



Adaptive Education and the Socioeconomic Future of Children with SEND

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Abstract : The United Kingdom's Special Educational Needs and Disabilities (SEND) school system is currently facing a systemic crisis characterized by chronic underfunding, significant barriers to inclusion, and eroding parental trust. This study examines the multi-layered challenges within the sector, noting that SEND pupils with an Education, Health, and Care Plan (EHCP) are, on average, over three years behind their peers by the time they complete their GCSEs. Such educational disparities contribute to a substantial disability employment gap and are exacerbated by a rising population of SEND learners, who now constitute approximately 19% of the UK pupil population. Aligned with the Social Model of Disability (SMD), the research argues that the primary disabilities faced by these learners, stem from environmentally imposed restrictions rather than biological impairments alone. The study identifies critical systemic failures, including: *rising adversarialism* with a record high of 21,000 SEND Tribunal appeals, with parents winning 98% of cases; *economic strain* in which families with disabled children spend an average of £581 more per month, pushing many into debt under a severe cost-of-living crisis; *professional burnout* as evidenced by high employee turnover and overstretched Special Educational Needs Coordinators (SENCOs), and these have weakened the system's effectiveness. To secure the future socioeconomic wellbeing of SEND learners, the paper proposes a fundamental reform of the educational architecture. Key recommendations include the institutionalization of multi-disciplinary collaboration, the adoption of inclusive pedagogy, and the implementation of a conceptual bottom-up, priority-based funding model designed to curb waste and insulate the system from macroeconomic volatility. Ultimately, the study emphasizes that unshackling the agency of SEN professionals is strategically vital to mending the system and preparing SEND students for the demands of rapid digitalization and globalization.

Keywords: SEND, SENCO, Social Model of Disability, UK Education System, Future of Children with SEND, Inclusive Pedagogy, Educational Funding.

1. INTRODUCTION

There is a growing sense of foreboding in recent years about the United Kingdom's school system that has increasingly troubled the minds of parents and guardians of children with SEND (special educational needs and disabilities). For instance, a 2024 Ministry of Justice report states that appeals to the SEND Tribunal reached an all-time high of 21,000 cases between 2023 and 2024, a 55% increase from 13,658, with parents winning in 98% of the cases (Walker 2023, Whittaker 2024). This adversarial scenario presents a clear indication of eroding parental trust in a system that is supposed to prepare their children for a future already potentially fraught with adverse impacts from global socioeconomic headwinds coupled with the inherent personal difficulties these children face (The Childhood Trust, 2023; Johnson-Hunter, 2023; Children's Commissioner, 2021a).

Apart from what has become a contentious adversarial system, the picture created by the most recent reports, including one from the National Audit Office (NAO), all reveal that the school system in respect to SEND is in a crisis characterised by challenges of underfunding, significant systemic barriers, limited incentives for schools to be inclusive, poor academic outcomes, and data deficits on the current capacity and future needs of special schools and SEND children (Children's Commissioner, 2021a; Walker, 2023; Whittaker, 2024; Schools Week, 2025). Some of the socioeconomic implications of these challenges include the widening gap that exists between children with SEND and their peers without SEND in terms of their educational and potential career attainments. Data from a 2025 report by the Education Policy Institute (EPI) further reinforces this point, with evidence showing that a SEND primary school pupil with an EHCP (Education, Health, and Care Plan), upon completion of primary education, is on average 27.2 months behind their peers—i.e., over two years and three months behind their peers (EPI, 2025).

This gap is even further compounded by evidence that shows that SEND students with EHCPs at the point of obtaining their GCSE (General Certificate in Secondary Education) are 39.6 months behind their peers—which is alarmingly almost three and a half years of being behind! (EPI, 2025). A valid question to ponder at this point would be, "What about those not covered by an EHCP?" Evidently, this wide academic gulf invariably contributes to the 28.4% disability employment gap reported by the UK's Trade Union Congress (TUC) in 2024 (TUC, 2024). There is also strong likelihood that if the current systemic challenges are not resolved, that the recent spike and rising numbers of children with SEND could even further exacerbate these figures in the coming years, because official records show approximately 19% of the current pupil population is reported for some form of SEND challenge—potentially representing one-fifth of a section of UK's future workforce (GOV.UK, 2025a; GOV.UK, 2025b).

In addition, the spiraling cost of living crisis has further aggravated the situation of many families who have been forced into more debt and despondency, because families with a disabled child spend an average of £581 more per month than families without

a disabled child (The Childhood Trust, 2023). The necessity to spend on essential costs like specialist equipment, higher energy bills for medical equipment and heating, and the requirement of specific diets, explains why many families are deep in debt and why almost half of low-income households with a disabled person are in arrears on at least one household bill (Joseph Rowntree Foundation, 2023; The Childhood Trust, 2023; The Guardian, 2023). With a third of persons with disabilities falling into debt in 2023, cutting down on food and heating, and a large number experiencing negative impacts on their mental health (Scope, 2023).

The government and local authorities are not left out, because inflationary trends and the attendant tightness in the labour market mean that budgeted salaries become inadequate for employees, leading to high employee turnovers, which in turn overburdens and burns out professionals left in the system and raises government spending (Herwegen, 2022; Kelly, 2022). Thus, in addition to addressing the future national implications of having a sizable population of the UK's future workforce significantly disempowered, the authorities are also grappling with meeting the funding demands, instituting effective measures for qualitative outcomes, and recruiting to replace lost hands for effective management of the system (Rolfe, 2019; Eddison et al, 2024; Jersey Evening Post, 2024). As a result of the loss of employees, outsourcing has become the immediate augmentative option for the authorities, however, due to the adverse impact of global headwinds on global labour costs, even these independent services have become expensive, thus reinforcing the same cycle of rising costs and stretched budgets (IFS, 2025).

Considering the enormity and implications of all these multi-layered concerns highlighted above, and the little attention given to them in the literature in relation to the future of children with SEND, there is a need for more independent studies by practitioners to not only examine the data, but to provide more nuanced perspectives from the lens of frontline practice and professional judgment, so as to enrich the breadth and depth of the discourse, frame crucial issues with an appropriate level of urgency, and offer practical steps to resolve the problems. This article is an attempt in this direction, and it relies on the interpretation of unfolding global events, the existing data, and theoretical and practical insights from pundits, researchers, and relevant professionals/stakeholders.

Its main objectives are to highlight ways through which the current educational system can enhance the future socioeconomic wellbeing of children with SEND; identify how effective utilisation of SEN practitioners can help foster collaborative initiatives with stakeholders across schools to enhance educational outcomes and mend relational fences; and propose a conceptual bottom-up priority-based funding model, to mitigate waste and provide insulation from the sudden incursions of macroeconomic headwinds.

1.1 Children with SEND and the Emerging Global Realities on the Future of Work

Children with SEND face a higher exposure to exclusion from school, lower academic attainment, and a likelihood not to be in employment after attaining working-age, as only 26.7% of working-age adults with learning disabilities are in paid employment (Mencap, 2020). Those in employment, especially the young ones, have also been reported to lack adequate career guidance which limits their understanding of the skills they require, and this in turn lowers their earnings (Children's Commissioner, 2021b). But it is important to note that aside from these statistical realities in the UK, there are emerging trends in the global economy being determined by a complex interplay of socioeconomic disruptions that are reshaping the global labour market and the future of work. These changes are mainly induced by fast-paced technological innovation (especially the fourth industrial revolution driven by digital transformation), geopolitical tensions, and demographic and environmental shifts (McKinsey, 2023; World Bank, 2024; World Economic Forum, 2025).

A cocktail of reports and data from reputable global institutions show that these global changes are making certain jobs obsolete, creating new jobs, reinforcing certain career paths, and fostering innovative work arrangements—such as remote/virtual work and hybrid work (McKinsey Global Institute, 2023; U.S. Bureau of Labor Statistics, 2024; World Bank, 2024; World Economic Forum, 2025; LinkedIn, 2025). Based on the data from these different reports, this study has divided into four categories, the jobs and careers that are in high demand due to unfolding global dynamics and the influence of the fourth industrial revolution. Table 1 below captures these four groups, the work opportunities they present, and the skills required to function in each group.

Table 1: In-demand career pathways of the future, work opportunities, and core skills

S/N	In-Demand Career Pathways of the Future	Work Opportunities	Core Skills Required
1.	<p>Digital Technology and Data Expertise</p> <p>This career path involves those careers leading the digital revolution driven by data, AI, automation, software development, online content, digital marketing, and cyber security.</p>	<p>Data Scientists and Analysts</p> <p>Artificial Intelligence and Machine Learning Specialists; Robotics Engineers</p> <p>Cloud Computing Engineers</p> <p>Software and Applications Developers, UI/UX Designers;</p> <p>Fintech Engineers and Blockchain Technologists</p> <p>Content Creators/Strategists Digital Marketers</p> <p>Cybersecurity Analysts Data Privacy & Governance Officers.</p>	<p>Data interpretation, analysis and visualisation</p> <p>Ability to build and deploy <i>artificial intelligence, machine learning, and robotics</i> models</p> <p>Proficiency in managing cloud-based services</p> <p>Analytical and creative thinking, digital/computer technology literacy, ability to create digital products for businesses with user-friendly digital interfaces. Blockchain development.</p> <p>Creativity, the ability to connect through communication and satisfy human curiosity or fancy. SEO, SEM, PPC, CRM, social media & content marketing, data analytics.</p> <p>Skills in protecting digital systems and networks, knowledge of data privacy and governance frameworks.</p>
2.	<p>Business and People Management</p> <p>This has to do with those crucial soft skills.</p> <p>This group encompasses the crucial management roles and soft skills that cannot be done by machines and vital for corporate leadership, collaboration, business development and client/stakeholder relations.</p>	<p>Entrepreneurs and business owners; CEOs and executives.</p> <p>Management, business and financial analysts Logistics and Supply Chain Managers</p> <p>Business Development and Customer Success Professionals; Sales and Marketing Managers; Customer Service Professionals</p>	<p>Leadership and social influence skills; strategic planning and project management skills; agility, resilience and adaptability; communication skills; emotional intelligence; interpersonal skills and talent management.</p>
3.	<p>Sustainability Management</p> <p>This has to do with career roles across industries. These roles are focused on facilitating the green transition and environmental sustainability.</p>	<ul style="list-style-type: none"> - Sustainability Specialists and Consultants - Sustainability Officers - Renewable Energy Engineers - Recycling Specialists - Industrial Ecologists 	<p>Expert knowledge of global sustainability frameworks and local regulation, and mastery in the application of sustainability practices—such as best practices in adopting renewable energy, recycling, reduction of ecological degradation/waste, stakeholder engagement etc.</p>
4.	<p>The Healthcare & Wellbeing Sector</p> <p>The increasing demand for healthcare and wellbeing services is linked to the growing discourse on mental health, personal wellbeing, and also due to the aging population. There is also the demand for such services in sports/physical games/martial arts</p>	<p>Medical Doctors, Nurses, Health/Care Services Managers</p> <p>Mental Health Professionals (Psychiatrists, Psychologists, Counsellors, etc.)</p> <p>Occupational Therapists, Physical Therapists, Physical Health Instructor, Fitness Trainer, Sports/Physical Games/Martial Arts Coach.</p> <p>Home Care Aides</p>	<ul style="list-style-type: none"> - Medical, nursing, and health services management training - Training in mental health professions and counselling - Training in physical therapy, occupational therapy, physical health instruction, fitness instruction, sports/physical games/martial arts coach. - Training in home care delivery.

1.2 Conceptual Framework: The Role of Adaptive Education in Enhancing the Future of Children with SEND

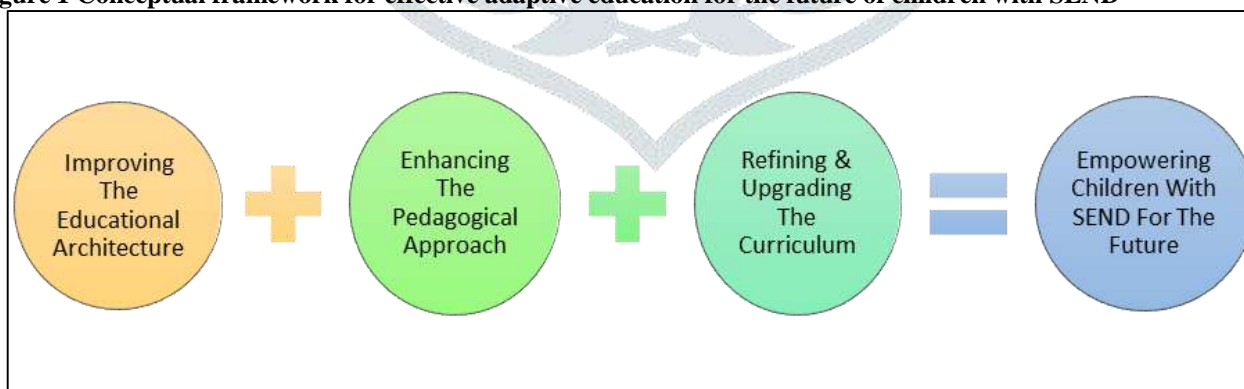
Flowing from the proceeding discourse above on the systemic, social, and career-related factors that shape the future of children with SEND in the UK, there is a need to pinpoint and discuss those specific areas and changes that can make a difference in reforming the education they receive for better outcomes. From the foregoing, it is already clear that conceiving and implementing effective structural changes in educational administration is vital to achieving the quality of educational outcomes we might desire. But much more, these changes should not be limited to just improving the governance, management, and systemic functions of the educational architecture for children with SEND, there is also a need to be deliberate about pedagogy and the curriculum. As Damyanov (2024) has noted, despite advances in educational theory and curriculum standardisation across the world, pedagogical challenges persist, just as the rigidity of traditional curricula content is also another major barrier to effectively teaching students with special education needs.

This situation exists for two primary reasons, the first being that teachers lack adequate pedagogical training and development to identify the most suitable pedagogical approach that caters to the diverse learning needs, disabilities, and differences of children and students with special education needs (Damyanov, 2024). The second reason is that most standardised curricula are rigid in their content and do not take into cognisance the diverse variations in the cognitive, emotional, and physical abilities present among students and pupils with SEN, thus creating a rigid learning environment that can be frustrating for these learners (Damyanov, 2024). Curricula rigidity also flows from the concerns in many countries about how best to prepare for future societal changes in the 21st Century, using education as a platform for providing those vital skills and competences needed in 10 to 15 years when the present school entrants will be joining the workforce (Erstadt & Voogt, 2018).

Many initiatives, such as those reported by the OECD (2010), the EU Commission (2019), and by other scholars, have come up with different frameworks for curriculum design suited to the 21st Century, in which they have predominantly used the words “skills”, “21st Century skills”, “competences”, and “key competencies” or “life long learning competences” interchangeably (Griffin, McGaw & Care, 2012; Erstadt & Voogt, 2018). For the purpose of this study, the adopted definition of skills and competences will refer to those context-specific cognitive dispositions, learning outcomes (knowledge and abilities), and ethics, developed or imbibed through learning and which are needed to successfully deal with certain demands and tasks in a specified field, sphere, or domain (Erstadt & Voogt, 2018). They also include traits, belief/value systems, habits, psychological features, and other motivational, social, and behavioural components (Erstadt & Voogt, 2018).

Thus, from the foregoing we can deduce that while pedagogy focuses on adopting the right teaching approaches and methods that create an environment for the learner’s development, effective curriculum design focuses on the educational contents and vital skills impartation made possible through formal education. Thus, to make education truly adaptive and effective in empowering children with SEND for a productive future, this study proposes a reformation of the education process through a conceptual framework that incorporates three major components: i.e., improving the educational architecture, enhancing the pedagogical approach, and refining and upgrading the curriculum in line with global and technological developments.

Figure 1 Conceptual framework for effective adaptive education for the future of children with SEND



2. LITERATURE REVIEW

This section presents a review of different studies and reports for the purpose of gaining an incisive, though not exhaustive, understanding of the existing data, research findings, professional and scholarly opinions, and recommendations as applicable to SEND. It starts by establishing the theoretical underpinning for the study and proceeds with two overarching themes in line with two of the study objectives under which the review is conducted. The review examines the UK’s system of education in relation to children with SEND in the light of prevailing policies, ideas, systemic failures, 21st Century challenges, and hitherto suggested recommendations.

2.1 Theoretical Underpinnings

Two theoretical frameworks are adopted to underpin and undergird the logic of the positions and opinions expressed in this study, and they are the *social model of disability theory* and the *human capital theory*. These two theories complement to form a holistic paradigmatic outlook for understanding the study and for correctly appropriating its lens of interpretation, generalisation and contribution to knowledge.

The *social model of disability* (SMD) as a theory is the product of increased civil rights campaigns by people with disabilities (Traci, Meshesha, & Horner-Johnson, 2025). The theory chiefly argues that disability goes beyond physiological, physical, or individual impairments, but is more of an extrinsic social construct that is entrenched by societal barriers (Holton, 2022; Traci, Meshesha, & Horner-Johnson, 2025). These societal barriers are physical (infrastructural), organisational, and attitudinal, and their existence turn the environment into a lopsided construct that is mainly enjoyed and built for people without impairments (Holton, 2022; Traci, Meshesha, & Horner-Johnson, 2025). Thus, the goal of the social model of disability as a theory is to remove these physical, attitudinal, and organisational barriers to foster a more inclusive and equitable society for people with impairments, and

by so doing eliminate the mismatch between people with impairments and an environmental and social construct designed only for non-impaired people (Lawson & Beckett, 2020).

In relation to this study, a vital point to note from the SMD theory is that it canvasses for a crucial distinction between impairment and disability, in which case a person's physical, cognitive, or sensory health condition is better described as an impairment, while disability is imposed by societal constructs that limit the choices, sense of control, independence, and abilities of a person with impairments. Thus, inaccessible physical structures in schools, inflexible curricula, alienated and unsuitable educational materials, or a difficult bureaucratic system of educational administration, are the typical disabling factors against the impaired child/learner, rather than the child's condition itself. In the light of this argument by the SMD, which is not new, the term "disability" will going forward be construed in this study from the lens of an unfair imposition by society.

A child with some diagnostically relevant form of physical, cognitive, or sensory impairment may be said to likely have special education needs (SEN). Special education needs also extend to gifted children, as well as those with learning difficulties, developmental delays, and various disorders—such as learning, neurodevelopmental, emotional, and behavioural disorders. However, evidence from the literature shows that children with these challenges can often improve steadily in their abilities if given the right support (Nielsen, 2002; Choo et al, 2019; Alelyani, 2021; Gkora & Stathopoulou, 2022; Augusto et al, 2025). This then should question the traditional notion of "disability" as something inherent and intrinsic to the individual and should instead shift our focus and emphasis to providing the right support without which disability becomes an extrinsic restriction that is environmentally imposed.

Therefore, the additional reference to disability in the context of SEND, should be more appropriately interpreted as a reference to societally imposed disability that is based on a stereotypical definition. It is also reinforced by systemic and institutional lapses such as funding deficits, infrastructural restrictions, unsuitable educational materials and tools, EHCP-related problems, poor emphasis on the most suitable pedagogical fit, and unattended curricula gaps that could further limit future productivity. Children and learners may generally have inherent problems that could create difficulties with learning, but like everyone else, these difficulties are not in themselves disabilities. On the contrary, just as the Zone of Proximal Development theory posits, such learners require the strategic use of the appropriate kind of support (such as scaffolding) to help the learner develop a new level of learning competence (Shabani, Khatib, & Ebadi, 2010; Mcleod, 2022; Adewusi et al, 2023).

To round up this discourse on theoretical application, the *Human Capital Theory (HCT)* has also been adopted in this study as a relevant complementary framework to SMD. This is because HCT provides justification for the call to ensure the empowerment of children with SEND in order to prepare them for a productive future in the face of spiking inflationary trends in the domestic economy and an increasingly competitive global economy (Gilles, 2014; Ng, Elder, & Hasan, 2020). The Human Capital Theory views education and skills development as investments in the productive capacities, i.e., human capital, of individuals, which leads to greater productivity, higher chances of employability, and better economic outcomes (Gilles, 2014; Ng, Elder, & Hasan, 2020).

The consequences of abandoning this duty is economic inefficiency that weakens maximal citizen participation in the labour market. More so, the dis-empowerment of a sizable section of the population would be an invitation to a greater strain on social support systems in the near future. This could translate to statistically significant margins of unproductivity, plus a rising sense of inequality/powerlessness that could culminate in an identity crisis for many young people, spurring social vices, crime, radicalisation, restiveness, and the compounding of national security concerns.

2.2 Enhancing the Socioeconomic Future of Children with SEND using Effective Adaptive Education

Economic stability, which encompasses employment, income levels, and financial security, is fundamental to wellbeing because economic stability influences a person's mental health, the behaviours of individuals, societal development, and socio-communal interactions—including involvement in social gatherings, networking, and community participation (Al Noor & Erickson, 2023; Bernardini, 2024; Manzoor et al., 2023; Zhu & He, 2024; Liu, 2025). By implication, the importance of economic stability can therefore not be overflogged when discussing the future wellbeing of learners (whether they have SEND or not). As much earlier and subsequently well-established evidence has shown there is a strong correlation between low income/financial hardship and people's experience of psychological stress or depression (Ross & Huber, 1985; Mirowsky & Ross, 2001; Butterworth, Rogers & Windsor, 2009; Williams & Cheadle, 2016). Also, an increase in income has been shown to improve a person's health, while lower income has been shown to lead to lower health outcomes in people (Woolf et al, 2015; Hyde, 2017; Finkelstein et al, 2022).

Economic stability is therefore a fundamental pillar of support for the social inclusion and well-being of people with disabilities (Banaś, 2024). And due to the opportunity for individualised education programmes under trained/specialist guidance, the school system remains the best bet for children with SEND to learn, imbibe, and sharpen the pivotal skills they need for the demands of the 21st Century economic environment (De Beco & Van der Maas, 2018; Sarita & Wisudawati, 2024). Reform proposals are due this Autumn in respect to the clamour for change due to rising funding deficits, problems with the Education Health and Care Plan (EHCP) system, and the proposition to bring the SEND system more within the context of mainstream schools—which has been canvassed as a more financially efficient, more inclusive, and more educationally effective approach, also with curriculum reforms in the offing (CCN, 2025; IFS, 2024; BBC, 2025).

In delivering qualitative education to pupils with SEND, there have been several problems identified by different government agencies and nonprofits such as the Department for Education (DfE), National Audit Office (NAO), Ministry of Justice (MoJ), Education Policy Institute (EPI) and The Childhood Trust (TCT). The core of the problems identified include the rising demand for SEND support, underfunding and strain on the finances of local authorities, poor educational attainments with SEND children lagging behind in learning time, a broken system in which families have to wait for long to get support, and councils not being properly covered in resource distribution (DfE, 2023; TCT, 2023; MoJ, 2024; NAO, 2024; EPI, 2025). The practitioner-based insights that have emanated from professional bodies such as the National Association of Schoolmasters Union of Women Teachers (NASUWT) and the National Association of Head Teachers (NAHT) have been quite revealing and instructive.

NAHT in its 2021 report is of the opinion that government's failure to invest is the major factor in the failing system, with 31% of school leaders reportedly making cuts to their budget, while many schools are having to cut back on staff and support for pupils (NAHT, 2021). 97% of school leaders reported insufficient funding for pupils with SEND, while 79% had to bear additional cost of

sourcing health and social care services for pupils with SEND due to unavailability or inaccessibility of such services (NAHT, 2021). Other challenges highlighted in the report include: many schools' inability to afford essential services like that of a SENDco (i.e., a special educational needs and disability coordinator) and educational psychologist; head teachers and other staff are overwhelmed by the multiple roles they undertake and relentless paperwork they deal with in relation to the EHCP system; expenses on well-being and mental health support have been cut back in many schools despite their increased need and growing complexity; just as there have been pockets of rural and coastal deprivations in certain counties due to the "postcode lottery" system in which geography determines access rather than need (NAHT, 2021).

Other problems identified this time by NASUWT include that 51% of teachers say the level of support for pupils with SEND has decreased in the last five years, with only 5% of teachers saying that pupils with special needs and disabilities (SEND) usually get the educational support they are entitled to (NASUWT, 2025). 38% of teachers say they don't receive the right support to help SEND pupils, 73% said that even when SEND pupils get an EHCP and are posted to special schools, they still cannot attend those special schools because the said schools are full (NASUWT, 2025). There are also increasing concerns about SEND pupils in specialist centres being increasingly hostile, with 76% of surveyed teachers having experienced verbal abuse from pupils in the last year, and 61% having been physically assaulted (NASUWT, 2025). 57% have experienced threats of physical assault, with 53% saying they experienced such attacks daily, and 55% stating that such attacks were increasing in gravity (NASUWT, 2025). Flowing from the critical analyses of NAHT (2021) and NASUWT (2025), it is clear that to have anything close to an effective system, all these issues raised have to be unpacked, investigated, and reforms implemented in a straightforward, more responsive, and more priority-driven manner.

Despite the reference by the DfE (2023) to national standards, practice guides, curriculum adaptation, and the role of teaching assistants in its 2023 *"Special Educational Needs and Disabilities (SEND) and Alternative Provision (AP) Improvement Plan,"* there has been very few discourse in the literature and by stakeholders on the role of pedagogy and curriculum design in the educational outcomes or current failure of the system of SEND education. There has also been very scant analysis on how the current classroom strategies and curriculum content prepare learners with SEND with the foundational skills they need for life and for economic productivity in today's increasingly competitive landscape. But as Norwich & Lewis (2007), Rix et al (2013), and Paniagua & Istance (2018) have affirmed, pedagogy is at the heart of teaching and learning, and that together with curriculum design and an inclusive policy outlook to education, these three decisively determine SEND outcomes. In essence, from this perspective, it would seem that a dysfunctional administrative system in SEND education negatively impacts on the effectiveness of these three factors in shaping SEND outcomes.

Norwich & Lewis (2007) have also further argued that curriculum design and pedagogy for children with SEND should not be treated as separate from mainstream teaching, but should instead be seen as special adaptations of effective general pedagogy. This point seems to have been further stressed by Florian & Black-Hawkins (2011) who have argued that inclusive pedagogy is defined not in the choice of strategy but in its use. They posit that inclusive pedagogy is one that attends to the individual differences of all learners while avoiding the stigma of marking some of them as different (Florian & Black-Hawkins, 2011). They contrast this to the popular notion of inclusive practice, which in itself has contradictory exclusionary practices such as applying teaching strategies that are suitable for "most" learners, while alongside applying some 'additional' or 'different' approaches for "some" learners who experience difficulties—thus the focus is not actually on strategies to make everyone learn, but a predetermined dichotomy of who can learn what, i.e., ability-based grouping (Florian & Black-Hawkins, 2011).

They provided in their study a comparative table that distinguished between the individualised inclusion and exclusion approaches on the one hand, and what true inclusive pedagogy should be on the other hand as seen in Table 2 below.

Table 2: Inclusive pedagogy: individualised versus everybody approach

Strategy	Individualised approach to inclusion: most and some	Inclusive pedagogical approach: everybody
Work choice	<p>Classroom teacher consults with colleagues in learning support about how to differentiate learning tasks so that specific accommodations for students with special educational needs are met</p> <p><i>Manifest in terms of inclusion:</i> All students are working at the appropriate levels with work choices that have been pre-determined and selected to respond to individual needs. One student works individually with a learning support assistant. Other students are required to complete fewer or simpler tasks</p>	<p>Students choose how, where, when and with whom they learn</p> <p>Teachers create options and consult with each student about how they can help</p> <p>Teachers create the conditions that support students to work with different groups</p> <p>Classroom teacher consults with colleagues including those in learning support to share ideas about teaching and learning</p> <p>Students are trusted to make good decisions about their learning</p>
Play zone	<p>Play zone is an area of the classroom where a range of active play choices are provided. Teachers select activities that are matched to individual student needs</p> <p><i>Manifest in terms of inclusion:</i> Rather than leave the classroom for physical therapy, a student with cerebral palsy is given physical therapy exercises that support his gross motor development. The teacher and/or classroom assistant do these exercises with him in the play zone during free time so that the student does not miss out on other structured activities</p>	<p>The play zone is a place where student learning is self-directed. By assessing how the student with cerebral palsy used his time in the play zone, the teacher was able to note that the student could talk when he wanted to because there was no pressure to do so. As a result of following the lead set by the student, the teacher is able to see progress that might otherwise have been obscured</p>

Source: Florian & Black-Hawkins (2011)

From the above table presented by Florian & Black-Hawkins (2011), we can see the importance of proper conceptualisation, training, strategy and skill in teaching practice, and as reiterated by Paniagua & Istance (2018), pedagogy is essentially about expertise in the art and science of teaching. It emphasises the place of the innovation, skills, professionalism and experience of the teacher to successfully foster learning and solve learning problems in constantly changing classroom contexts (Paniagua & Istance, 2018). However, the worry and adverse effects of creating within a classroom, a sense of a dichotomy between children with SEND and those without SEND which Florian & Black-Hawkins (2011) by their example above are calling attention to, may be something that assistive digital technologies may be able to resolve considering that the digital technology landscape has grown in multiple leaps and bounds since 2011 when their study was carried out.

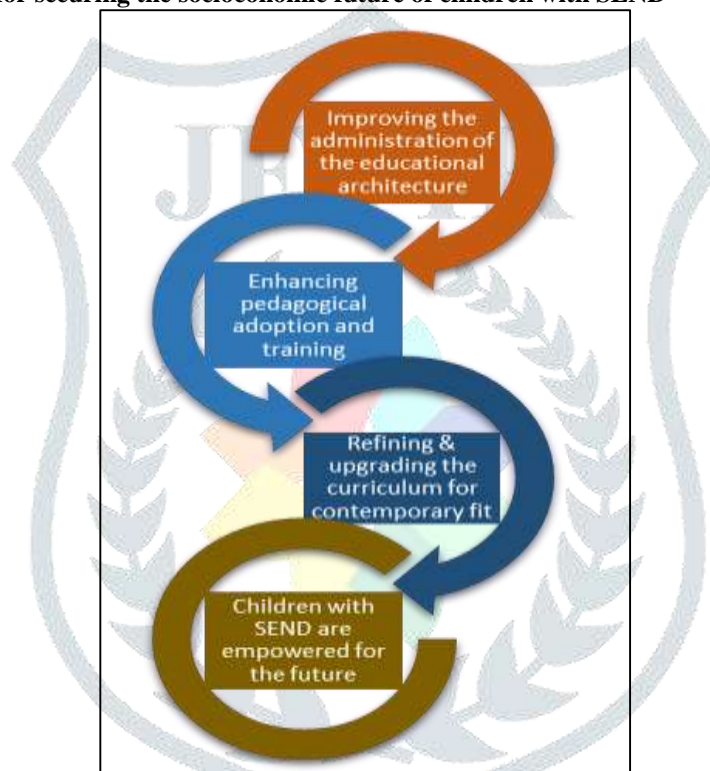
Otherwise, it may be crucial to first investigate whether their suggested approach may not in any way be a drag for certain children within the same classroom, and if lessons or certain lessons won't have to be repeated beyond the scheduled time in the curriculum workload in order to gain some uniform progress across the class. Otherwise, normalising a mindset of differentiated learning with each learner having unique contents digitally curated on their devices and learning at their pace may seem more plausible. However, this would be if there is a guarantee that "all children" (i.e., children across board) will finish their schooling within normal time and not have the same knowledge gap that the Education Policy Institute (EPI) had most recently reported about, where SEND primary school pupils with EHCPs, upon completion of their primary education are on average 27.2 months behind their peers, while SEND students with EHCPs at the level of obtaining their GCSE (General Certificate in Secondary Education), are 39.6 months behind their peers (EPI, 2025).

In relation to curriculum adoption, a 2021 report of the Office for Standards in Education, Children's Services and Skills (Ofsted), which happens to be one of the very few to have addressed the subject, had criticised the current curriculum for not being adequately ambitious, which is in itself compounded by a lack of subject-specific knowledge among support staff such as teaching assistants (Ofsted, 2021). The report found that often times pupils were in out-of-class interventions and engagements for significant periods, which though well-intentioned could lead to fragmented learning and gaps in foundational knowledge (Ofsted, 2021). The report recommended more training for teaching assistants to increase their competence in delivering robust and subject-specific content (Ofsted, 2021). Jones et al (2020) have argued that contemporary curriculums should infuse greater emphasis on collaboration, creativity and critical thinking over rote content coverage of a knowledge-heavy curriculum.

While having a good knowledge bank in a curriculum is itself important for memory content, but it is now a 21st Century urgency to have a skills-based curriculum approach, and one that is refocused on helping pupils and students (including those with SEND) to understand their place in a globalised world, interpret important broad concepts, and inculcate those pivotal values needed to navigate unfolding realities (Scoffham, 2018). Furthermore, there is also an equally urgent need to better integrate digital

literacy through a curriculum overhaul, while embedding digital skills acquisition as a vital “gate skill” for employability in today’s digital revolution (Venkatesan, 2023, 2024; De Morais & Da Silva, 2024). From this section of the review, it is easy to see the logic in adopting a three-pronged approach in making adaptive education better able to future-proof the economic and social well-being of pupils and students with SEND. This three pronged approach should involve: *improving the administration of the current educational architecture*, *enhancing the pedagogical approach through adoption and training*, and *refining and upgrading the curriculum* as an indispensable necessity in the light of the digital revolution and changing global dynamics. This explains the adoption of the original conceptual framework for this study as the methodical step to secure the socioeconomic future of children with SEND as recaptured in figure 2 below.

Figure 2: Methodical steps for securing the socioeconomic future of children with SEND



Reference is also made here to the four leading in-demand career pathways of the future and that the curriculum be designed to sharpen the intellectual and hands-on acumen of today's young learners (including those with SEND) in the right skillset and abilities they need as set out in Table 1 above. Furthermore, despite the limited discourse on the role of pedagogy in ensuring the effectiveness of the SEND education system in the UK, there is however a general understanding that SEND learners need flexibility in applied teaching practices, which explains why there has been an alignment with and a re-echo of such pedagogical strategies/frameworks like *Differentiated Instruction*, *Universal Design for Learning (UDL)*, and *Scaffolding and Guided Discovery*—other effective initiatives include *Project-Based Learning (PBL)*, *Personalized Learning Plans (PLPs)*, *Play-Based Learning*, *Culturally Responsive Teaching*, *Outdoor and Nature-Based Education*, *Social and Emotional Learning (SEL)*, among others (Rose & Meyer, 2002; Macy, 2016; Dalton, 2017; Sullivan & Weeks, 2018; Winter et al, 2019; Zafiri, Konstantinidou, & Pliogou, 2019; DfE Advisory & Caldwell, 2020; Hoffmann et al, 2020; Shemshack & Spector, 2020; Bishop et al., 2021; Boss & Krauss, 2022; Cade, Wardle, & Otter, 2022).

2.3 The Role of SEN Practitioners in Fostering Systemic Collaboration and Enhancing Education Outcomes in Relation to SEND

Chapter five paragraph 5.54 of the SEND Code of Practice (2015) spells out the roles of the SENCO (i.e., the SEN Coordinator) within the educational system, and they are essentially four, i.e., *ensuring all practitioners in the setting understand their responsibilities to children with SEN and the setting’s approach to identifying and meeting SEN*; *advising and supporting colleagues*; *ensuring parents are closely involved throughout and that their insights inform action taken by the setting*; and *liaising with professionals or agencies beyond the setting*. These provisions clearly spell out the responsibilities of the leading SEN practitioner in the school setting and by implication reflects the role of SEN practice in relation to SEND. However, despite the strategic implications of these pivotal responsibilities, a national survey has shown that SENCOs feel they are overwhelmed by paperwork and other administrative tasks outside their core mandate, and therefore lack the time and administrative support to discharge their core responsibilities (SENCO Workload Report, 2018; Tirraoro, 2018).

Based on the SEND Code of Practice (2015), the first two responsibilities of the SENCO are technical and are in connection with the school’s staff, while the other two have to do with interacting with non-staff stakeholders—in this case parents and external professionals and agencies. Based on the provisions of the Code of Practice (CoP), it is clear that where educational practitioners within a school setting do not have clarity about the setting’s approach to identifying and meeting SEN, or their responsibilities to children with SEN, the first natural reference point for investigating such lack of clarity is to see if there is a dysfunctionality on the part of the SENCO. This explains why critics have emphasised the need for the SENCO to be an integral part of the development of the school's SEN policy in consultation with the school’s leadership, best SEN and evidence-based practices, and other SEN experts such as professional bodies (Webster & Blatchford, 2016; Harrower, 2017; Sewel & Stodden, 2018; Visser, Visser, & van der Veen, 2018; Farrell & Ainscow, 2019). This way, SENCOs will be in the right frame of mind and

understanding to enlighten other members of teaching staff on their responsibilities to children with SEND, and to clarify the school's policy and approach to identifying SEN.

One problem that has emerged in relation to identifying SEN is that many learners with SEND are for a long period not appropriately identified and attended to, so that what should have been detected at the kindergarten level is not detected until year 1 of primary school (Biljanaet al., 2014; Soma, Kissiedu & Nyame, 2023). This is in addition to the issue of a proper diagnosis process and knowing at what stage they need an advanced arrangement (World Health Organization, 2012). In England, assessing special education needs does not go through an initial medical diagnosis or categorisation into specific syndromes or types of special education needs, which may partly explain why there are several adversarial claims by parents who believe their children should be on an EHCP (Children's Commissioner, 2021b; Soma, Kissiedu & Nyame, 2023; The Childhood Trust, 2023; Johnson-Hunter, 2023). Incorporating direct examination by an appropriate health practitioner, especially one with competence to assess the cognitive processes of children and the impact of impairments on such processes, may provide a more objective scientific process that parents/guardians may respect.

To facilitate a better understanding of learning difficulties and disabilities, the World Health Organization (2012) has recommended several processes, including early screening in schools, pre-referral, referral, diagnosis, assessment, eligibility, placement, intervention plank, monitoring, and re-evaluation. Nonetheless, Thomas (2024) has emphasised the indispensable centrality of parent-practitioner partnerships as a vital strategy, with parental involvement being pivotal both for the purposes of consent and home follow-up. Other important relationships the SENCO should be interested in strengthening is a sophisticated coordination between classroom teachers, specialist teachers, teaching assistants, and school leadership teams (Schürmann et al., 2024). But such collaboration and coordination could only be effective where there is a structured and well-defined process, for which SEN practitioners have been mentioned as pivotal educational experts who have the know-how of mapping out the nature of these intrarelations and being resourceful advisors within the school setting (Schürmann et al., 2024). But as respondents in the NAHT (2021) and NASUWT (2025) reports have mentioned, SENCOs need professional SEN assistants to fulfill their roles more optimally and impactfully.

In their advocacy, guidance, and solution-oriented roles, SEN practitioners should show more interest in unraveling the root causes of SEND, not just to enable them provide better management of pupils/students with SEND, but to better advocate societal and public policy changes based on insights from multidisciplinary endeavours such as in the field of genomics, environmental epidemiology/toxicology, children psychology, and even the analysis of the impact of macroeconomic factors on SEND and on SEND management efforts, among others (Sobel, 2013; Rolfe, 2019; Shen et al, 2023; Gupta & State, 2024; Costa et al, 2024). Also, evidence shows that collaborative multidisciplinary efforts in different work contexts such as among or across scientists, technologists, therapeutic professionals, mental health and psychological services providers, and career development experts, among others, always produces better results (LaFrance et al, 2019; Sapci & Sapci, 2020; Pillay et al., 2022; Liu, Zhang & Wang, 2024).

This will help to bring about actionable evidence-based solutions or vet existing products/services/initiatives for improved learning, curriculum development, enhanced educational outcomes, policy reforms, and better preparation of pupils/students with SEND for real world, economically competitive, and rapidly changing global challenges (LaFrance et al, 2019; Sapci & Sapci, 2020; Pillay et al., 2022; Liu, Zhang & Wang, 2024; World Economic Forum, 2025).

3. METHOD

The findings in this study are grounded in rigorous and extensive review of the literature incorporating diverse primary and secondary studies, opinion articles, papers, policy documents, reports by government functionaries and professional bodies, data published by government departments and reputable organisations, and a synthesis of insights and opinions from publications and write-ups by relevant professionals and scholars both in the education sector and across other applicable disciplines. The review was conducted through thematic analysis of the major preponderating themes in the consulted materials to examine the critical issues, while the resulting observations and discourse were copiously cross-referenced to ensure appropriate validation and coherence of the information presented.

4. DISCUSSION

This section of the study will analyse the insights from the review and the overall study, and in line with the study's third objective, it will propose a conceptual bottom-up and priority-based funding model to mitigate waste and provide insulation from sudden incursions of macroeconomic headwinds that could upset a smooth run of the UK's SEND education system.

4.1 Insights from the Review

From the foregoing, it is clear that there are multiple pain points, inadequacies and credible clamours for a reform and enhancement of SEND education in the UK. While most of the data cited are from England, however, evidence shows that similar situations cut across Wales, Scotland, and Northern Ireland. Macroeconomic factors (such as the cost of living crisis) have adversely impacted both family and government finances, further compounding the situation. While the academic success of children with SEND is a vital focus of this study, however, the ultimate goal is to forestall an aggravated crisis situation in the not too distant future, in which the current scary and consistent spike in the number of children with SEND could add a layer of problems to an already bad situation of 73.3% of working-age people with disabilities not being in paid employment (Mencap, 2020). It is important to take into cognisance increasing global competitiveness, especially as global trends have narrowed in-demand future careers to four pathways: i.e., digital technology and data expertise, business and people management, sustainability management, and the healthcare and wellbeing sector.

If the government feels the current situation is overwhelming for public expenditure, the reality is that a lack of proactive initiatives will impose worse strain on public finances in the near future, if this growing segment of the potential working population can not pay taxes and will be dependent on social welfare. But even more disturbing is the adverse impact that such

disabling social construct of insensitivity could have on the mental health and socioeconomic wellbeing of this section of the populace, as economic stability is inextricably linked to wellbeing. This study aligned with the *social model of disability* (SMD) theory and the *human capital theory* (HCT). Disability is actually not about the physiological, cognitive, or biological impairments certain people face, but about the social and physical barriers in an environment built by other people without such physiological, cognitive, or biological challenges.

One of such barriers is providing a flawed education that does not adequately invest in the human capital and productive capacities of children with SEND, thus sentencing them to an uncertain future and one marked by economic and social stagnation. HCT canvasses that education should nurture human capital/productivity. Addressing these concerns comprehensively is what SEND education in the UK needs now to change the current narrative and prevent a bleak future. Thus, at the heart of this clarion call is the need to enhance SEND education funding and administration, incorporate pedagogical effectiveness together with a skills-based curriculum that fits into contemporary digital/global demands, and to put to good use the pivotal agency of SEN practitioners whose jobs would be to work at making policy, administration and practice come together in collaborative synergy.

While parents advocate for their children based on the strong familial connection and sense of responsibility they have to them, the SEN professional is the most strategically positioned objective advocate for the learner with SEND across the different SEND stakeholders' spectrum in education. This doesn't make them infallible, but their role serves as a pivot in the system that involves using their professional training and systemic influence to advocate the interest of learners with SEND, provide technical services and advice to schools, and foster smooth stakeholder relations and engagements. It also involves facilitating necessary professional/multidisciplinary interventions and initiatives, meeting compliance requirements, effectively lobbying governmental authorities for timely responsiveness, making proactive recommendations, and taking measures to help anticipate and mitigate threats to the SEND education system. In essence, the SEN professional is first an advocate for the SEND learner, but also a strategic ally to every involved stakeholder.

The coordinating SEN practitioners in schools, i.e., SENCOs, need assistant SEN professionals to support them in delivering their core school setting mandates by assisting in aspects of the responsibilities to the school and also to non-school stakeholders; organising and keeping track of overlapping priorities to ensure optimisation of workflow; and helping in the process to constantly improve pedagogy and the curriculum to enhance educational outcomes and better prepare children with SEND them for the future. They will also help in meeting bureaucratic compliance demands, follow-up with cases to ensure timeliness, and assist in liaising with educators, other SEN professionals and multidisciplinary experts in collaborative efforts. If they will be effective, the SENCO's role and that of their professional assistant simply cannot be combined with other school tasks that do not fall within the purview of their core mandates as stipulated by the SEND Code of Practice, or their research and advisory roles, or their systemic, professional and multidisciplinary liaison roles.

NASEN as the leading professional body for SEN professionals needs to take a more proactive role in receiving reports from SENCOs and SEN practitioners on challenges in the field, actionable insights, research leads, and research breakthroughs to better contribute to the development of knowledge, practice, advocacy, and public policy in this field. They need to provide more active support and professional resources to SEN professionals that work in the school setting on the different aspects of their job demands. Thus, it is recommended here that in-between holidays, organising high level, very informative, and professionally refreshing and empowering conferences, workshops or seminars is a crucial opportunity to engender better engagement of their membership, better SEN professionalism, and better performance. Also, it is suggested that having an active desk that monitors nationwide statistical improvements in the educational outcomes, wellbeing, and the socioeconomic prospects of pupils/students with SEND, will provide valuable data-based insights and lead to data-driven initiatives.

This study has been able to establish the following: that the UK's SEND education is in a crisis situation which if not comprehensively addressed threatens the UK's future societal structure and global competitiveness; that there is a need to overhaul the administration of the current educational architecture particularly in relation to SEND; that enhancing the quality of pedagogical adoption is a crucial but overlooked subject-matter in the current heated discourse; and that in addition, upgrading and refining the curriculum to reflect contemporary fit in the age of digitalisation and globalisation is pivotal to the future economic stability and wellbeing of pupils/students with SEND. In addition, in the sub-section below is a proposed funding model.

4.2 Conceptual Proposition of a Bottom-up Priority-based Funding Model

This proposed funding model in principle shifts the paradigm from a top-down approach to a bottom-up process that distributes resources based on desired outcomes and pupils/students' needs. In application this funding model adopts two tracks: track 1 seeks to prevent waste and distribution problems on the one hand, while track 2 seeks to insulate the system from macroeconomic vagaries on the other hand.

4.2.1 Track 1: Curbing Waste and Ensuring Effective Distribution of Resources

Link every pound spent to clear measurable goals and allocate funds based on a four-step process as follows:

- Comprehensively assess a pupil/student to detail their need, identify measurable outcomes to be achieved within a timeframe, and document this in a personalised plan for the child.
- The personalised plan becomes the cardinal reference for funding, as the resources needed for direct impact on the pupil/student and that are in line with the stipulated outcomes are listed and cost in order of priority. This creates transparency in linking spending to the learner's needs and progress.
- The funds are released to the school or service provider in line with the personalised plan, with each itemised expenditure properly labeled in line with their intended use to prevent diversion to other school or service provider needs.
- Continuous evaluation is carried out to determine if the desired outcomes in the personalised plan are being met by the pupil/student. Where the goals are being met, necessary onward adjustments are made, and where they are not being met, a review is triggered either for necessary changes or additional support. Thus, assessing the effective use of resources becomes regularised and entrenched.

4.2.2 Track 2: Insulating SEND Education from the Impact of Macroeconomic Vagaries and Headwinds.

This funding model incorporates in this track a resilience layer that is protected from negotiations and debates in the annual budgets process and provides some insulation from economic downturns. It has the following three components:

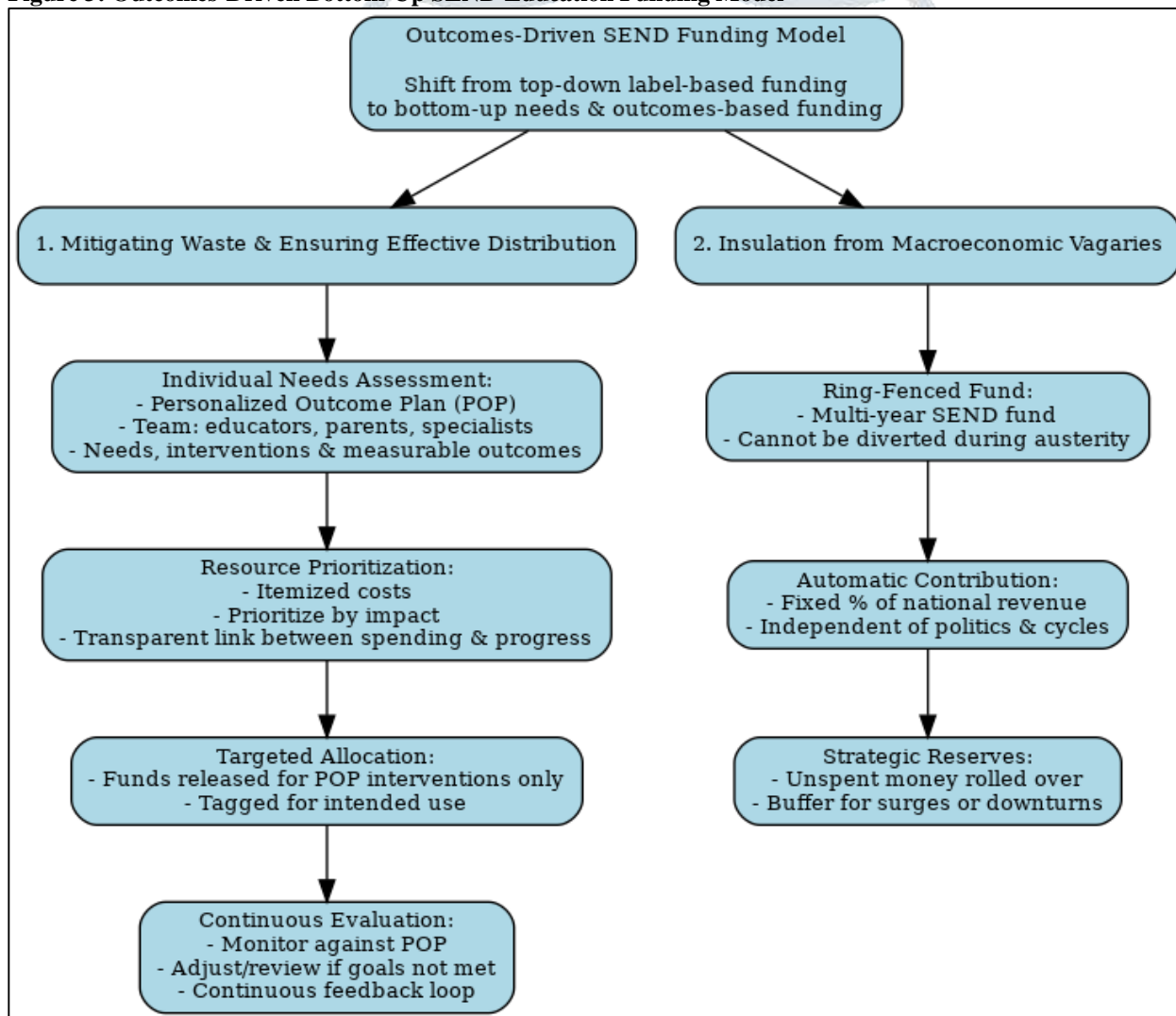
5. A ring-fenced fund that is a special multi-year fund dedicated to SEND education provision and protected from reallocation to other government departments even when austerity measures are planned.

6. A yearly contributory payment in which a fixed percentage of national revenue or some other growth fund is contributed to the above mentioned SEND education fund every year.

7. Roll over unused money into the fund to strengthen the capital pool and make it have a strong buffer against changes in national revenue and economic factors.

This model is titled an Outcomes-Driven Bottom-Up SEND Education Funding Model as it captured in Figure

Figure 3: Outcomes-Driven Bottom-Up SEND Education Funding Model



5. CONCLUSION

The study found that the UK's current educational system in relation to SEND is confronted with multiple challenges that have weakened its effectiveness and which threaten the future wellbeing of pupils/students with SEND. The main challenges include the rising number of children with SEND, serious underfunding despite significantly increased budgetary allocation, delays in identifying and attending to children with SEND, and geographically lopsided responses and distribution of SEND resources. Other main concerns include: the aggravation of adversarial claims by parents, overstretched SENCOs and SEN professionals in school settings, growing hostility by pupils/students with SEND, infrastructural limitations, the need for curriculum changes, and most importantly, dissatisfactory educational outcomes that make pupils/students with SEND lag behind their peers.

Thus, in line with the Social Model of Disability (SMD) theory, the study concludes that notwithstanding the difficulties and impairments (or biological factors) faced by children with SEND, the disability actually comes more from these prevailing environmentally imposed restrictions and the disadvantaged social construct that they have found themselves in. They are therefore in an unfair struggle with an insensitive world and one built for people without such difficulties/impairments (or biological factors). Therefore, the position of this study is that improving the administration of the current educational architecture, enhancing the quality of inclusive pedagogical adoption and training, and upgrading the curriculum to reflect the skills-based outlook of rapid digitalisation and globalisation, are crucial to salvaging the current situation in the UK's SEND education and securing the future of pupil/students with SEND.

In view of this, the study made vital suggestions, including (but not limited to) the need to unshackle the agency of SENCOs and SEN professionals so they can improve SEND professionalism within the school system and foster necessary intra/inter

collaborative efforts in favour of the system. The SEN professional is indispensably strategic to bettering the system. The study emphasised the need for inclusive pedagogy, training, and assistive technologies that can further blur any dichotomies between pupils/students with SEND and those without SEND. The study also highlighted the top four in-demand career pathways of the future and recommended that the proposed changes to the curriculum should take into consideration relevant curricular content that would help pupils/students with SEND develop the core skills highlighted in Table 1. A conceptual bottom-up and priority-based funding model was also recommended to curb wastage and shield SEND education from macroeconomic vagaries.

Recommendations

- Reform the administration of SEND education and institute a better funding model that will curb waste and insulate the system from economic downturns.
- Enhance the quality of teaching through qualitative training in inclusive pedagogy adoption and embed future-ready skills in the curriculum to provide SEND pupils/students with foundational aptitude for skills itemised in Table 1.
- Strengthen the roles of SEN professionals and provide SENCOs with professional assistants to protect their core mandates and systemic roles from derailment.
- Professional bodies like NASEN should step up their engagement in terms of professional support to SEN professionals in schools, and to track data on educational and socioeconomic outcomes related to SEND.
- Institutionalise multi-stakeholder and multi-disciplinary cooperation and collaboration among parents/guardians, policymakers and governmental authorities, educators, and diverse professionals and specialists.

REFERENCES

- [1] Adewusi, O. E., Al Hamad, N. M., Adeleke, I. J., Nwankwo, U. C., & Nwokocha, G. C. (2023). Adaptive teaching strategies in early childhood education: a review for Nigeria and the UK. *International Journal of Applied Research in Social Sciences*, 5(8), 255-271.
- [2] Ainsworth, M. D. S. (1990). Some considerations regarding theory and assessment relevant to attachments beyond infancy. *Attachment in the preschool years: Theory, research, and intervention*, 463-488.
- [3] Alelyani, S. O. (2021). Special educational need of the gifted and talented students in Saudi Arabia: A review paper. *International Journal of Educational Research Review*, 6(2), 124-133.
- [4] Allix, N. M. (2000). The theory of multiple intelligences: A case of missing cognitive matter. *Australian Journal of Education*, 44(3), 272-288.
- [5] Archie, B., (2024). Thursday briefing: How the state is failing children with special needs – and what it costs. <https://www.theguardian.com/world/2024/oct/24/thursday-briefing-first-edition-send-special-education-needs-disability-england>
- [6] Augusto, J. A. D. O., Ferreira, T. F. L., Arduini, R. G., Bastos, T. M. D. A., Campanha, N. S. P., Fornasari, R. D. C. C. V., ... & Ciasca, S. M. (2025). Exploring neurodevelopmental concerns: insights from a public neuropediatric learning disabilities multiprofessional outpatient facility in Brazil. *Frontiers in Psychology*, 16, 1363536.
- [7] Babakr, Z., Mohamedamin, P., & Kakamad, K. (2019). Piaget's cognitive developmental theory: Critical review. *Education Quarterly Reviews*, 2(3).
- [8] Banaś, D. (2024). Economic education of people with disabilities as a tool supporting social inclusion. *e-mentor*, 106(4), 22-30.
- [9] BBC (2025). *Government urged to keep education plans for children with special needs*. <https://www.bbc.com/news/articles/cx2vn950d5go>
- [10] Bernardini, F., Attademo, L., Rotter, M., & Compton, M. T. (2021). Social determinants of mental health as mediators and moderators of the mental health impacts of the COVID-19 pandemic. *Psychiatric Services*, 72(5), 598–601.
- [11] Biljana, P., Despina, S., & Jadranka, R. (2014). Early Intervention and Prevention of Students with Specific Learning Disabilities. *Procedia - Social and Behavioral Sciences*, 9(49), 701 – 708.
- [12] Bishop, P. A., Downes, J. M., & Farber, K. (2021). *Personalized learning in the middle grades: A guide for classroom teachers and school leaders*. Harvard Education Press.
- [13] Boss, S., & Krauss, J. (2022). *Reinventing project-based learning: Your field guide to real-world projects in the digital age*. International Society for Technology in Education.
- [14] Butterworth, P., Rodgers, B., Windsor, T.D., (2009). Financial hardship, socio-economic position and depression: Results from the PATH Through Life Survey. *Social Science & Medicine*, 69 (2), 229-237.
- [15] Cade, J., Wardle, F., & Otter, J. (2022). Quality early care and learning: Exploring child-centered pedagogy a qualitative multi-case study. *Cogent Education*, 9(1), 2144589.
- [16] CCN (2025). *SEND system in 'desperate need of reform': hundreds of young people a day approached their council for support last year*. County Councils Network (CCN). Available at: <https://www.countycouncilsnetwork.org.uk/send-system-in-desperate-need-of-reform-hundreds-of-young-people-a-day-approached-their-council-for-support-last-year/> (Accessed August 2025).
- [17] Children's Commissioner (2021a). Briefing: Five things you need to know about SEN in schools. Available at: <https://assets.childrenscommissioner.gov.uk/wpuploads/2021/02/cco-five-things-you-need-to-know-about-sen-in-schools.pdf>
- [18] Children's Commissioner. (2021b). *A review of the special educational needs and disability (SEND) system in England*. The Children's Commissioner's Office.
- [19] Choi, J. H., et al. (2023). Response to Intervention (RTI)/Multi-Tiered Systems of Support (MTSS): A Nationwide Analysis. *ResearchGate*. DOI: 10.13140/RG.2.2.15068.90244
- [20] Choo, Y. Y., Agarwal, P., How, C. H., & Yeleswarapu, S. P. (2019). Developmental delay: identification and management at primary care level. *Singapore Medical Journal*, 60(3), 119.

- [21] Costa, L. G. et al. (2024). Air pollution exposure and brain structure/function in children: a systematic review (2019–2023 update). *Environmental Research*.
- [22] Dalton, E. M. (2017). Beyond universal design for learning: guiding principles to reduce barriers to digital & media literacy competence. *Journal of Media Literacy Education*, 9(2), 17-29.
- [23] Damyanov, K., (2024). Effective pedagogical strategies and support mechanism for enhancing the learning outcomes of students with special education needs: A systematic approach. *International journal of scientific research and management*, 12(10), 3700-3718.
- [24] Davis, K., Christodoulou, J., Seider, S., & Gardner, H. E. (2011). The theory of multiple intelligences. In RJ Sternberg & SB Kaufman (Eds.), *Cambridge Handbook of Intelligence*, 485-503.
- [25] De Morais, M.M.M.J., & Da Silva, A.A.B., (2024). Impact of digital tools on learning of students with special educational needs. *IOSR journal of business and management*, 26(7), 22-29.
- [26] DfE Advisory & Caldwell, J. (2020). *Inclusion and Special Educational Needs: UDL principles*. UK Department for Education Advisory.
- [27] Donker, A. S., et al. (2018). Long-term effects of metacognitive strategy instruction on student academic performance: A meta-analysis. *Educational Research Review*, 23, 98-115.
- [28] Eddison, N., Healy, A., Leone, E., Jackson, C., Pluckrose, B., & Chockalingam, N. (2024). The UK prosthetic and orthotic workforce: current status and implications for the future. *Human Resources for Health*, 22(1), 3.
- [29] Ellis, B. J., Bianchi, J., Griskevicius, V., & Frankenhuis, W. E. (2017). Beyond risk and protective factors: An adaptation-based approach to resilience. *Perspectives on Psychological Science*, 12(4), 561-587.
- [30] EPI (2024). *Annual Report 2024*. [https://epi.org.uk/publications-and-research/annual-report-tra2024/#:~:text=The%20Education%20Policy%20Institute%20\(EPI,disadvantaged%20pupils%20and%20their%20peers](https://epi.org.uk/publications-and-research/annual-report-tra2024/#:~:text=The%20Education%20Policy%20Institute%20(EPI,disadvantaged%20pupils%20and%20their%20peers). (Accessed August, 2024).
- [31] Erstadt, O., & Voogt, J. (2018). Chapter 1: Curriculum in the 21st Century: Issues and challenges. *Handbook of Information Technology in Primary and Secondary Education*, 19-36.
- [32] European Commission (2019). *Key competences for lifelong learning*. Directorate-General for Education, Youth, Sport and Culture. Publications Office. <https://data.europa.eu/doi/10.2766/569540>
- [33] Farrell, P., & Ainscow, M. (2019). *Making special education an integral part of school policy*. Routledge.
- [34] Finkelstein, D. M., Harding, J. F., Paulsell, D., English, B., Hijjawi, G. R., & Ng'andu, J. (2022). Economic Well-Being And Health: The Role Of Income Support Programs In Promoting Health And Advancing Health Equity: Study examines income support programs and their role in promoting health and advancing health equity. *Health Affairs*, 41(12), 1700-1706.
- [35] Florian, L., & Black-Hawkins, K., (2011). Exploring inclusive pedagogy. *British educational research journal* 37(5), 813-828
- [36] Garrison, R. (2020). *Inclusive education: The benefits and disadvantages*. Spark. <https://spark.bethel.edu/cgi/viewcontent.cgi?article=1982&context=etd>
- [37] Gillies, D., (2014). Human capital, education, and sustainability. *Sisyphus Journal of Education*, 2 (3), 78-99.
- [38] Gkora, V., & Stathopoulou, A. (2022). Emotional and Behavioral Disorders/Difficulties in the School Context and the Role of ICTs: A Literature Review. *Educational Innovations and Emerging Technologies*, 2(3), 1-11.
- [39] GOV.UK (2025a). Special educational needs in England 2024/2025. Available at: <https://explore-education-statistics.service.gov.uk/find-statistics/special-educational-needs-in-england/2024-25>
- [40] GOV.UK (2025a). Special educational needs in England 2024/2025. Available at: <https://explore-education-statistics.service.gov.uk/find-statistics/special-educational-needs-in-england/2024-25>
- [41] GOV.UK (2025b). School Pupils and their Characteristics. Available at: <https://explore-education-statistics.service.gov.uk/find-statistics/school-pupils-and-their-characteristics/2024-25>
- [42] GOV.UK (2025b). School Pupils and their Characteristics. Available at: <https://explore-education-statistics.service.gov.uk/find-statistics/school-pupils-and-their-characteristics/2024-25>
- [43] Griffin, P., McGaw, B. & Care, E. (eds.) (2012). *Assessment and teaching of 21st century skills*. Dordrecht: Springer.
- [44] Gupta, A. R. & State, M. W. (2024). The importance of large-scale genomic studies to unravel genetic architecture of autism. *Molecular Psychiatry*.
- [45] Harrower, J. (2017). *The SENCO's guide to whole school SEN policy*. SAGE Publications.
- [46] Herwegen, J.V., (2022). Why the rise in number of SEN children, especially in the early years? University College London. Available at: <https://blogs.ucl.ac.uk/cldd/2022/04/04/why-the-rise-in-number-of-sen-children-especially-in-the-early-years/>
- [47] Hoffmann, J. D., Brackett, M. A., Bailey, C. S., & Willner, C. J. (2020). Teaching emotion regulation in schools: Translating research into practice with the RULER approach to social and emotional learning. *Emotion*, 20(1), 105.
- [48] Holmes, W., Bialik, M., & Fadel, C. (2019). *Artificial intelligence in education: Promises and implications for teaching and learning*. Center for Curriculum Redesign. <https://www.ed.gov/sites/ed/files/documents/ai-report/ai-report.pdf>
- [49] Holton, S. (2022). This child can: participation in sport for children with vision impairment. *Paediatrics and Child Health*, 32(8), 297-301.
- [50] Hwang, G. J., & Tsai, C. C. (2020). Adaptive learning: A systematic review and research trend analysis. *Educational Technology & Society*, 23(2), 1-17.
- [51] Hyde, S. (2017). Income and health outcomes. *Monthly Labor Review*. Available at: <https://www.bls.gov/opub/mlr/2017/beyond-bls/pdf/income-and-health-outcomes.pdf> (Accessed September 2, 2025).
- [52] Jersey Evening Post (2024). *Social care costs for working age and lifelong disabled could be £17bn by 2030*. Available at: [https://jerseyeveningpost.com/morenews/uknews/2024/11/11/social-care-costs-for-working-age-and-lifelong-disabled-could-be-17bn-by-2030/#:~:text=The%20report%20stated%20that%20there%20is%20an,educational%20needs%20and%20disabilities\)%20and%20population%20growth%20E2%80%9D](https://jerseyeveningpost.com/morenews/uknews/2024/11/11/social-care-costs-for-working-age-and-lifelong-disabled-could-be-17bn-by-2030/#:~:text=The%20report%20stated%20that%20there%20is%20an,educational%20needs%20and%20disabilities)%20and%20population%20growth%20E2%80%9D). (Accessed August 2025)
- [53] Johnson-Hunter, M., (2023). Our social security system must support households with a disabled person to afford the essentials. *JRF* (Joseph Rowntree Foundation) Available at: <https://www.jrf.org.uk/cost-of-living/our-social-security-system->

- [must-support-households-with-a-disabled-person-to-afford#:~:text=These%20findings%20paint%20a%20deeply,on%20long%20after%20inflation%20eases.](#)
- [54] Jones, A., Davies, R., Davies, C., Jones, L., (2020). *A real immersive and purposeful curriculum*. British Educational Research Association. <https://www.bera.ac.uk/blog/a-real-immersive-and-purposeful-curriculum>
- [55] Joseph Rowntree Foundation (2023). Our social security system must support households with a disabled person to afford the essentials. <https://www.jrf.org.uk/cost-of-living/our-social-security-system-must-support-households-with-a-disabled-person-to-afford#:~:text=These%20findings%20paint%20a%20deeply,on%20long%20after%20inflation%20eases>.
- [56] Kalina, C., & Powell, K. (2009). Cognitive and social constructivism: Developing tools for an effective classroom. *Education*, 130(2), 241-250.
- [57] Karen, R. (1998). *Becoming attached: First relationships and how they shape our capacity to love*. Oxford University Press, USA.
- [58] Kelly, H., (2022). *Is underfunding and staff burnout creating a global crisis in special education?* Available at: <https://drhelenkelly.com/article.php?id=52#:~:text=A%20Global%20Shortage%20of%20Special,the%20main%20reasons%20for%20leaving>.
- [59] Kruse, E., & Williams, S. (2017). The promise of adaptive learning. The Learning Agency. <https://thelearningagency.org/wp-content/uploads/2017/08/The-Promise-of-Adaptive-Learning.pdf>
- [60] LaFrance DL, Weiss MJ, Kazemi E, Gerenser J, Dobres J., (2019). Multidisciplinary Teaming: Enhancing Collaboration through Increased Understanding. *Behav Anal Pract*, 12 (3), 709-726.
- [61] Lawson, A., & Beckett, A. E. (2020). The social and human rights models of disability: towards a complementarity thesis. *The International Journal of Human Rights*, 25(2), 348–379.
- [62] LinkedIn. (2025). *Jobs on the Rise 2025*. <https://www.linkedin.com/pulse/linkedin-jobs-rise-2025-15-fastest-growing-roles-australia-keeley-qcghc/> (Accessed gust 2025)
- [63] Liu, H., Zhang, L., & Wang, Y. (2024). Methods and technologies for supporting knowledge sharing within learning communities: A systematic literature review. *Education Sciences*, 14(1), 17.
- [64] Liu, X., Zhou, C., Li, Y., & Fang, F. (2025). How economic stability shapes social relationship expenditures: Moderating effects of health and education. *International Review of Economics & Finance*, 99, 104041.
- [65] Macy, L. (2016). *Bridging pedagogies: Drama, multiliteracies, and the zone of proximal development*. Paper presented at the The Educational Forum.
- [66] McKinsey Global Institute. (2023). *The future of work after COVID-19*. Available at: <https://www.mckinsey.com/~media/mckinsey/featured%20insights/future%20of%20organizations/the%20future%20of%20work%20after%20covid%2019/the-future-of-work-after-covid-19-report-vf.pdf> (Accessed August 2025)
- [67] Mcleod, S. (2022). Vygotsky's socio-cultural theory of cognitive development. Retrieved from *Simply Psychology* at: <https://www.simplypsychology.org/vygotsky.html> (9th August 2025)
- [68] Mencap (2024). *System for funding special educational needs is broken*. <https://ifs.org.uk/news/system-funding-special-educational-needs-broken#:~:text=Darcey%20Snape%2C%20IFS%20Research%20Economist,>
- [69] Mirowsky, J., and Ross, C.E., (2001). "Age and the effect of economic hardship on depression." *Journal of Health and Social Behavior* 42(2): 132–50.
- [70] MoJ (2024). *Annual special educational needs and disability (SEND) statistics*. Ministry of Justice. <https://www.gov.uk/government/statistics/tribunals-statistics-quarterly-july-to-september-2024/tribunal-statistics-quarterly-july-to-september-2024#annual-special-educational-needs-and-disability-send-statistics> (Accessed September 2025).
- [71] NAHT (2021). *A failure to invest – the state of school funding 2021*. <https://www.naht.org.uk/News/Latest-comments/News/ArtMID/556/ArticleID/1223/A-failure-to-invest-the-state-of-school-funding-2021#:~:text=%22The%20crisis%20in%20funding%20for,needs%20of%20all%20their%20pupils.%22> (Accessed September 2025)
- [72] NASUWT (2025). *Special needs system on its knees, teachers warn*. National <https://www.nasuwt.org.uk/article-listing/special-needs-system-on-its-knees-teachers-warn.html> (Accessed September 2025)
- [73] Ng, A. K. Y., Elder, L. K., & Hasan, A. (2020). *Human Capital and Disability: Why It's Important to Invest in All People*. Washington, D.C. : World Bank Group. <http://documents.worldbank.org/curated/en/919461591037705842>
- [74] Nielsen, M. E. (2002). Gifted students with learning disabilities: Recommendations for identification and programming. *Exceptionality*, 10(2), 93-111.
- [75] Norwich, B., & Lewis, A. (2007). How specialized is teaching children with difficulties in learning? *Journal of Curriculum Studies*, 39(2), 127–150.
- [76] OECD [Organisation for Economic Co-operation and Development], (2005). *The definition and selection of key competencies*. Available at: [https://one.oecd.org/document/EDU/EDPC/ECEC/RD\(2010\)26/en/pdf](https://one.oecd.org/document/EDU/EDPC/ECEC/RD(2010)26/en/pdf) (Accessed August 2025).
- [77] Ofsted (2021). *Supporting SEND*. Office for Standards in Education, Children's Services and Skills (Ofsted). <https://www.gov.uk/governmental/publications/supporting-send>
- [78] Olusanya BO, Kancherla V, Shaheen A, Ogbo FA, Davis AC., (2022). Global and regional prevalence of disabilities among children and adolescents: Analysis of findings from global health databases. *Front Public Health*, 10:977453. doi: 10.3389/fpubh.2022.977453.
- [79] Pane, J. F., Steiner, E. D., & Key, B. A. (2017). *A systematic review of personalized learning*. The RAND Corporation.
- [80] Paniagua, A., & Istance, D., (2018). *Teachers as designers of learning environments: The importance of innovative pedagogies*. OECD Publishing, Paris. <https://gpseducation.oecd.org/content/projects/material/ile%20flyer.pdf>
- [81] Pillay, N., Smith, A., & Jones, B. (2022). Multidisciplinary efforts in supporting students with complex needs. *International Journal of Special Education*, 37(1), 21-34.
- [82] Rahman, L. (2024). Vygotsky's Zone of Proximal Development of Teaching and Learning in STEM Education. *International Journal of Engineering Research and Technology*, 11(8).

- [83] Rix, J., Sheehy, K., Fletcher-Campbell, F., Crisp, M., & Harper, A. (2013). Continuum of education provision for children with special educational needs: Review of international policies and practices. *European Journal of Special Needs Education*, 28(1), 1–20.
- [84] Rolfe, S. (2019). Models of SEND: the impact of political and economic influences on policy and provision. *British Journal of Special Education*, 46(4), 423-444.
- [85] Rose, D. H., & Meyer, A. (2002). *Teaching every student in the digital age: Universal design for learning*. Alexandria, Virginia: Association for Supervision and Curriculum Development.
- [86] Ross, C. E., and Huber, J., (1985). "Hardship and depression." *Journal of Health and Social Behavior* 26(4):312–27.
- [87] Sapci, O., & Sapci, H. A. (2020). Artificial intelligence education and tools for medical and health informatics students: Systematic review. *JMIR Medical Education*, 6(1), e19285.
- [88] Sarita, M. R., & Wisudawati, A. W. (2024). Enhancing 21st Century Skills in Students with Special Needs Through STEM Learning. *JTK (Jurnal Tadris Kimiya)*, 9(2), 209-219.
- [89] Schools Week (2025). *SEND in crisis: NAO's 8 damning findings*. Available at: <https://schoolsweek.co.uk/send-in-crisis-naos-8-damning-findings/> (Accessed September 2, 2025)
- [90] Schürmann, S., Koster, M., & de Witte, P. (2024). Coordinating the educational support team: The role of the SENCO. *Journal of Inclusive Education*, 18(2), 155-170.
- [91] Scoffham, S., (2018). A global learning: A catalyst for curriculum change. *International journal of development education and global learning*, 10(2), 135-146.
- [92] Scope (2023). *Cost of living: The impact for disabled people*. Available at: <https://www.scope.org.uk/campaigns/research-policy/cost-of-living-report>
- [93] SENCO workload report (2018).
- [94] Sewell, K., & Stodden, R. A. (2018). The role of the special education coordinator (SENCO) in policy development and implementation. *Journal of Disability Policy Studies*, 29(3), 159–168.
- [95] Shabani, K., Khatib, M., & Ebadi, S. (2010). Vygotsky's zone of proximal development: Instructional implications and teachers' professional development. *English Language Teaching*, 3(4), 237-248.
- [96] Shemshack, A., & Spector, J. M. (2020). A systematic literature review of personalized learning terms. *Smart Learning Environments*, 7(1), 1-20.
- [97] Shen, H. et al. (2023). Maternal infection during pregnancy and ADHD in offspring: a meta-analysis. *Frontiers in Psychiatry*.
- [98] Sobel, D., (2013). Support for sencos: what needs to change? *The Guardian*. <https://www.theguardian.com/teacher-network/teacher-blog/2013/oct/16/special-needs-education-children-families-bill> (Accessed September 5 2025)
- [99] Soma, A., Kissiedu, K., & Nyame, I. (2023). Barriers to early identification and intervention for children with special education needs (SEN) in public kindergartens (KGs) in the Sagnarigu District of the Northern Region, Ghana. *European Journal of Education and Pedagogy*, 4(6), 30-40.
- [100] Sullivan, A. L., & Weeks, M. R. (2018). *Differentiated instruction for young English learners*. In *The Routledge handbook of teaching English to young learners*. Routledge.
- [101] Sweller, J., (2011). Chapter Two - Cognitive Load Theory. In Jose P. Mestre & B. H. Ross: *Psychology of Learning and Motivation*. Academic Press, 55, pp.37-76.
- [102] The Childhood Trust (2023). *People don't understand*. Available at: <https://www.childhoodtrust.org.uk/wp-content/uploads/2023/06/The-Childhood-Trust-SEND-REPORT-June-2023.pdf>
- [103] The Guardian (2023). Disabled children disproportionately affected by the UK cost of living crisis. Available at: <https://www.theguardian.com/education/2023/jun/04/disabled-children-disproportionately-affected-uk-cost-of-living-crisis>
- [104] Thomas, E. (2024). Supporting transitions: Effective partnership working between families, carers and practitioners. *Nursery World*. <https://www.nurseryworld.co.uk/content/knowledge-bank/supporting-transitions-effective-partnership-working-between-families-carers-and-practitioners/>
- [105] Traci, M. A., Meshesha, H. S., & Horner-Johnson, W. (2025). Public health dimensions of disability. *International Encyclopedia of Public Health*, 887-900.
- [106] TUC (2024). *Disability pay and employment gaps*. Trade Union Congress. Available at: <https://www.tuc.org.uk/research-analysis/reports/disability-pay-and-employment-gaps>
- [107] U.S. Bureau of Labor Statistics. (2024). *Occupational Outlook Handbook: Fastest Growing Occupations*. Available from <https://www.bls.gov/ooh/fastest-growing.htm>
- [108] Venkatesan, S., (2023). Digital literacy in people with disabilities: An overview and narrative review. *Qeios Journal*, 6.
- [109] Visser, D.S., Visser, M. E., and van der Veen. (2018). "The role of the special educational needs coordinator (SENCO) in inclusive education: A systematic review." *Educational Review*, 70(4), pp. 467-485.
- [110] Walker, A., (2023). *Record SEND tribunals rise AGAIN, as nearly all parents win appeals*. <https://schoolsweek.co.uk/record-send-tribunals-rise-again-as-nearly-all-parents-win-appeals/>
- [111] Webster, R., & Blatchford, P. (2016). *The effective use of teaching assistants*. Routledge.
- [112] Webster, R., & Blatchford, P. (2016). The role of the Special Educational Needs Coordinator (SENCO) in supporting teaching assistants. *Journal of Research in Special Educational Needs*, 16(1), 58–68.
- [113] Westwood, P. (2018). *Inclusive and adaptive teaching: Meeting the challenge of diversity in the classroom*. Routledge.
- [114] Whittaker, F., (2024). *Ministry of Justice reports 21,000 SEN appeals in 2023-24, up from less than 14,000 the year before*. <https://schoolsweek.co.uk/send-tribunals-soar-by-55-and-almost-all-still-side-with-families/#:~:text=SEND%20tribunals%20soar%20by%2055%25%2C%20and%20almost,from%20less%20than%2014%2C00%20the%20year%20before.>
- [115] Williams, D. T., & Cheadle, J. E. (2016). Economic hardship, parents' depression, and relationship distress among couples with young children. *Society and Mental Health*, 6(2), 73-89.
- [116] Winter, P. L., Selin, S., Cervený, L., & Bricker, K. (2019). Outdoor recreation, nature-based tourism, and sustainability. *Sustainability*, 12(1), 81.

- [117] Woolf, S. H., Aron, L. Y., Dubay, L., Simon, S. M., Zimmerman, E., & Luk, K. (2015). *How are income and wealth linked to health and longevity?*. Urban Institute. Available at: <https://www.urban.org/sites/default/files/publication/49116/2000178-How-are-Income-and-Wealth-Linked-to-Health-and-Longevity.pdf>
- [118] World Bank. (2024). *Global Economic Prospects*. Available from <https://www.worldbank.org/en/publication/global-economic-prospects>
- [119] World Economic Forum. (2025). *Future of Jobs Report 2025*. Available from a World Economic Forum report. Available at: <https://www.weforum.org/publications/the-future-of-jobs-report-2025/> (Accessed August, 2025)
- [120] World Economic Forum. (2025). *Global education challenges and solutions*. World Economic Forum Publications.
- [121] World Health Organisation. (2012). *Early childhood development and disability: a discussion paper*. Geneva: WHO.
- [122] World Health Organization. (2012). WHO global disability action plan 2014–2021: Better health for all people with disability. World Health Organization.
- [123] Zafiri, M., Konstantinidou, A., & Pliogou, V. (2019). The application of differentiated instruction in reading and writing to a boy with autism in early childhood education. A case study. *Universal Journal of Educational Research*, 7(12), 2609-2626.
- [124] Zawacki-Richter, O., & Latchem, C. (2019). *Open and distance learning: The social and economic dimension*. Routledge.

