the objective of improving home literacy, their degree of participation was closely linked to their child's degree of improvement. This increase in literacy skills was based on a once-per-week scripted parent-child home-based activity, along with a guide about how to interact with their child's classroom topic of the month. While there is more data demonstrating the importance that reading-related knowledge of teachers plays in effective reading instruction, there is also good evidence to show that parents reading-related knowledge is positively correlated with measures of child literacy development, particularly letter-word reading and sound awareness. Indeed targeting different aspects of parental knowledge is likely to enhance the decoding and language comprehension of their children (Ladd, Martin-Chang & Levesque, 2011).

## 8.10 Summary

These nine key considerations are particularly pertinent when considering appropriate funding models to support students with dyslexia within regular classrooms. When reviewing the form a funding model should take in Victoria to address current and posited future expectations, two basic requirements have been proposed. According to Lamb and Teese (2012) any model should aim to minimize performance differences between schools while maximizing the progress of all students at each stage of schooling. They suggest that the first is one of horizontal efficiency that focuses on minimizing the gap between schools of students achieving national minimum standards. The second is one of vertical efficiency that ensures that all students make good progress across all stages of schooling. Lamb and Teese (2012) propose that funding support should be outcomes focused; designed and used to promote improved performance.

# 9 Various Funding Models that could Best Support Inclusive Education within the Victorian Context for Students Requiring Support for Dyslexia

Although there remains enormous variation in practices both inter- and intra- countries for learners who require additional support, there are a number of new models evolving which are indicative of a more effective and equitable approach to ensuring their needs are met. These new approaches are underpinned by a number of key principles to:

- Enable inclusive education
- Provide a more equitable model for supporting all learners
- Give schools greater decision-making regarding implementing more locally appropriate programs
- Provide students with dyslexia with the evidence-based, universally designed, and culturally responsive practices and assistive technologies they need to succeed in the general education curriculum
- Ensure funds are targeted to students who require additional support within a school
- Increase accountability for the use of funds
- Improve student learning through more locally targeted programs
- Reduce stigmatization caused by labelling and categorizing students in order to receive support
- Reduce the wait time to receive funding
- Reduce complexity
- Ensure that funding continues to support a child if they move schools

Three funding models have emerged from this review as current best practice for potentially supporting learners with dyslexia. In some systems, they have selected to use only one or two of these. It would seem, however, that systems which are applying a combination of all three models are providing a more streamlined approach to provision for students, with greater flexibility for supporting the diversity of student needs within different schools across a range of social and geographical regions. Each of these models is described with recommendations for consideration for the Victorian context. It is possible that Victoria may be able to develop one model that captures the best ingredients of different models described below.

## 9.1 Model 1: Through-put Funding

With the changing and more socially inclusive landscape of schools, it has increasingly become important to consider how to provide additional funding for students who are ineligible to access the input funding but who still require additional support for mild to moderate learning needs. To provide for these students, systems have implemented a range of funding models that allow schools to make greater decisions regarding how to support their unique student clientele. Through-put models have, therefore, emerged that are generally determined on a per capita funding basis that takes into consideration a number of pertinent aspects of schools. Through-put funding models are also linked to decentralisation of governance with greater school autonomy; increased flexibility over the use of funds; and improved effectiveness of use of resources.

Best practice models include not only base-line funding for all students but also additional support considering school type (kindergarten, primary, secondary), geographical region, educational disadvantage, socio-economic status (based on ICSEA), and the number of students identified by the school as requiring additional learning support (with or without a defined disability). In this way, schools are provided with a one-line budget that reflects their local needs but gives schools the ability to utilize this funding as they deem most appropriate. Students with mild to moderate support needs, including those with specific learning difficulties and dyslexia, are generally supported under this model.

### 9.1.1 Strengths of school-based through-put funding models:

School based through-put models have several advantages. These advantages include:

- Communities are empowered and inspired to make local decisions to meet local needs
- Greater decision-making at local level directly related to student and school need
- Non-categorical (avoids labelling)
- Increased flexibility over use of funds
- Immediate ability to adapt programs as needs change throughout a year
- Reduced emphasis on external to school bureaucracy
- Significantly reduced administrative burden to receive funds
- Increased accountability for student achievement
- Improved student monitoring systems
- Decisions increasingly become evidence-based

### 9.1.2 Challenges of school-based through-put funding models

Some of the challenges related to through-put funding models are:

- Ensuring all groups of students are targeted
- How to manage individual students who may require one-on-one support for periods of time
- Sharing funding equitably across all groups of need
- Managing differences of opinion over which programs to offer to which students
- Increased emphasis on school self-audits to monitor accountability
- Ensuring strong leadership with highly skilled leaders

### 9.1.3 Recommendations for Consideration

Based on our review, here are some considerations for designing a through-put funding model to better educate students with dyslexia in inclusive classrooms and schools.

a) *Through-put funding should be made available to support students with learning difficulties including those with dyslexia*
b) *In addition to base-line funding for all schools, additional funding should be provided dependent upon a school's estimate of the number of students who require additional learning support (with or without a defined disability) in the area of literacy*
c) *Funding should be determined by school-based decision-making to identify students requiring additional support.*

## 9.2 Model 2: Output Funding

In many systems, there has been a significant trend towards devolving greater responsibility away from education department governance systems towards school-based decision-making. While this gives schools greater autonomy, it also poses an additional role on the authority to ensure increased accountability and monitoring of student learning. The most recent funding model to emerge to support this has been the output approach. This continues to provide schools with additional funding when needed for students but it is tied strongly to increased school liability for ensuring students are achieving desired outcomes. In international systems, output funding has tended to be linked to a student's IEP which has to identify expected outcomes and then funding is allocated for the specified support that will be required to achieve the outcomes. The IEPs are subsequently used to monitor and report on student outcomes. While this is suitable for the small number of students identified with high level of support needs for an identified disability, it is not functional for supporting a larger number of students with milder support needs who would not traditionally have an IEP.

The output funding model that is emerging in Australia is somewhat unique in that it is linking funding for students with mild to moderate additional learning needs to results on national NAPLAN scores. This provides a State-wide equitable means for identifying the percentage of students within a school who are achieving in the lowest stanine, so that funding can be allocated to schools with the greatest needs. Such a model is significantly less onerous for schools as the funding is automatically allocated without the need for labelling or categorizing students and without any additional paper work. This funding can be used to target students with dyslexia identified through NAPLAN as requiring support in literacy and / or numeracy

### 9.2.1 Strengths of output-based funding models:

Output- based funding models have several advantages. These advantages include:

- Funding decisions are evidence-based
- Non-categorical (avoids labelling)
- Provides funding at point of need to overcome educational disadvantage
- Funding targets specific groups of students who are not achieving to potential in identified schools
- Greater decision-making at local level directly related to student and school need
- Increased flexibility for developing programs to target students with additional learning support needs
- Reduced emphasis on external to school bureaucracy
- No administrative burden to receive funds
- Increased accountability for student achievement directly linked to student outcomes

### 9.2.2 Challenges of output-based funding models

Output- based funding models also have several challenges. These challenges include

- Ensuring all targeted students receive appropriate interventions
- Sharing funding equitably across all groups of need
- Managing differences of opinion over which programs to offer to which students
- Increased emphasis on school self-audits to monitor accountability
- Ensuring strong leadership with highly skilled leaders
- Develop and maintain effective monitoring processes for demonstrating improvement in student learning (this should also be seen as a strength of output funding)

### 9.2.3 Recommendations for Consideration

Based on our review, here are some considerations for designing an output funding model to better educate students with dyslexia in inclusive classrooms and schools.

a) *Output funding should be made available to assist students with dyslexia requiring learning support for literacy and / or numeracy.*
b) *Funding should be determined by NAPLAN scores regulated over a two-year cycle to identify the number of students in the lowest 10 percentile ranking within a school.*

## 9.3 Model 3: State-wide or District Support Funding Model

In addition to providing funding direct to schools with through-put or output funding, most systems also provide district or state-wide personnel who can be accessed by schools through a consultancy model. Schools can either access this support through the state system directly or consultants are made available within school districts or school clusters. Such support could include access to specialist teachers for dyslexia that can assist in providing information about resourcing, planning and curriculum development. They can also visit schools to observe students' needs and work collaboratively with classroom teachers and school-based teams to develop appropriate interventions. Psychologists and other consultants such as speech therapists and occupational therapists are also usually available through these avenues.

### 9.3.1 Strengths of State or District-wide funding models.

State or District-wide funding models have several advantages. These advantages include:

- Expert staff are available to consult on students with specific disabilities such as dyslexia
- Funding is allocated to the resource centres rather than schools to ensure greater coverage of access
- Specialist teachers target specific groups of students or individuals as need arises
- Increased flexibility for using limited numbers of experts across wider areas and numbers of schools.
- Limited administration to receive support
- Direct support available for class teachers working with individual students

### 9.3.2 Challenges of State or District-wide funding models

State or District-wide funding models also have several challenges. These challenges include:

- Ensureingsufficient consultants are available to support all students when required
- Sharing consultants equitably across all schools
- Developing and maintaining effective collaborative processes between schools and consultants for ensuring maintenance of programs

### 9.3.3 Recommendations for Consideration

a) *State or District-wide funding should be made available to provide access to appropriate qualified experts on dyslexia*
d) *Consultants should be able to support schools working with students with dyslexia through the use of collaborative processes*

## 9.4 Role of Schools

To support these new funding models it becomes clear that leaders will need to emerge who have the capacity to take on the increased expectations and accountability for schools. Allocating funds directly to schools relies on school leaders and staff having the skills to identify the specific needs of their students and to be able to implement appropriate intervention programs and school-wide support that will ensure that all needs are being met. In some countries such as the UK and many European systems, it is evident that the emphasis is on most students being able to be taught effectively through the use of generic approaches within regular classrooms (Ridell, Tisdall, & Mulderrig, 2006). Conversely, in other countries such as the USA, pedagogy is premised on separate and distinctive teaching methods for students with different learning needs. By allocating funding direct to schools, it will be possible for them to investigate the best practice approaches for their own students and to provide appropriate support for learners with additional needs for dyslexia.

While increasing school-based funding provides greater authority to schools regarding decision-making, systems need to ensure that the increased autonomy is balanced with effective accountability mechanisms. There is still a key role for systems to play in safeguarding that alongside increasing school-based decision making that there is also a comparative increase in greater accountability for using the additional funding to improve student learning. In future, evidence-based student-centred practice with internal and external validation should increasingly guide funding models.

Concomitant with the increase in school-based decision making, there will be an anticipated need to ensure that school leaders are well trained to be able to effectively administer these new approaches. Compulsory professional learning for school leaders should be seen as key to ensuring improved student outcomes are achieved resultant from the affiliated funding being provided to schools. In addition, improved access to professional learning for teachers, education assistants and potentially parents, should form an important part of how funds are utilised within schools to support student learning.

In education systems where a regimented curriculum is advocated, teachers may have limited autonomy or time to develop more flexible approaches for supporting a range of students with different learning needs (Didaskalou & Vlachou, 2004). Concomitant with the increasing push towards including all regular class students in national testing, these may work against increasing inclusive approaches to learning for students with special learning needs. Conversely, allocating additional through-put funding based on the number of students in the lowest percentile on NAPLAN might work to increase schools' willingness to encourage these students to participate in state-wide testing.

A further implication lies in the strength of current teacher training programs in preparation for supporting all learners within multi-diverse classrooms. With quality teaching being seen as the most significant in-school factor for improving student outcomes, consideration may need to be given to the effectiveness of existing preparation programs and also mentoring for new teachers to ensure that they are able to implement appropriate programs for supporting all learners within the regular classroom.

# 10. Conclusion

Funding education for students with dyslexia is complex. Best practice requires that such children have access to all related services as early as possible. It is critical that the funding of students with dyslexia is not seen as the direct cost related to education of a particular student. Schools also need funding to ensure that they can continue to support students who may not have been identified with a label of dyslexia but who still experience the same learning difficulties. The report identified a number of key considerations for developing a new funding model. The key messages from the report could be best captured by the comment made by Pijl & Frissen when they stated:

> *… what is expected from schools without prescribing how it [inclusive education] should be done, by removing all hindrances in regulations and funding, by stimulating forms of additional training for teachers and by avoiding as much as possible funding systems requiring formal labelling procedures (*Pijl & Frissen, *2009, p. 373).*

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