The Psychological Foundations of The Mediating Learning Support Assistant (MeLSA) Training Programme

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It is estimated that a quarter of the mainstream school workforce in the UK are learning support staff. This is a substantial number of adults who have the potential to foster learning. This paper provides a brief summary regarding the impact of support staff on children and young people's learning. It describes how the Mediating Learning Support Assistant (MeLSA) training programme was developed to meet a training gap identified in the literature. This paper also details the psychological theories and research evidence which provide the foundations for MeLSA and describes the format of the training programme, which consists of six days (mediating learning and mindset, thinking about thinking, memory and recall, mathematics, literacy, and implementation) followed by ongoing supervision. The aim of MeLSA is to ensure that learning support staff have the psychological and evidence-informed expertise to enable those with whom they are working to become competent and independent learners.

Keywords: mediating, learning, MeLSA, teaching assistants, learning support assistants, training

Introduction

What Is Known About the Impact of Learning Support Staff on Children and Young People's Learning?

The Deployment and Impact of Support Staff (DISS) project was a longitudinal and multi-method evaluation that called into question the effectiveness of learning support staff (Webster et al., 2013). This comprehensive research highlighted "TAs' interactions with pupils ... tended to be more concerned with the completion of tasks rather than learning and understanding" with the concerning finding that "the more support pupils received, the less [learning] progress they made." (Blatchford et al., 2009, p. 2), even after controlling for factors such as prior attainment, SEN status and socioeconomic status. This begs the question, why is it that learners who received TA support and had greater interactions with a, presumably, more able adult made less academic progress? The answer is complex (Blatchford et al.,

In this paper, the terms Learning Support Staff, Teaching Assistant (TA), and Learning Support Assistant (LSA) are used interchangeably. We also refer to children and young people as "learners"; the latter active word reflecting the interactive nature of learning. Furthermore, we use the name MeLSA to describe the training programme and MeLSAs to describe the people who have taken part in the training programme.

2009). More recent research has further explored the DISS project findings (e.g., Webster et al., 2013) through exploration of "TA preparedness" and "TA practice". Webster et al. (2013) found that TA preparedness was increased when detailed teacher planning was available for TAs to read prior to lessons, which increased TA confidence, although data collected explored the impact of preparedness, deployment and interactions with pupils on learner attainment and not just preparedness. However, this puts the onus on teachers to share both activity planning and potentially how the TA could interact with the learner, all in a written format to TAs. In addition, the findings of the DISS project make little reference to the impact of the teacher/TA-learner relationship or learning context on the learner's progress. We propose that a better solution to maximise the impact of TAs would be to develop practice through supporting TAs to have an informed psychological understanding of optimal interactions with learners that maximise learner development. Having a specific focus on learning interactions directly addresses the key issues highlighted by the DISS project and also emphasises the huge importance of the interactional relationship and context when learning.

Measuring the impact of TA support on learning attainment is problematic (e.g., Blatchford et al., 2011) as there are many interacting variables (e.g., deployment, TA characteristics) and these may impact desirable outcomes such as attendance and attitudes toward learning rather than at-

tainment. However, this complexity should not deter from further exploration of TA work that impacts differing aspects of a learner (e.g., affective and cognitive skill development). Alborz et al. (2009) conducted a systematic literature review exploring the impact of support staff (TAs) on the participation and learning of pupils in mainstream settings. They focused on targeted and non-targeted interventions delivered by TAs. Of the targeted intervention studies (N=3), primaryaged pupils with identified difficulties in learning, typically literacy, made academic progress following a period of targeted intervention from TAs. However, when examining the impact of non-targeted interventions (e.g., general TA support in the classroom during teaching) the picture is far more complex. There are significant methodological issues with studies that explore the non-targeted impact of a TA (Farrell et al., 2010). For example, is impact measured at the individual or class level, is impact measured on a learner's academic attainment or more affective aspects of learning, and how is the work of the TA quantified?

The variability of work carried out by TAs has been further compounded by Covid-19. A survey project found that TAs rated themselves as playing an important role in enabling learners to learn purposefully at home (Moss et al., 2021). Although TA self-reported impact on attainment may be questionable (e.g., given the vested interest a TA may have in demonstrating the impact of their work), the array of activities described, both targeted and non-targeted, highlight the importance of TAs' understanding of supporting learning.

It seems that the impact of TAs when delivering nontargeted intervention is still up for debate. It is here that MeLSA addresses not only an under-researched area but also one which appears to have minimal evidence-informed training for the adults involved in supporting learning in schools. Radford et al. (2013, p. 117) state "TAs' pedagogical practice should be informed by relevant theories of teaching and learning" and suggest a theoretical model for doing so but do not provide any specific guidance regarding training content and delivery, which is especially important given that there is no formal training a TA needs to complete prior to employment. This is where MeLSA occupies a much-needed niche. The work of TAs is variable and it is proposed that MeLSA training supports all work of TAs, be that through targeted or non-targeted intervention activities. Throughout the MeLSA training, evidence-informed targeted interventions (small group in or out of the classroom) for learning are provided (for example, precision teaching) but the training also allows MeLSAs to apply their learning for non-targeted work (whole class or more generic support). After MeLSA training, "every interaction can be a *learning* interaction".

The Psychological Foundations and Structure of the MeLSA Training Programme

The MeLSA Framework: Standing on the Shoulders of Giants

The MeLSA framework is built on the Emotional Literacy Support Assistant (ELSA) programme. The aim of ELSA is to "build capacity of schools and support the emotional needs of their pupils from within their own resources" (ELSA Network, 2017). The ELSA programme consists of six days of training delivered by educational psychologists (EPs) on different aspects of emotional wellbeing (e.g., self-esteem) and is followed by ongoing supervision sessions with EPs. Supervision is a process of ongoing learning and development that enables individuals to reflect on and develop their knowledge, skills and competencies through agreed and regular support with another professional (Health and Care Professions Council, n.d.). A small number of peer-reviewed studies have focused on the impact of differing aspects of the ELSA programme, and the findings from these studies informed several aspects of MeLSA training. For example, France and Billington (2020, p. 418) found that "supervision acted as a prompt to ELSAs to utilise learning from training sessions", indicating the importance of supervision for the implementation of MeLSA training. McEwen (2019) found that the ELSA-child relationship is an important part of ELSA work, and therefore in MeLSA training the MeLSAs are encouraged to spend time forming trusting relationships before embarking on learning. Wilding and Claridge (2016) found that parents wanted engagement about the ELSA intervention occurring with their children, and it is planned that parents will be involved once the MeLSAs have embedded their own skills. Chidley and Stringer (2020, p. 450) state that ELSA's success rests on the "organisation and commitment to core implementation components", drawing on the work by Fixsen et al. (2009) regarding core components of training programmes. Therefore, the MeLSA training programme follows the same six-day format and follow-up supervision as ELSA, although the MeLSA content is more interwoven across the course than each of the ELSA training days. The authors of MeLSA chose a similar structure to ELSA for two additional reasons: schools' familiarity with ELSA that facilitated commitment to extended training and supervision; and, secondly, the possibility of delivering training on a number of interrelated areas regarding children's learning that requires more than one-off training sessions.

Identifying Suitable Content for the MeLSA Training Programme

The authors conducted an initial non-systematic but scoping review of possible content for MeLSA consisting of:

• The authors' reflections on their practice as EPs (e.g.,

what were our common themes with regard to supporting learning in schools?);

- An online questionnaire emailed to Special Educational Needs and/or Disabilities Coordinators (SENDCo) in the 250+ schools in the authors' local authority (LA). Questions included What are your views of the most important areas to develop for TAs in your settings? What was the impact of any previous TA training around learning?. 30 responses were received;
- Authors' conversations with TAs (e.g., what would TAs like to know more about with regard to supporting learners in schools?).

The above occurred prior to and during the Covid-19 pandemic. The collated feedback indicated a desire for more understanding of basic literacy and mathematic skill development (SENDCos and TAs), understanding cognitive load, memory skills, and mediating learning (EPs), along with evidence-informed interventions such as precision teaching (EPs and SENDCos). Additionally, a previous literature review exploring employability (Stanley-Duke & Stringer, 2017) was also utilised as a "beginning with the end in mind" approach to learning, that is, building learning skills for employability and adulthood.

Psychological Theories at the Centre of the MeLSA Training Programme

The psychological theories central to MeLSA are an understanding of Vygotsky's theory of learning (Berk & Winsler, 1995) and the "Zone of Proximal (optimal) Development" (ZPD) (Vygotsky, 1978), an understanding of what makes an interaction "mediating" (Feuerstein et al., 1979) and the importance of believing learning is possible (Dweck & Leggett, 1988). Alongside these concepts are the impact of cognitive load (Sweller, 1988) and executive function skills (Diamond, 2013). These theories are interwoven and applied to supporting learning reading, writing and mathematics. These central theories were selected due to their wide recognition and application to understanding children's learning and development in addition to substantial research evidence (e.g., Vygotsky's theory (Karpov, 2005); mediating (Feurestein et al., 2010); mindset (Dweck, 2015)). The additional theoretical content of MeLSA was pragmatically selected through triangulation of EP practice and SENDCo and TA requests for training on how children and young people learn. The authors explored the evidence base of these theories and paid particular attention to the evidence regarding specific interventions, such as precision teaching, paired reading, etc. (see, for example, Education Endowment Foundation, 2017).

Structure of the MeLSA Training Programme

Numerous measures were taken to support the TAs engaging with the training programme. These were informed by research on instructional teaching (e.g., Rosenshine, 2012) and implementation science (e.g., Fixsen et al., 2009; Chidley & Stringer, 2020). The measures included:

- Distributed learning within and across five days, with each session revisiting the key points of the previous session(s);
- The final sixth session revisiting the key learning points as well as using a person-centred planning approach to "plan forward" how the group will implement their new MeLSA knowledge and skills;
- Experiential learning so that participants have firsthand experience of the psychological theories and approaches they will be using with the learners in their educational settings;
- The use of "workbooks" that contain the content of each day plus additional reading to support the wide variety of TAs' individual needs.

The MeLSA programme consists of six days of training:

- Session 1: Mediating learning and mindset;
- Session 2: Thinking about thinking;
- Session 3: Memory and recall;
- Session 4: The psychology of maths;
- Session 5: The psychology of reading and writing;
- Session 6: Planning for implementation of MeLSA within schools.

These six sessions are followed by ongoing supervision for the MeLSAs.

MeLSA Session 1: Mediating Learning

The MeLSA training begins with a focus on mediating learning interactions, becoming the first of two "golden threads" introduced in the first session and interwoven throughout the subsequent training (mindset being the second). Vygotsky's theory details the importance of mediation in moving from actual development (i.e., what a child can do) to potential development (i.e., what a child can do interacting with a more able other) (Karpov, 2005). Learning interactions between adults and children have been given differing labels in the literature, the most frequent being "scaffolding". For MeLSA, the term mediating is used rather than scaffolding as the latter was not a term used by Vygotsky

(Berk & Winsler, 1995), whose theory is at the centre of MeLSA. Scaffolding is more commonly used by educational staff when breaking down a task into smaller steps (see Van de Pol et al., 2010). By using the term "mediating", both in the training title and content, the MeLSAs are directed towards focusing on the learning interaction.

Feuerstein, building on Vygotsky's ZPD, conceptualised the "mediated learning experience" (MLE), which describes the specific types of interactions that help a child's cognitive development (Mentis et al., 2009). Feuerstein's theory states that three essential aspects are needed for a learning interaction to be classed as mediating: ensuring the learner is focused on *what* they are learning (intentionality and reciprocity), knows *why* they are learning it (meaning), and *where* else the learning might be useful (transference or transcendence) (Mentis et al., 2008). MeLSAs are introduced to these concepts and have an opportunity to both experience and practise these three essential aspects of mediating.

The MeLSAs have a broad introduction to Feuerstein's cognitive functions (Feuerstein et al., 1979) that form the basis of mediating and are then further elaborated upon in subsequent sessions. MeLSAs identify and discuss the cognitive functions required for various activities such as jigsaw puzzles and card games. The MeLSAs are introduced to levels of questioning (Blank et al., 1978) and the concept of beginning mediating at the lowest level but intervening in a manner that encourages changes in the learner's thinking.

Some consideration is given to the affective aspects of learning, such as motivation, emotional wellbeing, and locus of control (Gutman & Schoon, 2013). Wellbeing and academic achievement are positively associated but the relationship is complex, e.g., wellbeing can mean happiness through enjoyment or through meaningful experiences (Clarke, 2020). MeLSAs can support learners to increase their likelihood of experiencing meaning and purpose when learning. However, given the focus of the training is on mediating, the input on affective aspects of learning is mostly derived from discussions and reflecting upon MeLSAs prior learning experiences. A future and long-term aspiration is that educational settings have ELSA and MeLSA-trained staff, working collaboratively and supporting schools to meet children and young people's emotional and learning needs.

MeLSA Session 1: Mindset

The first day of training includes a focus on mindset as the second "golden thread". Mindset refers to an established set of attitudes/beliefs that are important for effective learning (Dweck, 2010, 2015, 2017). Dweck (2010) highlighted two main types of mindsets: growth and fixed. The term growth mindset refers to a held belief that perseverance, effort and determination will bring about new skills, knowledge, and develop understanding whereas a fixed mindset refers to having the belief that nothing can change, and our intelligence

and skills are more static (Dweck, 2010, 2015). There has been much interest in mindsets in education (e.g., Dweck, 2015; Hanson et al., 2016; Hochanadel & Finamore, 2015; Rhew et al., 2018; Seaton, 2018), and including this in the training supports the MeLSAs engaging in both their own and their learners' propensity for change.

There is growing evidence to suggest that fostering growth mindsets within learners can result in increased academic outcomes and higher motivation (e.g., Rhew et al., 2018; Yeager et al., 2013). In addition, when applying some of the techniques described within the growth mindset literature, adults working with learners can increase self-efficacy (Baldridge, 2010; Burnette et al., 2020; Seaton, 2018). Growth mindset, therefore, is particularly important to include throughout MeLSA as a "golden thread". For example, when learning maths or reading and writing skills, a learner that does not think they "can get better" may be more likely to limit their progress through lack of effort or application of prior skills.

During the mindset session of the MeLSA training, it is hoped that MeLSAs will understand what is meant by the term "mindset", understand different types of mindset, and explore evidence-informed ways of fostering a growth mindset (e.g., celebrating mistakes, tuning into our own self-talk, and understanding the importance of *process* [learning] praise rather than solely *product* [outcome] praise). Along-side this, the MeLSAs also have time to think about potential mindset traps, such as holding a superficial growth mindset (Dweck, 2015, 2016; Williams, 2018), rather than actioning what a growth mindset truly and authentically means, especially in challenging times/situations. Ultimately, the aim is to encourage MeLSAs to work alongside learners to "plant the seed" of possibility, of growth, of a love of learning and of a tolerance to challenge.

MeLSA Session 2: Thinking About Thinking

The second day of training involves deepening MeL-SAs' understanding of the thinking skills needed for effective learning through consideration of the previous input on mediation and mindset and exploration of three interrelated terms: metacognition, self-regulated learning and executive function. Metacognition refers to the processes used to plan, monitor and assess one's understanding and performance in addition to a critical awareness of thinking and learning how to learn (Mannion, 2020). Self-regulated learning refers to the process whereby learners proactively sustain their thoughts, emotions and behaviours in a systematic way towards the achievement of their learning goals (Schunk, 2008; Zimmerman, 1989). Executive functions are a group of top-down mental processes needed to concentrate and pay attention (Diamond, 2013) (e.g., impulse control, attention, working memory, task switching and cognitive flexibility). Metacognitive and self-regulation skills and abilities have sometimes been conceptualised as the behavioural output of executive functions (Roebers, 2017). For example, it might be the case that one's ability to plan, monitor, and assess one's understanding and performance (i.e., metacognitive skills) is dependent upon one's ability to attend, check one's impulses, hold several pieces of information in mind, and think flexibly (i.e., executive function skills). The research literature (e.g., Education Endowment Foundation, 2021; Nicol & Macfarlane-Dick, 2006; Paris & Newman, 1990; Schunk, 2008) suggests that by supporting MeLSAs to promote the development of metacognition and self-regulation, learners will be helped to develop increased independence, confidence, and self-efficacy.

It is important to include an exploration of "executive function" out of inclusion of "neurodiverse" individuals who may sometimes experience difficulties with impulse control, attention, task switching, working memory, and cognitive flexibility (Demetriou et al., 2019; O'Hearn et al., 2008; Zelazo & Carlson, 2020). The term "executive function" can be seen as useful in this respect in that it makes the theoretical link between "brain function" and behaviour. MeLSAs are likely well-positioned in schools to help neurodiverse learners to understand themselves and how to make use of their strengths whilst compensating for their learning needs. For struggling learners to recognise that some of their (possible) day-to-day difficulties are common features of the "different ways some brains function" can have enormous power and afford room for self-understanding, self-compassion and more effective ways of day-to-day functioning and achieving.

MeLSA Session 3: Memory and Recall

The third day of training focuses on differing aspects of memory and interweaves this with the input from the previous sessions. Memory, or the ability to retain and recall information about past events in one's mind, is crucial when learning. Poor working memory capacity can impact up to fifteen per cent of children in the classroom (Holmes et al., 2010) and is considered a strong predictor of current and future academic attainment in literacy and mathematics (Alloway, 2009). The dominant focus of the literature field, therefore, focuses on working memory specifically, with recommendations for intervention largely centring on strategy training, classroom intervention and direct working memory training. Working memory is often described as relatively fixed, in that each individual has a capacity that is greater or less than that of others. Working memory capacity increases over time, in line with age and cognitive ability. However, gaps between individuals remain stable, and so an individual with reduced working memory capacity lags further behind (Gathercole & Alloway, 2008). Prior research suggests that there is a gap in knowledge regarding the impact of working memory on both the academic and social abilities of learners and how these difficulties can present more widely in the classroom

(Alloway & Carpenter, 2020).

Morris and Fritz (2006) sagely suggest "If you didn't catch some information initially don't expect to remember it" (p. 608). MeLSAs are encouraged to step back from individual capacity *per se*, instead considering the contextual learning environment to establish optimal conditions of processing in a bid to increase recall, regardless of fixed capacity. To facilitate this, the content focuses on:

- Multistore Model of Memory and the Working Memory Model (Atkinson & Shiffrin, 1968);
- Levels of Processing Theory (Craik & Lockhart, 1972);
- The Learning Hierarchy (Haring et al., 1978);
- Cognitive Load (Sweller, 1988).

At each stage, the role of memory and memory functions are key — the learner must process novel information and then retain it so that it can be applied and used in different contexts. For example, building knowledge by effortfully linking new learning to prior knowledge, and understanding and consolidating learning by reducing the burden of fresh learning on working memory (Howard-Jones et al., 2018). MeLSAs are given ample opportunity to reflect on their own experiences, which, in the context of the above theoretical knowledge, brings their appreciation of learning in the classroom to include the importance of the context when learning.

MeLSA Session 4: The Psychology of Learning Mathematics

The fourth day of training focuses on learning maths and provides a practical context for applying an understanding of mediating, mindset, thinking about thinking, and memory, as well as addressing the importance of developing the numerical skills needed for adulthood. In the UK, many young people do not yet reach expected attainment levels in maths by the age of sixteen (Department for Education [DfE], 2017). Difficulties with maths have negative implications for many adult outcomes, including economic prospects and wellbeing (DfE, 2018). It has been suggested that maths has a greater impact on adult outcomes than literacy skills (Brynner & Parsons, 2005). Successive UK governments have attempted to address this important issue in several ways, e.g., reforming the curriculum, raising the age of compulsory education. Despite this, there are very few evidence-based mathematics intervention programmes available for schools to implement to support the learning needs of children and young people (Education Endowment Foundation, 2017).

There are two main perspectives that have emerged within maths education that advocate for particular approaches to teaching and learning (Graves, 2018):

The "traditional" approach, which emphasises learning number facts and procedural skills (e.g., multiplication tables) through teacher demonstration, feedback, practice and rote learning (Baroody, 2003).

 The "discovery" or "constructivist" approach, which emphasises "understanding at the expense of fluency" and draws upon the work of Vygotsky (Fuson, 2009).
 This approach emphasises that number concepts and procedures form a growing network of meaningful knowledge, and each learner constructs their own understanding through "guided discovery" (Baroody et al., 2009).

There is a consensus within the psychological community for the latter "active construction" or "number sense" approach (i.e., helping learners to be comfortable handling numbers, understand the connections between different concepts and skills, and be able to apply this knowledge to real-world problems; Graves, 2018).

The MeLSA maths session provides the MeLSAs with a psychological understanding of learning maths (e.g., Graves, 2018); an understanding of the prevalence and nature of difficulties with learning maths (e.g., Dowker, 2005, 2009; Geary, 2011; Gross, 2007); a practical assessment and intervention framework that can be used to support children with learning (Graves, 2018), as well as a practical context for applying learning from the previous sessions.

MeLSA Session 5: The Psychology of Learning to Read and Write

The fifth day of training focuses on learning to read and write (i.e., literacy skills) and provides another opportunity for MeLSAs to apply an understanding of mediating, mind-set, thinking about thinking, and memory. Having literacy skills provides the "building blocks" for young people to achieve not only academic success but also to develop every-day functional skills (Quigley & Coleman, 2019). Reading and writing are the foundational skills for becoming "literate", yet in 2019, four in ten children from disadvantaged backgrounds aged eleven years old did not reach their expected reading levels (Department for Education, 2019), and it was projected that only one in ten young people from this cohort would achieve a pass in their English GCSE (Bilton & Tillotson, 2020).

The MeLSA reading and writing session provides the MeLSAs with an understanding of constructing meaning through reading (Castles et al., 2018); the range of complex cognitive and language skills which can contribute to understanding how to intervene and support struggling learners; the necessary development of phonological skills and word recognition skills (Castles et al., 2018; Rose, 2006); the importance of memorising high-frequency words (Solity &

Vousden, 2009); the need to develop reading fluency (Rasinski, 2014); and how to develop writing skills (Gentry, 1982, 2005). Affective factors which may impact a young person's ability to read (such as motivation, independence, and enjoyment of reading) are also considered.

Solity et al. (2000, p. 124) suggest that "... the key to ensuring children make progress is what and how they are taught rather than the availability of additional resources, parental support or one to one teaching." (e.g., reading interventions are delivered little and often to specifically target the areas where the learner needs support). MeLSAs also learn that it is most important how the learners respond to an intervention following an initial assessment of their skills (Rose, 2009). There are several evidence-based, evidence-informed interventions that MeLSAs are supported to understand, experience and implement:

- Precision Teaching (Ramey et al., 2016; Solity et al., 2000);
- Paired Reading (Topping, 2006);
- Teaching Fluency (Rasinski, 2014);
- Write from the Start (Addy, 1996);
- Assistive technologies (Caute & Woolf, 2016; Jeffs et al., 2005).

MeLSA Session 6: Planning for Implementation Using a Person-Centred Approach

The final day of training revisits the key points from the previous sessions to facilitate learning and to allow space for further clarification as needed by the MeLSAs. A personcentred planning (PCP) approach called Making Action Plans (MAPs) is facilitated by EP trainers. This method aims to support the implementation of MeLSA training in schools (Chidley & Stringer, 2020; Mansell & Beadle-Brown, 2004; Robertson et al., 2005). It allows the opportunity to reflect on the training and to plan for the future. A PCP approach was chosen because it can offer participants a nonjudgmental, inclusive and understanding problem-solving framework (Corrigan, 2014; Newton et al., 2016; O'Brien & O'Brien, 2000).

The different sections of the MAP include: "The story so far" (e.g., where did the MeLSAs knowledge/skills start? What did each day cover?), "The Dream" (e.g., where the MeLSAs dream of being in their new role and their ideal future for a MeLSA), "The Values that come out of the Dream" (e.g., what the MeLSAs have to help hold back the nightmare scenario), "The Nightmare" (e.g., what would the MeLSAs not like to see happen post training?), "Who/What is a MeLSA" (e.g., metaphors of the MeLSA role), "Your Gifts" (e.g., what gifts/strengths/capacities/qualities do you bring to the MeLSA role?), "What will it take?" (e.g., How are we

going to keep the momentum of MeLSA going forwards?), and finally each MeLSA takes away specific and time-bound actions. The resulting visual MAP is used within subsequent supervision sessions. This person-centred approach facilitates the group culminating their knowledge base and making declarations for short- and long-term actions. The intention is that the MeLSAs are not simply left just with the training content but that they have a solution-focused collaborative opportunity to plan their next steps, so that the training can springboard them into actions back in their educational settings.

Ongoing Supervision

Any training only has an impact if participants implement the training content in their practice. Chidley and Stringer (2020, p. 449) state that "EPs are well placed to provide support beyond training, to support effective implementation" and that there needs to be "a focus on wider strategies designed to achieve desired outcomes beyond the day[s]" of initial training. Given the extensive content of MeLSA, ongoing supervision aims to provide a safe, supportive space for sharing ideas, revisiting content as required and collectively problem-solve implementation issues whilst being supported by two EPs.

Next Steps: Establishing an Evidence Base for MeLSA

Thus far, the concept, formulation, and psychologically informed content of the MeLSA programme have been proposed. The authors of this paper have piloted the MeLSA content with two cohorts and are currently evaluating data collected to answer the research question "Is there evidence to suggest that the MeLSA training programme helps participants understand how to support the learning of children in their educational setting by using psychology?". There is a substantive long-term research plan in place with the aim of building the research evidence to help ensure the efficacy and impact of MeLSA through exploring the MeLSA content, consumer experience and, most importantly, the impact on the learners that work with MeLSAs.

Summary

This paper has outlined the research regarding the effectiveness of learning support staff in schools and has described the subsequent conception, development and theoretical foundations of the MeLSA training programme. MeLSA is a six-day training programme with ongoing supervision for educational support staff that focuses on how children learn and is informed by psychological theory and evidence-informed research. Ensuring that learning interactions are effective and informed by best practice has the potential to impact a significant number of learners in educational settings and is at the heart of the MeLSA training.

References

- Addy, L. M. (1996). A perceptuo-motor approach to hand-writing. *British Journal of Occupational Therapy*, 59(9), 427–432. https://doi.org/10.1177/030802269605900909
- Alborz, A., Pearson, D., Farrell, P., & Howes, A. (2009). *The impact of adult support staff on pupils and main-stream schools* (1702T). EPPI-Centre, University of London. https://eppi.ioe.ac.uk/cms/Portals/0/PDF%20reviews%20and%20summaries/Support% 20staff%20Rpt.pdf?ver=2009-05-05-165528-197
- Alloway, T. P. (2009). Working memory, but not IQ, predicts subsequent learning in children with learning difficulties. *European Journal of Psychological Assessment*, 25(2), 92–98. https://doi.org/10.1027/1015-5759.25.2.92
- Alloway, T. P., & Carpenter, R. K. (2020). The relationship among children's learning disabilities, working memory, and problem behaviours in a classroom setting: Three case studies. *Educational and Developmental Psychologist*, *37*(1), 4–10. https://doi.org/10.1017/edp.2020.1
- Atkinson, R. C., & Shiffrin, R. M. (1968). Human memory: A proposed system and its control processes. In K. W. Spence & J. T. Spence (Eds.), *The psychology of learning and motivation: Vol.* 2 (pp. 89–195). Academic Press. https://doi.org/10.1016/S0079-7421(08)60422-3
- Baldridge, M. C. (2010). The effects of a growth mindset intervention on the beliefs about intelligence, effort beliefs, achievement goal orientations, and academic self-efficacy of LD students with reading difficulties. University of Virginia.
- Baroody, A. J. (2003). The development of adaptive expertise and flexibility: The integration of conceptual and procedural knowledge. In A. J. Baroody & A. Dowker (Eds.), *The development of arithmetic concepts and skills: Constructive adaptive expertise* (pp. 1–33). Routledge.
- Baroody, A. J., Eiland, M., & Thompson, B. (2009). Fostering at-risk pre-schoolers' number sense. *Early Education and Development*, 20, 80–128. https://doi.org/10.1080/10409280802206619
- Berk, L. E., & Winsler, A. (1995). Scaffolding children's learning: Vygotsky and early childhood education.

 National Association for the Education of Young Children
- Bilton, C., & Tillotson, S. (2020). *Improving literacy in key stage 1*. Guidance Report. Education Endowment Foundation.
- Blank, M., Rose, S. A., & Berlin, L. (1978). *The language of learning: The preschool years*. Grune; Stratton.

- Blatchford, P., Bassett, P., Brown, P., Martin, C., Russell, A., & Webster, R. (2009). Deployment and impact of support staff in schools. characteristics, working conditions and job satisfaction of support staff in schools (Strand 1, Waves 1–3 in 2004, 2006 and 2008) (DCSF-RR1). Department for Children, Schools and Families.
- Blatchford, P., Bassett, P., Brown, P., Martin, C., Russell, A., & Webster, R. (2011). The impact of support staff on pupils' "positive approaches to learning" and their academic progress. *British Educational Research Journal*, *37*(3), 443–464. https://doi.org/10.1080/01411921003734645
- Brynner, J. M., & Parsons, S. (2005). *Does numeracy matter more?* National Research and Development Centre for Adult Literacy and Numeracy.
- Burnette, J. L., Pollack, J. M., Forsyth, R. B., Hoyt, C. L., Babij, A. D., Thomas, F. N., & Coy, A. E. (2020). A growth mindset intervention: Enhancing students' entrepreneurial self-efficacy and career development. *Entrepreneurship Theory and Practice*, 44(5), 878–908. https://doi.org/10.1177/1042258719864293
- Castles, A., Rastle, K., & Nation, K. (2018). Ending the reading wars: Reading acquisition from novice to expert. *Psychological Science in the Public Interest*, 19(1), 5–51. https://doi.org/10.1177/1529100618772271
- Caute, A., & Woolf, C. (2016). Using voice recognition software to improve communicative writing and social participation in an individual with severe acquired dysgraphia: An experimental single-case therapy study. *Aphasiology*, 30(2–3), 245–268. https://doi.org/10.1080/02687038.2015.1041095
- Chidley, S., & Stringer, P. (2020). Addressing barriers to implementation: An implementation framework to help educational psychologists plan work with schools. *Educational Psychology in Practice*, *36*(4), 443–457. https://doi.org/10.1080/02667363.2020. 1838448
- Clarke, T. (2020). Children's wellbeing and their academic achievement: The dangerous discourse of "tradeoffs" in education. *Theory and Research in Education*, 18(3), 263–294. https://doi.org/10.1177/1477878520980197
- Corrigan, E. (2014). Person centred planning "in action": Exploring the use of person centred planning in supporting young people's transition and re-integration to mainstream education. *British Journal of Special Education*, *41*(3), 268–288. https://doi.org/10.1111/1467-8578.12069
- Craik, F. I. M., & Lockhart, R. S. (1972). Levels of processing: A framework for memory research. *Journal of*

- *Verbal Learning and Verbal Behavior*, *11*(6), 671–684. https://doi.org/10.1016/S0022-5371(72) 80001-X
- Demetriou, E. A., DeMayo, M. M., & Guastella, A. J. (2019). Executive function in autism spectrum disorder: History, theoretical models, empirical findings, and potential as an endophenotype. *Frontiers in psychiatry*, *10*, Article 753. https://doi.org/10.3389/fpsyt. 2019.00753
- Department for Education. (2017). *A level and other 16 to 18 results: 2016 to 2017 (provisional)* (SFR59/2017). https://www.gov.uk/government/statistics/a-level-and-other-16-to-18-results-2016-to-2017-provisional
- Department for Education. (2018). Improving engagement and attainment in maths and english courses: Insights from behavioural research (DFE-RR756). https://www.gov.uk/government/publications/improving-engagement-and-attainment-in-maths-and-english-courses
- Department for Education. (2019). *National curriculum assessments: Key stage 2, 2019 (revised).* https://www.gov.uk/government/statistics/national-curriculum-assessments-key-stage-2-2019-revised
- Diamond, A. (2013). Executive functions. *Annual Review of Psychology*, 64(1), 135–168. https://doi.org/10.1146/annurev-psych-113011-143750
- Dowker, A. (2005). *Individual differences in arithmetic: Implications for psychology, neuroscience and education*. Psychology Press. https://doi.org/10.4324/9780203324899
- Dowker, A. (2009). What works for children with mathematical difficulties? The effectiveness of intervention schemes (00086-2009BKT-EN). Department for Children, Schools; Families.
- Dweck, C. S. (2010). Brainology: Transforming students' motivation to learn. *Gifted*, 155, 23–27.
- Dweck, C. S. (2015). Carol Dweck revisits the "growth mindset". *Education Week*. https://www.edweek.org/leadership/opinion-carol-dweck-revisits-the-growth-mindset/2015/09
- Dweck, C. S. (2016). What having a "growth mindset" actually means. *Harvard Business Review*. https://hbr.org/2016/01/what-having-a-growth-mindset-actually-means
- Dweck, C. S. (2017). Mindset: Changing the way you think to fulfil your potential. Robinson.
- Dweck, C. S., & Leggett, E. L. (1988). A social–cognitive approach to motivation and personality. *Psychological Review*, *95*(2), 256–273. https://doi.org/10.1037/0033-295X.95.2.256
- Education Endowment Foundation. (2017). *Improving mathematics in Key Stages 2 and 3: Guidance report.*

- https://educationendowmentfoundation.org.uk/education-evidence/guidance-reports/maths-ks-2-3
- Education Endowment Foundation. (2021). *Metacognition and self-regulation*. https://educationendowmentfoundation.org.uk/educationevidence/teaching-learning-toolkit/metacognitionand-self-regulation
- ELSA Network. (2017). *ELSA Network*. https://www.elsanetwork.org
- Farrell, P., Alborz, A., Howes, A., & Pearson, D. (2010). The impact of teaching assistants on improving pupils' academic achievement in mainstream schools: A review of the literature. *Educational Review*, 62(4), 435–448. https://doi.org/10.1080/00131911.2010. 486476
- Feuerstein, R., Rand, Y., & Hoffman, M. B. (1979). The dynamic assessment of retarded performers: The learning potential assessment device, theory, instruments, and techniques. University Park Press.
- Feurestein, R., Feurestein, R. S., & Falik, L. H. (2010). Beyond smarter: Mediated learning and the brain's capacity for change. Teachers College Press.
- Fixsen, D. L., Blase, K. A., Naoom, S. F., & Wallace, F. (2009). Core implementation components. *Research on Social Work Practice*, *19*(5), 531–540. https://doi.org/10.1177/1049731509335549
- France, E., & Billington, K. (2020). Group supervision: Understanding the experiences and views of emotional literacy support assistants in one county in England. *Educational Psychology in Practice*, 36(4), 405–421. https://doi.org/10.1080/02667363.2020.1815179
- Fuson, K. C. (2009). Avoiding misinterpretations of Piaget and Vygotsky: Mathematical teaching without learning, learning without teaching, or helpful learning-path teaching? *Cognitive Development*, 24(4), 343–361. https://doi.org/10.1016/j.cogdev. 2009.09.009
- Gathercole, S. E., & Alloway, T. P. (2008). Working memory and learning: A practical guide for teachers. SAGE Publications.
- Geary, D. C. (2011). Consequences, characteristics, and causes of mathematical learning disabilities and persistent low achievement in mathematics. *Journal of Developmental & Behavioral Pediatrics*, 32(3), 250–263. https://doi.org/10.1097/DBP.0b013e318209edef
- Gentry, J. R. (1982). An analysis of developmental spelling in "GNYS AT WRK". *The Reading Teacher*, *36*(2), 192–200.
- Gentry, J. R. (2005). Instructional techniques for emerging writers and special needs students at kinder-

garten and grade 1 levels. *Reading & Writing Quarterly*, 21(2), 113–134. https://doi.org/10.1080/10573560590915932

- Graves, F. E. (2018). A pilot study of a researcher-devised intervention programme for mathematically low-achieving pupils [Unpublished doctoral thesis]. University College London.
- Gross, J. (2007). Supporting children with gaps in their mathematical understanding: The impact of the national numeracy strategy on children who find mathematics difficult. *Educational and Child Psychology*, 24(2), 146–156.
- Gutman, L. M., & Schoon, I. (2013). The impact of non-cognitive skills on outcomes for young people. *Education Endowment Foundation*. https://educationendowmentfoundation.org.uk/educationevidence/evidence-reviews/essential-life-skills
- Hanson, J., Bangert, A., & Ruff, W. (2016). Exploring the relationship between school growth mindset and organizational learning variables: Implications for multicultural education. *Journal of Educational Issues*, 2(2), 222–243. https://doi.org/10.5296/jei.v2i2.10075
- Haring, N. G., Lovitt, T. C., Eaton, M. D., & Hansen, C. L. (1978). *The fourth r: Research in the classroom*. Charles E. Merrill Publishing Company.
- Health and Care Professions Council. (n.d.). What is supervision? Retrieved June 10, 2022, from https://www.hcpc-uk.org/standards/meeting-our-standards/supervision-leadership-and-culture/supervision/what-is-supervision/
- Hochanadel, A., & Finamore, D. (2015). Fixed and growth mindset in education and how grit helps students persist in the face of adversity. *Journal of International Education Research*, *11*(1), 47–50. https://doi.org/10.19030/jier.v11i1.9099
- Holmes, J., Gathercole, S. E., & Dunning, D. L. (2010). Poor working memory: Impact and interventions. *Advances in Child Development and Behavior*, *39*, 1–43. https://doi.org/10.1016/B978-0-12-374748-8.00001-9
- Howard-Jones, P., Ioannou, K., Bailey, R., Prior, J., Yau, S. H., & Jay, T. (2018). Applying the science of learning in the classroom. *Impact*, (2). https://my.chartered.college/impact_article/applying-the-science-of-learning-in-the-classroom/
- Jeffs, T., Behrmann, M., & Bannan-Ritland, B. (2005). Assistive technology and literacy learning: Reflections of parents and children. *Journal of Special Education Technology*, 21(1), 37–44. https://doi.org/10.1177/016264340602100104

- Karpov, Y. V. (2005). *The neo-Vygotskian approach to child development*. Cambridge University Press. https://doi.org/10.1017/CBO9781316036532
- Mannion, J. (2020). Metacognition, self-regulation and self-regulated learning: What's the difference? *Impact*, (8). https://my.chartered.college/impact_article/metacognition-self-regulation-and-self-regulated-learning-whats-the-difference/
- Mansell, J., & Beadle-Brown, J. (2004). Person-centred planning or person-centred action? policy and practice in intellectual disability services. https://doi.org/10. 1111/j.1468-3148.2004.00175.x
- McEwen, S. (2019). The Emotional Literacy Support Assistant (ELSA) programme: ELSAs' and children's experiences. *Educational Psychology in Practice*, *35*(3), 289–306. https://doi.org/10.1080/02667363. 2019.1585332
- Mentis, M., Dunn-Bernstein, M., & Mentis, M. (2008). *Mediated learning: Teaching, tasks, and tools to unlock cognitive potential* (2nd ed.). Corwin Press.
- Mentis, M., Dunn-Bernstein, M., Mentis, M., & Skuy, M. (2009). *Bridging learning: Unlocking cognitive potential in and out of the classroom* (2nd ed.). Corwin Press.
- Morris, P. E., & Fritz, C. O. (2006). How to improve your memory. *The Psychologist*, *19*, 608–611.
- Moss, G., Webster, R., Harmey, S., & Bradbury, A. (2021). Unsung heroes: The role of teaching assistants and classroom assistants in keeping schools functioning during lockdown. UCL Institute of Education.
- Newton, C., Wilson, D., & Darwin, C. (2016). Person centred planning together: A resource to develop your person centred planning skills. Inclusive Solutions UK.
- Nicol, D. J., & Macfarlane-Dick, D. (2006). Formative assessment and self-regulated learning: A model and seven principles of good feedback practice. *Studies in Higher Education*, *31*(2), 199–218. https://doi.org/10.1080/03075070600572090
- O'Brien, C. L., & O'Brien, J. (2000). The origins of personcentered planning: A community of practice perspective. https://thechp.syr.edu/wp-content/ uploads/2013/10/PCP_History.pdf
- O'Hearn, K., Asato, M., Ordaz, S., & Luna, B. (2008). Neurodevelopment and executive function in autism. Development and Psychopathology, 20(4), 1103–1132. https://doi.org/10.1017/S0954579408000527
- Paris, S. G., & Newman, R. S. (1990). Development aspects of self-regulated learning. *Educational Psychologist*, 25(1), 87–102. https://doi.org/10.1207/s15326985ep2501_7
- Quigley, A., & Coleman, R. (2019). *Improving literacy* in secondary schools [Guidance report]. Education

- Endowment Foundation. https://d2tic4wvo1iusb.cloudfront.net/eef-guidance-reports/literacy-ks3-ks4/EEF_KS3_KS4_LITERACY_GUIDANCE.pdf
- Radford, J., Bosanquet, P., Webster, R., Blatchford, P., & Rubie-Davies, C. (2013). Fostering learner independence through heuristic scaffolding: A valuable role for teaching assistants. *International Journal of Educational Research*, 63, 116–126. https://doi.org/10.1016/j.ijer.2013.02.010
- Ramey, D., Lydon, S., Healy, O., McCoy, A., Holloway, J., & Mulhern, T. (2016). A systematic review of the effectiveness of precision teaching for individuals with developmental disabilities. *Review Journal of Autism and Developmental Disorders*, *3*(3), 179–195. https://doi.org/10.1007/s40489-016-0075-z
- Rasinski, T. (2014). Fluency matters. *International Electronic Journal of Elementary Education*, 7(1), 3–12.
- Rhew, E., Piro, J. S., Goolkasian, P., & Cosentino, P. (2018). The effects of a growth mindset on self-efficacy and motivation. *Cogent Education*, 5(1), Article 1492337. https://doi.org/10.1080/2331186X.2018.1492337
- Robertson, J., Emerson, E., Hatton, C., Elliott, J., McIntosh, B., Swift, P., Krijnen-Kemp, E., Towers, C., Romeo, R., Knapp, M., Sanderson, H., Routledge, M., Oakes, P., & Joyce, T. (2005). *The impact of person centred planning*. Institute for Health Research, Lancaster University. https://www.lancaster.ac.uk/staff/emersone/FASSWeb/Robertson_05_PCP_FinalReport.pdf
- Roebers, C. M. (2017). Executive function and metacognition: Towards a unifying framework of cognitive self-regulation. *Developmental Review*, *45*, 31–51. https://doi.org/10.1016/j.dr.2017.04.001
- Rose, J. (2006). *Independent review of the teaching of early reading: Final report*. https://dera.ioe.ac.uk/5551/2/report.pdf
- Rose, J. (2009). *Identifying and teaching children and young people with dyslexia and literacy difficulties*. http://www.thedyslexia-spldtrust.org.uk/media/downloads/inline/the-rose-report.1294933674.pdf
- Rosenshine, B. (2012). Principles of instruction: Research-based strategies that all teachers should know. *American Educator*, 12–19.
- Schunk, D. H. (2008). Metacognition, self-regulation, and self-regulated learning: Research recommendations. *Educational Psychology Review*, 20(4), 463–467. https://doi.org/10.1007/s10648-008-9086-3
- Seaton, F. S. (2018). Empowering teachers to implement a growth mindset. *Educational Psychology in Practice*, 34(1), 41–57. https://doi.org/10.1080/02667363.2017.1382333

- Solity, J., Deavers, R., Kerfoot, S., Crane, G., & Cannon, K. (2000). The early reading research: The impact of instructional psychology. *Educational Psychology in Practice*, *16*(2), 109–129. https://doi.org/10. 1080/02667360050122190
- Solity, J., & Vousden, J. (2009). Real books vs reading schemes: A new perspective from instructional psychology. *Educational Psychology*, 29(4), 469–511. https://doi.org/10.1080/01443410903103657
- Stanley-Duke, M., & Stringer, P. (2017). What is the meaning of "employability" and how can educational psychologists' involvement at post 16 embrace it? debate. *DECP Debate*, 164, 9–16.
- Sweller, J. (1988). Cognitive load during problem solving: Effects on learning. *Cognitive Science*, *12*(2), 257–285. https://doi.org/10.1207/s15516709cog1202_4
- Topping, K. J. (2006). Paired reading: Impact of a tutoring method on reading accuracy, comprehension and fluency. In T. Rasinski, C. Blachowicz, & K. Lems (Eds.), *Fluency instruction: Research-based best practices* (pp. 173–191). Guilford Press.
- Van de Pol, J., Volman, M., & Beishuizen, J. (2010). Scaffolding in teacher–student interaction: A decade of research. *Educational Psychology Review*, 22(3), 271–296. https://doi.org/10.1007/s10648-010-9127-6
- Vygotsky, L. S. (1978). *Mind in society: The development of higher psychological processes* (M. Cole, V. Jolm-Steiner, S. Scribner, & E. Souberman, Eds.). Harvard University Press. https://doi.org/10.2307/j.ctvjf9vz4
- Webster, R., Blatchford, P., & Russell, A. (2013). Challenging and changing how schools use teaching assistants: Findings from the Effective Deployment of Teaching Assistants project. *School Leadership & Management*, 33(1), 78–96. https://doi.org/10.1080/13632434.2012.724672
- Wilding, L., & Claridge, S. (2016). The Emotional Literacy Support Assistant (ELSA) programme: Parental perceptions of its impact in school and at home. *Educational Psychology in Practice*, *32*(2), 180–196. https://doi.org/10.1080/02667363.2016.1146573
- Williams, J. (2018). *Cultivating a growth mindset in students*. National Professional Resources.
- Yeager, D. S., Trzesniewski, K. H., & Dweck, C. S. (2013). An implicit theories of personality intervention reduces adolescent aggression in response to victimization and exclusion. *Child Development*, 84(3), 970–988. https://doi.org/10.1111/cdev.12003
- Zelazo, P. D., & Carlson, S. M. (2020). The neurodevelopment of executive function skills: Implications for academic achievement gaps. *Psychology & Neuro-*

science, *13*(3), 273–298. https://doi.org/10.1037/pne0000208

Zimmerman, B. J. (1989). A social cognitive view of self-regulated academic learning. *Journal of Educa-*

tional Psychology, *81*(3), 329–339. https://doi.org/10.1037/0022-0663.81.3.329