Journal of Exceptional People

Institute of Special Education Studies

Faculty of Education – Palacký University Olomouc

Content

BOOK REVIEWS

Introduction

Dear readers,

you have the opportunity to read the twentieth issue of Journal of Exceptional People (JEP) which has just now been celebrating ten years of its existence in both written and on-line form. During that time, JEP has become a respected and appreciated journal which has gained the recognition and respect of both non-professional and professional public and has become part of many indices of academic journals on social sciences and humanities. During that decade, JEP had the honour of gaining indices of ERIH Plus, Ulrichs Web, Index Copernicus International, Bibliographia Medica Čechoslovaca, Central and Eastern online Library, Open Academic Journal Index and List of Impact peer-reviewed journals. Consequently, JEP has gained its place among highly respected similarly oriented journals which focus on the area of "exceptional people" within a special educational semantic context, that is to say, on our fellow citizens with above-standard social needs stemming from their disabilities.

Journal of Exceptional People was established in 2012 as a product of the Department of Special Education and was designed as a platform for both non-professional and professional public. An editorial staff and a general scientific council comprised of ten world's universities cooperate to prepare and edit thematically target-oriented contributions that are thoroughly reviewed and subsequently published. JEP brings scientifically oriented articles giving not only the details of research realised but also summarizing studies dealing with detailed analyses of selected special educational areas. Every issue is regularly concluded also with book reviews.

During the last decade, JEP gained contributions from all seven continents, with the exception of Antarctica. It is not surprising that most of them came from Europe, followed by Asia with a relatively high number of Chinese contributions and Africa on the third place with contributions coming exclusively from Nigeria.

Our editorial staff highly appreciate also articles on the professional special pedagogy which we gained from relatively unknown and distant places (not only from a geographical point of view but also in terms of special pedagogical one). Among such contributions, our readers surely found interesting the article from Lithuania, however the articles from Indonesia, Ukraine, Brazil, Kazakhstan, Japan, Indie or Kenya were also highly interesting.

Taking into consideration the vertical classification of sources of the contributions in terms of contributors' workplaces, we can state that also here we noticed a wide spectrum of various institutions, schools and educational establishments. During the decade under review, our editorial staff received articles not only from elementary school teachers, secondary school teachers and university teachers but also from workers of special education centres, counselling offices or healthcare establishments. One of the Nigerian contributions was even sent from Nigerian Ministry of Education.

Also in this issue, we continue with publishing variously oriented professional articles dealing with inclusion, specific learning disabilities, therapies and other topics that will surely be appreciated by perceptive readers and that have the inspiring potential for their own special educational work.

<div align="right">Pavel Svoboda, Jan Chrastina, executive editors, JEP</div>

The multi-faceted identity of the Special Educational Needs Coordinator (SENCO) in an English Primary school as an administrator, teacher, manager and leader

(overview essay)

Andrew Smith

Abstract: This review paper is the final one in a series of three which critically reflect upon the role of the Special Educational Needs Coordinator (SENCO) in English primary school settings. Its focus is on the SENCO's 'place' in the school in the context of their professional identity and multiple-role as a teacher, administrator, manager and transformative leader.

1 Introduction

This review paper follows on from two previous papers on the English primary school Special Educational Needs Coordinator (SENCO) (Smith, 2020 and Smith, 2021) and is designed as a companion piece. It identifies key issues around how a SENCO usually has to take responsibility for a range of other whole-school functions, including class teaching, in addition to their SENCO duties; by how their status as transformational leaders is acknowledged and encouraged by their headteachers and school governing bodies and how the sheer volume of their professional work creates significant difficulties related to their work-life balance and well-being.

1.1 Aims

The aim of this review paper is to further explore the role of the English mainstream school SENCO, their responsibilities, their multiple roles and their key duties in relation to managing and leading provision for Special Educational Needs and Disabilities (SEND) across their school community. This paper is designed for comparative

study into the management and leadership of provision for Special Educational Needs and is open to critical interrogation and commentary.

1.2 Context

The Department for Education/Department for Health (2015) Code of Practice for Special Educational Needs: 0 to 25 years, states that the Governing bodies of maintained mainstream schools and the proprietors of mainstream academy schools (including free schools) 'must ensure that there is a qualified teacher designated as SENCO for the school' (p. 97). In their position within the school, the SENCO became central to the policies, provision, funding and practices related to meeting the needs of pupils with SEND. In the DfE/DH (2015) Code of Practice it states that the SENCO *should* be provided (note: not *must* be provided) with sufficient time and resources to carry out their role. All maintained schools, academies and free schools accept that they must have a named person as the SENCO (Cowne et al., 2015), however many SENCOs are also full or part-time teachers and these responsibilities are additional to their normal class-teaching (primary school) or subject teaching (secondary school) work-load. This dual identity is difficult to define as the SENCO job and role are both embedded within their identity as, first and foremost, a teacher; but this is not just specific to SENCOs as other teachers in primary schools combine a range of duties with their whole-class teaching commitments.

2 Methods

(a) Differentiating 'Power' and 'Leadership' in a School

English schools are, in the main, still fairly hierarchical structures with systems of status and power. Mullins (2005) defined 'power' at a broad level and stated that *'power can be interpreted in terms of control or influence over the behaviour of other people with or without their consent'* (p. 843). However, the differentiation between domination, as identified by Mullins, and strong leadership which is motivational and empowering sits at the heart of what it means to be an effective strategic leader, a key component within both a headteacher's and a SENCO's role in the school.

In much of the research and literature relating to management and leadership it has been identified that effective leaders are those individuals who have the ability to direct, influence and motivate others, communicate effectively and work in collaboration to achieve an organisation's goals (Kotter, 1998; Mullins, 2005; Owen, 2009; Northouse, 2013). Before an appraisal of the SENCO as a leader can be made, there is the need to briefly explore the issues relating to the power-relationship between SENCOs and their headteachers and the SENCO's underpinning role as a teacher.

(b) Power-relationships and the Special Educational Needs Coordinator as a 'good Teacher'

Wilding (1997) explored teacher professionalism from the position that all teachers have deeply held values which shaped how they performed their varied roles and that, due to the deeply personal nature of teaching, professional reflection can be emotively interrelated with the teacher's individual persona. Sammons et al (2007) presented the view that identity should not be confused with role as it is how teachers self-define and define themselves to others, however Mayson (2014) stated that identity and career are often intrinsically intertwined with the job feeling like an integral part of who a person is and how they define '*self*'. Sikes (1985), Ball & Goodson (1985) and Huberman (1993) all agreed that this structure of identity evolved and changed over time and over the duration of a teacher's career in unpredictable ways as various factors, incidents and happenings impacted upon it. Primary school SENCOs view themselves as teachers first and specialists (the SEN coordination part of their work) as a secondary/specialist function which they have to do alongside their class teaching; anecdotal evidence gained through informal conversations with SENCOs seems to indicate that they are not always happy as they feel that both roles are time-consuming and challenging with a lack of time available to do either role well. As a result, their view of themselves as effective/good teachers is affected by this careful 'balancing act' between teaching and SENCO duties where time is a finite factor.

The vision of what constitutes a 'good' teacher and of a 'vision' for teaching is significantly influenced by governmental comment and direction and so, the Department for Education still maintains a strong monitoring role in regard to research in education as they stated, '*We need to know how well the profession is adapting to the challenges of a changing education system.*' (DfE, 2013. p 8). This was a laudable statement but it must be viewed alongside statements such as those previously made by Her Majesty's former Chief Inspector for Education, Chris Woodhead who wrote in his annual Ofsted (2000) report for 1998/99:

> 'We know what constitutes good teaching and we know what needs to be done to tackle weaknesses...Why then is so much time and energy wasted in research that complicates what ought be straightforward...If standards are to continue to rise we need decisive management action, locally and nationally, that concentrates attention on the two imperatives that really matter; the drive to improve teaching and strengthen leadership...The challenge now is to expose the emptiness of education theorising that obfuscates the classroom realities that really matter.' (p. 21)

It seemed that Woodhead attempted to control any dissent through his use of emotive and negative language. Educational research and theorising were targeted as

being a restrictor rather than a facilitator unless it was purely focused on what he considered to be the only things which mattered. This attack on '*educational theorising*' was adopted by the former Education Secretary Michael Gove in his blanket attack upon university departments of education and the academic staff who worked within them, calling them guilty and responsible for the failure of poor educational performance in children over the years (Gove, 2013).

This view of educational research linked to teacher effectiveness was firmly bound up within a greater package of policies and practices systematically pursued by the Government which were the product of a well-developed, Right-Wing, market-led ideological position (Bartlett and Burton, 2010). However, the research priorities listed by the Department for Education in 2013 included key questions relating to leadership:

- What are the most effective models of leadership in the school system?
- How are those models of system leadership delivering improvements to the quality of teachers and teaching?
- How do different models of leadership succeed?
- Is there sufficient supply of school leaders? How effective are the mechanisms which support supply?
- How are school leaders using their freedoms to employ and deploy teachers differently, and what is the impact of doing so?'
  (p. 10)

Although seemingly focused on school leadership and the role of the headteacher, these questions are completely transferrable to the SENCO.

3 Results and Discussion

3.1 SENCOs as School Leaders: A mis-match between their training and what happens in practice in their schools

'Leadership' appears as an area of expertise presented in the Teaching Agency's (2009) National Award for SEN Coordination learning outcomes which shape the legal contract for what a SENCO has to do according to legislation, linked with a required understanding of theory and how it relates to practice in both managing and strategically leading SEN provision. Training, delivered by approved accredited organisations, using the National Award for SEN Coordination learning outcomes, was (and still is) the main procedure where new SENCOs are introduced to the frameworks which forge their professional role. The aim is for the SENCO to carry these

frameworks forward, to explore them and then develop them in their own practice. This compulsory training also encourages SENCOs to adopt strategic leadership approaches in their schools. However, it is understood that the vision and priorities of each individual headteacher and the organisational culture of their schools could negatively impact upon a SENCOs' own ability to work with some degree of autonomy and act with influence as a policy-maker. Thus, some SENCOs would only be able to engage in a veneer of the role, operating on the periphery of the school if their vision for developing provision for special educational needs did not match the headteacher's priorities for the whole school. This situation has the potential to undermine the professional identity of the SENCO as their personal interpretation of 'self-in-role' becomes determined by others who occupy power-positions within the school. Williams (2002) made the point that,

> 'the notion of top-down decision-making processes – autocratic – is mainly reserved for labour-intensive industries. In schools the notion of the leader as sole decision maker should now be virtually obsolete. Even in the case of headteachers who appear to make only autocratic decisions, it is immediately the result of multiple input from senior and middle management layers.' (p. 26)

However, the experiences of many SENCOs who do not have the status as members of the senior or middle management layer in their schools are determined by this imbalance of power.

3.2 The Identity of the SENCO as both Leader and Manager: Theorising Leadership and Management in the school

Leithwood and Riehl (2003) stated that most theories of leadership suggest that leadership cannot be separated from the context in which it is exerted with leadership being contingent on the setting, the nature of the organisation, the goals being pursued, the individuals involved, the resources and the timeframe with almost all of the definitions of leadership having the underpinning concept of 'future direction and moving the organisation forward.'; strategic leadership being seen as 'a process and a perspective as much as being about a plan and outcomes' (p9). In this context, leaders are often seen as those who inspire and motivate and managers as those who implement and oversee the tasks and duties imposed by the executive function. Davies (2009) recognised this in the field of education when distinguishing leadership from management:

> 'Leadership is about direction-setting and inspiring others to make the journey to a new and improved state for the school. Management is concerned with efficiently operating in the current set of circumstances and planning in the shorter term for the school.' (p. 2)

Davies expanded this idea further by identifying that leadership was not set in isolation but was set in the context of the whole school, it not being just the provenance of one individual but of a group of people who provided leadership, support and inspiration to others in order to achieve the best for the children in their care. Leadership in this context is to do with relationships with leadership being a communal process. Wheatley (1992) stated that, 'Leadership is always dependent on the context, but the context is established by the relationships we value' (p. 144) with a Relational Leadership Model focusing on creating a process informed by inclusion, empowerment and purpose, undertaken in an ethical manner.

But what happens if the school does not operate such a collegiate approach and only restricts the leadership function to a small number of senior staff directed by the headteacher (or Chief Executive if it is an Academy Trust)? This could create potential tension, or a mismatch, if a SENCO with their own set of ethical factors driving their Psychological Contract (their own idea of what is best for the pupils they teach; in short, the SENCO's own set of values, knowledge and empathy) contrasts with the organisational school culture as determined by the headteacher and governors, if the school is a particularly hierarchical organisation which imposes its culture/ethos on the whole learning community in regards to admissions, behaviours, further professional training, the support and working conditions of the staff, the content of the curriculum and how it is taught and assessed. This could lead to a working atmosphere which damages professional relationships, as considerable difficulties might emerge in that the intellectual capital of its staff could narrow so much that the school would not be able to adapt effectively. Winch and Gingell (2009) posed the question whether authority for educational leadership should be collective or individual and if it could actually allow for any 'charismatic leadership', arguing that school leadership required someone who 'embodies a certain amount of charisma and that 'collegiate governance is ill-suited to the emergence of such a person' (p. 114) while Mortimore et al. (1998) and White and Barber (1997) discussed whether collegiate leadership (which is frequently interpreted as a process/model where a team works, plans and delivers together in a supportive relationship with a set of shared values towards a shared vision) can be inter-related with such a charismatic form of leadership.

This model of charismatic leadership has been teamed with the theory of transformational leadership (Bass and Steidlmeier, 1999; Hunt, 1999; Conger, 1999) where followers are influenced and motivated by the leader making events meaningful through the use of praise and rewards in order to create an environment where people make self-sacrifices, commit to difficult objectives and achieve more than was initially expected. Bass (1985, 1988) and Bass and Avolio (1993) stated that transformational leadership contains four components: Charisma or idealised influence (the setting of high ethical/moral standards); inspirational motivation (providing challenges and meaning for engaging in shared goals and undertakings); intellectual

stimulation (a dynamic process of vision formation, implementation and evaluation); and individualised consideration (where the leader treats each person as an individual and provides coaching, mentoring and opportunities for development). By adopting these four components people identified with the charismatic leaders' aspirations and wanted to follow them. If the leadership is transformational, where leaders and followers do not follow their own self-interests, high standards are set together with a strong ethical and moral underpinning (Kanungo and Mendonca, 1996). Donalson and Dunfee (1994) saw the core of the moral legitimacy of transformational/charismatic leadership depending on the granting of the same freedoms and opportunities to others that the leader claims for his/her self, on having integrity, on keeping promises, distributing what is due and employing valid and appropriate incentives in a transparent and honest manner. Howell and Avolio (1992) stated that leaders, no matter how 'charismatic' they were, could not be true transformational leaders if they were only concerned about themselves; if this was the case such manipulative or deceptive behaviours created what Bass and Steidlmeier (1999) called *'pseudo-transformational leaders'* (p. 186) resulting in destructive outcomes and an abuse of power in organisations. Howell and Avolio (1992) further stated that authentic transformational leaders needed to be committed to a code of ethical conduct supporting an organisational culture with high ethical standards.

So, how does this impact on the SENCO particularly when the current compulsory SENCO training is geared towards moving the SENCO from a teaching role into a strategic, transformational leadership role? Perhaps this strategic leadership role and how it relates to the management function inherent with the SENCO range of responsibilities does need 'unpacking' in this context. A clarification between management as an established discipline with a separate body of functions as distinct from the application of the principles of leadership is important to explore as the comparison between leadership and management forms a significant and on-going discussion amongst those researching and writing in the field (Northouse, 2004; Kotter, 2011; Kotterman, 2006). There has always been a difference of opinion, for example Mintzberg (1990) defined a manager and a leader as one and the same whilst Bass (1990) provided a more finely balanced and transmutable relationship,

> 'Leaders manage and managers lead, but the two activities are not synonymous… management functions can potentially provide leadership; leadership activities can contribute to managing. Nevertheless, some managers do not lead, and some leaders do not manage.' (p. 383)

Northouse (2013) described the process of management as a function which was primarily designed to produce order and consistency in an organisation. He further sub-divided management into planning and finance/budgeting with setting timeta-

bles and allocating resources, organising and staffing relating to deployment/placing of staff, providing structure/establishing protocols and problem-solving through generating incentives/creative solutions and taking action. Leadership and management seem to have a significant overlap as they both involve influencing and working with others with effective goal management and planning as key factors, so how are the two distinguished? Northouse (2013) presented a comparison of management and leadership competences in the form of a table:

Table 1: *A Comparison of Management and Leadership Competences*

Management Produces Order & Consistency	Leadership Produces Change & Movement
• Planning and budgeting • Establishing agendas • Setting timetables • Allocating resources	• Establishing direction • Creating a vision • Clarifying the big picture • Setting strategies
• Organising and staffing • Provide structure • Making job placements • Establishing rules and procedures	• Aligning people • Communicating goals • Seeking commitment • Building teams and coalitions
• Controlling and problem solving • Developing incentives • Generating creative solutions • Taking corrective action	• Motivating and inspiring • Inspiring and energize • Empowering subordinates • Satisfying unmet needs

After Northouse (2013. p. 10)

In Northouse's model there is a clear difference between management and leadership but the overlap is equally clear particularly where managers are engaged in influencing individuals and groups to meet specific goals but motivating others is perceived as being a competency within the 'leadership strand'. Similarly, when leaders are engaged in planning, organising and controlling they perform functions within the 'management strand'; all competences across both strands involve, to a lesser or greater degree, influencing people. These competences are theoretically embedded within every management role within a school and sometimes appear as key responsibilities within SENCO job descriptions and are all essential factors in getting things done effectively and efficiently.

In a wider school context, Hardy (1984) identified that there are general principles of management which can be applied to all organisational settings. This is particularly apt in the current educational climate which has been developing since the re-emergence of the Capitalist market in English education from the 1980s (Gunter, 2001) with headteachers now being responsible and accountable for resourcing, attracting income streams, attracting 'customers' (i.e. pupils) and for establishing a distinctive presence, even 'brand', in an increasingly competitive marketplace where Local

Authority (LA) responsibility and influence is being 'rolled-back' in favour of private enterprise running Academy Trusts and their equivalence, including Free Schools. Gunter (1997) presented the view that it was private sector management in education which determined to shift the identities and behaviours which underpinned the growth of leadership in educational settings and which led to the enhancement of performance leadership

This shift from educational to performance leadership did have a significant impact on SENCOs' realisation of the management function inherent within their role set within the concept of performativity (Marshall ,1999; Ball ,2000, 2003 and 2010; Perryman, 2006 and Murray,2012). The daily behaviour of the SENCO based on the social norms and habits within their school involves management as a practical activity as it is an integral part the successful operation of the school. It is also about operationalizing strategy at different levels of behaviour from classroom, to middle to senior management, the SENCO having to work at all of these levels. Mullins (2005) called management the cornerstone of organisational effectiveness as it is concerned with arrangements for 'the carrying out of organisational processes and the execution of work' (p. 34). For a SENCO this would mean planning, provision management, managing people (e.g. teaching assistants), constructing in-house training, overseeing administrative and tracking operations, manipulating budgets, resource procurement, monitoring teaching and establishing/maintaining relationships with external agencies/parents and evaluating practice. These are all activities and factors for action, which Bell (1999) identified as management actions which needed underpinning by educational values and guidelines on how to behave as leaders and managers.

This is further complicated by the subjectivity of each SENCO's perceptions about his/her professional role which influences the levels of autonomy available to them, the ways in which they respond (Vincent & Warren, 1997) and how the SENCO role influenced their identity and concept of self (Haslam & Reicher, 2005). However, this is not the sole causal link between individual perception and autonomy as this is only one aspect of what allowed for autonomy, the key aspect being how the school is led by the governors, headteacher and senior leadership team.

Perhaps another difficulty in enabling the SENCO to develop an identity as a specialist and a school leader with a level of autonomous freedom is through the profusion of texts and literature/sources designed to help the new SENCO; the differences between job and role and manager and leader are blurred: Edwards (2016) mentioned SENCOs as 'whole-school movers and shakers' (p. 84) but then wrote about them as '*managers* of relationships' (p. 85) and *managing* the training and deployment of additional adults. Sydney (2010) provided a SENCO competency checklist which contained a suggested audit for things such as reflecting on practice or as a basis for a performance management conversation, the list provided a useful collection of administrative and management tasks/duties but nothing relating to specifically

leading SEN provision within the school. Cowne (2015) provided a wealth of useful information for SENCOs, particularly relating to supporting teaching colleagues and running the Teaching Assistant team, some mention of leadership was made but this was consumed within an overriding accent on management. Shuttleworth (2000) meshes management and leadership together but only presents and discusses the management functions of the SENCO role. Ekins (2012) helpfully draws attention to the learning outcomes of the National Award for SEN Coordination but does not expand on the sub-section relating to '*Leading, developing and supporting colleagues*' (p. 189–190) and NASEN's (2015) SEND handbook provided in-depth guidance linking the SENCO function and the positive actions of the school to comply with the legislative requirements of the 2015 Code of Practice with no (or very little) mention of the SENCO as a leader.

3.3 The SENCO as an Administrator

If the relationship between management and leadership within the role presents some confusion for a SENCO perhaps this multi-identity is further complicated by adding a third factor, the SENCO as an administrator creating an inter-relation of leadership, management and administration within the wider field of being a teacher. These three parts are inter-linked and inter-woven and cannot be separated but with the understanding that, at different times, one factor may have more relevance than another. Although related to headship this multi-role does have pertinence for the SENCO, the implication is that a SENCO engages in all three functions as they are permanently inter-related and executed at the same time. This model provides a good example of the SENCO role with the 'administrative' nature of the third sector (when done efficiently) providing a significantly positive effect on morale and attitudes within the school. However, being a good administrator is not essential to being a good SENCO, but understanding what is good administration and the ability to ensure that the right staff and systems are in place are essential. The SENCO needs to have had significant experience in dealing with the administrative function as it underpins planning and action.

Now that this third factor (the SENCO as administrator) is introduced, the role of the SENCO can be summarised in the form of a diagram.
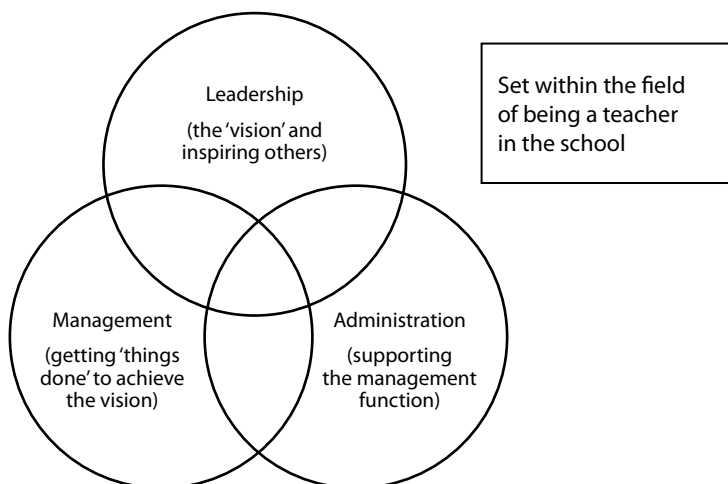
Figure 1: *The inter-relation of Leadership, Management and Administration: Illustrating the SENCO role*

3.4 The SENCO as a 'Changemaker'

At its most strategic level the SENCO leadership function involves forming a vision for special educational needs provision within the overall vision for the school based on values relating to the aims and purposes of education and then transforming all of this into significant and effective action. Bell (1999) advocated that leadership involves the articulation of this vision and its communication to others and argues that the prevailing dichotomy between leadership and management is inappropriate in education because they are fundamentally linked together in schools where school leaders have to balance being assessed on their compliance with central government requirements with their emergence as transformational change-makers. If this is perceived to be done effectively, leadership across the school at all levels can be then associated with those who can bring about this change; Sergiovanni (2001) stated that.

'Equating leadership with change is an idea that finds its way deep into the educational literature. In today's world it is the leader as change agent who gets the glory and the praise. But leadership should be regarded as a force that not only changes, but protects and intensifies a school's present idea structure in a way that enhances meaning and significance for students, parents, teachers, and other locals in the school community. This enhancement provides a sense of purpose, builds a culture, and provides the community connections necessary for one to know who she or he is, to relate to others, and to belong. Think of leadership force as the strength or energy brought to bear on a situation to start or stop motion or change. Leadership forces are the means available not only to bring about changes

needed to improve schools, but to protect and preserve things that are valued. Good heads, for example, are just as willing to stand firm and to resist change as they are to move forward and to embrace change.' (p. 44–45)

Here, Sergiovanni presents a positive model for inspirational leadership in schools rather than the model where headteachers are viewed as transforming the school through employing approved and measurable outcomes which are legitimised through official documentation and legislation. This narrow 'performativity-driven' leadership model creating a political goal where the power lies in the hands of a leadership elite rather than in a collegiate sharing of leadership structures and goals which sit at the heart of a transformational leadership model supporting and protecting a valued school culture even if it means the headteacher resisting imposed political/ideological change. If leadership at the strategic level involves the movement of the school's vision into aims and long-term plans it is at the organisational level that the strategic view is translated and modified into medium-term objectives with a delegation of responsibility for decision-making, implementation, review and evaluation. This, in turn, drives activities at the managerial/operational level where resources are deployed and used, tasks are completed and activities are coordinated and monitored. Bell (1999) stated that these three levels of management: strategic, organisational and operational must work in harmony towards a common purpose which can only happen if the values and vision are shared by all members of the school community.

This model of leadership/management relationship between the headteacher and the SENCO was set out in both the DfE (1994) and DfES (2001) Codes of Practice with authors such as Griffiths (2001) and Jones, Jones and Szwed (2001) picking out the management nature of most of the SENCO's responsibilities. Cowne (2000) stated that the SENCO may be a catalyst for change but change cannot be expected without the full support of the headteacher as many SENCOs were not (or did not feel to be) empowered to become involved in policy and resourcing issues. 'They may not have access to information or feel they can ask. In these cases the strategic SEN coordination is in the hands of the head and governors.' (p. 15)

Cowne's comment was made over twenty years ago so a key question arises if this is still the case? A range of research studies over the following years report that this situation remains still prevalent in schools (Smith and Broomhead, 2019; Pearson, 2013; Hallett and Hallett, 2010; Szwed, 2007; Kearns, 2005) while Layton (2005) commented on school leaders who were,

'ten years after the 1994 Code of Practice, still failing to invest appropriately in their SENCOs. This was evident wherever SENCOs did not have control of budgets, where they had limited authority in relation to school policies and where

they felt isolated because their purpose was either erroneously or wilfully misunderstood. Most especially, however, the greatest barrier to achieving their moral purpose as SENCOs was identified as not being a member of the senior leadership team.' (p. 59)

Liasidou and Svensson (2014) stated that SENCOs are positioned as having a strategic role in leading and coordinating SEN provision across schools and that they have been increasingly seen as the 'enforcers' of transforming change, as they are expected to lead a whole school process of development and change with a view to responding to the needs of students designated as having SEN/D in inclusive mainstream settings.' (p. 2) But this concept of the SENCO being expected to be a strategic lead for a whole-school process of development and change is not fully realised in practice as being empowered to be transformational/strategic leaders is inconsistent across schools. This was highlighted by Tissot (2013) who believed that the lack of SENCOs on school leadership teams, 'is stifling the vision of the role as well as its implementation in practice. This constrains the good work that SENCOs can do, and instead keeps this group of skilled practitioners immersed in paperwork.' (p. 39)

3.5 The SENCO as 'free or captive': Advocating a collegiate approach to leading and managing.

SENCOs have the responsibility for the day-to-day coordination of provision for learners with SEND and supporting other members of school staff in their continuing professional development (CPD) in the field of SEN; both of these form part of the SENCOs' 'vision' for the development of quality provision which supports positive outcomes for vulnerable learners. Garner (2001) identified that the amount of administrative duties required to be undertaken by many SENCOs prevented them from engaging with such a leadership role even with the DfES (2001 p. 51) identifying the need for their status as leaders to be recognised through having membership of the senior leadership teams within their schools, a positive factor which was not always realised in practice. Ekins (2012) highlighted the tensions in the SENCO role and said that,

'…it is widely accepted that, to be effective, the SENCO needs to be a strategic leader…the reality in practice is that many SENCOs are still not senior leaders within their schools, and that in some schools there is a continuing situation where the Senior Leadership Team within the school actually undervalues and limits the SENCOs' opportunities to effect real change and development within the school.' (p. 77)

The SENCO has to work within the restrictions set by their school and thus becomes significantly influenced by them. This raises questions around what kind of SENCO does a school community want and how much freedom to act independently should

they have? Should the SENCO be an 'independent' professional who can work within a national strategy/climate but with a powerful 'SENCO voice' in the realisation of their role in the school; or should the SENCO be a professional who still works within the national strategy but is significantly restricted by the control of a dominant school leadership which is not willing to share power collegially? This might be far too 'binary' an interpretation as there is, of course, a spectrum between the two extremes of being a 'free' or 'captive' SENCO.

In terms of a collegiate approach within a school, Ekins (2012) expressed a particularly positive message around the need for innovative change with all staff working together and being part of the whole-school development process and that,

> 'Staff need to be provided with an environment and culture where reflective questioning of existing practice is encouraged, where there are opportunities for different staff members to put forward new and innovative ideas about ways to develop and improve practice, and where outdated practices that are not impacting directly on practice and improved outcomes for pupils are identified and re-examined.' (p. 9)

Ekins argued that the principles around collaboration and innovation within a culture which embraces improving practice fitted within a theory of 'communities of practice' (Wenger, 1998) where teachers take part in the decision-making process in their schools and engage in a shared sense of purpose through collaboration. This is particularly evidenced for some SENCOs who work closely with other mainstream, special schools and with external agencies to ensure a holistic model of support for children with increasingly complex needs (Petersen, 2012). This collaborative/collegiate decision-making process which encompasses both shared implementation and leadership for change presents an ideal environment for a SENCO to flourish. However, this could be said to be at odds with the increasingly 'dominant organisational culture' model which does not call for a collaborative input from staff unless it aligned closely with the particular beliefs and stance of the senior leadership team.

3.6 The Isolated SENCO: Risk-taker or conformist?

SENCOs do not exclusively report negatively on their professional role; Pearson (2013) identified this when presenting the commentaries from SENCOs engaging in the National Association for Special Educational Needs (nasen) 2012 autumn survey which collected data on their recruitment, induction, professional development and future aspirations. SENCO commentaries included such statements as:

> 'I am happy with my role as my school places a high value on the role of SENCO and is always willing to put into place measures that support me' to 'Being valued would be nice'. A theme in some of the responses was the sense of isolation that

some SENCOs continue to experience. 'This is a very lonely job. I have set up informal networks in my area to support this but you are mostly on your own doing it, which I think is a big factor for people leaving/feeling like they are not equipped to do the job.'(p. 25)

However, the theme of SENCOs wanting to feel 'valued' and their 'isolation' were important as they impacted directly on their well-being and ability to feel able to do their job. Hargreaves and Sachs (2003) explored the idea of professional learning communities with teachers working together focused on improving teaching and learning and using evidence and data as an underpinning for informing improvements in whole-school development. They also agreed that teachers needed to 'take risks' in order to develop their professionalism as there is no creativity without risk (p. 19). The question is posed, how does this very positive action sit within the constraints of a school where the SENCO who takes this kind of risk can be viewed as a 'maverick' who operates outside of the accepted behaviours set by the headteacher? Haggarty and Postlethwaite (2003) identified this form of constraint as a factor contributing to teachers' perceptions and their belief that the circumstances under which they worked, together with forms of control such as Ofsted inspection and the demands to conform to centrally defined government regulations, made such risk taking exceptionally difficult. These forces do shape the perceptions and professional scope of SENCOs as strategic leaders in their schools as they are restrained within the walls of the 'performativity compound'.

4 Conclusion

A range of literature and research dating back over forty years provides a consistent critical interrogation of the evolution of both special educational needs teaching in English primary schools and the professional evolution of the SENCO. However, it is impossible to view the teaching of pupils with SEN and the evolution of the SENCO role in isolation as they form a key part of the change in schools fuelled by the politically and ideologically driven climate in Education since the introduction of the National Curriculum, the creation of OFSTED, the introduction of national testing and performance league tables, placed schools firmly in the 'quasi-marketplace'. Zucker and Parker (1999) writing during a period of significant change identified that the overwhelming majority of teachers whilst questioning the validity of some of the 'more spurious facets of new policies' (p183) and how the collective psyche of teachers up and down the land has been bruised by the onslaught also stated that in the face of this imposed change, teachers continued to teach and put these same policies in place, persisting in exceptionally difficult circumstances.

This is what contemporary SENCOs 'do' – they persist in exceptionally difficult circumstances, particularly in our post-Covid-19 Pandemic climate with its associated challenges for the future.

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(reviewed twice)

Dr Andrew Smith
The University of Northampton
Waterside Campus
University Drive
Northampton
NN1 5PH
United Kingdom

Exploring parental advocacy of children with special needs in learning English: a narrative inquiry

(overview essay)

Bethellionie Wahyudi, Irfan Rifai

Abstract: *Parental advocacy in children with special needs should be further explored, aiming at providing help and supports for parents to their children's education, particularly in language learning. This study sought to explore the ways parents from different socioeconomic statuses (SES) practised their parental advocacy or involvement on their children with special needs in English language learning. To this end, this research centralized to a single question: How do the parents coming from different SES practise parental advocacy to the children with special needs in learning the English language? Narrative inquiry is employed as the research design of this study. Two mothers from Indonesia whose children have been diagnosed with autism voluntarily participated in this study. The data collected via interviews were transcribed verbatim, then analyzed narratively. The finding of this study highlighted that families from different SES experienced fluctuating feelings when having children with special needs. However, they insisted on practising various ways to nurture their children in learning English despite some problems that emerged during practising advocacy. The finding of this current study might contribute to the practices of parental advocacy towards children with special needs, particularly in learning English.*

Keywords: *Children with Special Needs, Learning English, Parent Involvement, SES*

1 Introduction

Parental advocacy in children with special education needs is central to promote education for all, particularly English language education. It is due to "parents are an accountability mechanism for their child's education" (Burke and Goldman, 2016, p.137). Substantially, parents are a person who takes high responsibility and plays a vital role in being involved in their children's education. This notion is in line with

Rispoli et al. (2018), who assert that the involvement of parents in education is crucial for students, including students with special needs. The significance of parental advocacy or involvement can help increase children's motivation in learning (Khajehpoura and Ghazvini, 2011), improve academic achievement (Ng and Lee, 2014), and also enhance language competence (Wong et al. l, 2018).

Research consistently indicates that the extent to which parents provide language support to their children with special education needs varies, specifically with socioeconomic status (SES). The research conducted by Huang et al. (2017) shows that the parents who have an excellent SES background give the first exposure to the English language in early childhood. This view is in line with Butler et al. (2017), who say that parental SES significantly contributes to the children's performance in learning a language, English in particular. This previous study is also supported by Rowe and Berry (2019). They explain in their non-experimental study that the role of SES is significant toward improving the quality of educational services.

Nevertheless, parents who have lower SES are often speculated to be less involved in their children's special needs in learning English. They often prioritize their time to meet their children's daily needs (Tan, 2018). Thus, they do not have enough time to get involved when they learn English at home (Malone, 2017). Moreover, Masaka (2018) points out that parents with lower SES less participate in their children's English learning, yet they still provide emotional and spiritual support during their children learning activities.

SES can play a pivotal role in how parents get involved in their children's language learning. The children who have a privileged background will generally get additional support in the learning process, such as taking some courses or attending private language lessons, and enjoying some cultural activities (Sanjurjo et al., 2017). Moreover, parents from higher SES families tend to be more cognitively involved in children's early learning. For instance, parents usually provide cultural capital (e.g., Work of art and Classic literature) and educational sources (e.g., DVDs, books, and other materials) to stimulate them cognitively before the beginning of school (Caro, 2015 as cited in Caro, 2018). In this sense, the parents who have better financial support tend to navigate their children in learning the language.

Concerning the importance of parents' role in the parental involvement of children with special needs, family background is a crucial factor that determines the ways the parents get involved in their children's education. Research conducted by Iwaniec (2018), using a questionnaire, illustrates that family background, including parental education and SES, tends to influence children's motivation to learn a language consistently. Moreover, Eilertsen et al. (2016) demonstrate in their experimental study that family background plays a crucial role in parental involvement in language learning.

However, research has also indicated that most parents strive to provide appropriate support for their children learning the English language. Parents often get stressed (Hoddap and Burke 2014) and confused (Lessenberry, B. M. and Rehfeldt, R. A,, 2004) to support their children's language learning. Moreover, they also struggle to develop advocacy strategies to manage their children. They do not have a sufficient understanding of creating advocacy strategies for their children (Besnoy et al., 2015). Furthermore, Rehm et al. l (2013) indicate in their qualitative study that besides the lack of understanding, parents also lack information about providing support for learning English. Thus, they are not used to help their children learn English (Forey et al., 2015).

Having recognized that there have been problems about parental advocacy or involvement on the children with special needs in learning English, thus there should be a further study that can help illuminate the existing issues. Moreover, until recently, the research of parental advocacy in children with special needs in learning English is mainly conducted under a quantitative paradigm and is framed from the global perspective. The research which voices parental advocacy or involvement in Indonesia should necessarily be undertaken. Thus, this study is focused on the parental advocacy of children with special needs in learning English in Indonesia by utilizing a qualitative approach, which adopts Narrative inquiry as to the research design. To be specific, this study was conducted to explore further how parents coming from different SES practise their advocacy or involvement on the children with special needs in learning English. Thus, there is a single question, how do the parents coming from different SES practise parental advocacy or involvement to the children with special needs in learning the English language?

2 Material and Methods

Narrative inquiry was employed as the research design of this study. According to Johnson and Christensen (2016), Narrative inquiry is pointed out as qualitative research that studies people's lived experiences as a storied phenomenon to generate a narrative chronology within the story (Creswell, 2013). Since the researcher's focus is on the parental advocacy or involvement of children with special needs in learning English, the notion of using narrative inquiry as the research methodology is entirely appropriate. This is due to the research focus is compatible with the features of narrative inquiry itself.

Concerning the research design, the researcher did a pilot interview with her colleague who is recently engaged in intense interaction with children with special needs in learning English for testing the interview questions. Then, two Indonesian mothers have different SES; also, children diagnosed with autism voluntarily narrated their story about being engaged in their children with a particular need to learn English

in this study. The researcher interviewed the participants twice to ensure the validity of the data. The data collected via interviews were transcribed verbatim and then analyzed narratively. There are at least four themes as the results of the data analysis. They are: 1. the parents' experience when raising their children with special needs, 2. the parents' practices when nurturing their children special needs in learning the English language, 3. the problems in rearing the children with special needs in learning the English language, and 4. the strategies to cope with the problems.

3 Results

Participant's Experience on Nurturing Children with Special Needs

Mrs. Jane
Mrs. Jane uttered that she and her husband had been blessed with two lovely sons. Regrettably, one of them, particularly her eldest son has been diagnosed with autism and dyslexia. She and her husband affectionate them equally and unconditionally. Their children are such a miracle for them. They talked that they feel guilty and crestfallen about their son, yet they always give a positive response to their son's limitation instead of blaming the situation, which happened inside their life.

Mrs. Jane explained that she was the person who found and knew the symptoms of her son first. She was shocked at that time. Perplexedly, she told it to her husband. This sudden news was unbelievable for them, and it also made them sad about their son's future. When her son was born, he did not have specific signs, indicating that he was getting autism. Nonetheless, the symptoms were known when her child was two years old. At that time, her child got a growth delay, which was not regular for his age, such as poor motor skills, difficulty in social interaction, and weak immune system.

After finding the symptoms, Mrs. Jane said that she and her husband tried to find a place or a doctor to heal their son's disability. They tried their best to heal their son instead of feeling grief continually. They were never desperate to find the best doctor for their son despite the financial instability they had. Surprisingly, after bringing him to the doctor for the last, it was found that there was a lump inside their son's right brain, which caused their child to be abnormal. Then the doctor did another in-depth examination, the result of which was that their son was diagnosed as having autism.

Dismally, there were other defects in her son's body. The symptoms were known when he was at kindergarten. At that time, he got an impediment in reading, writing, or spelling a word. Moreover, he also got difficulty and puzzling about numbers and letters; thus, Mrs. Jane brought him to the doctor who had handled him before. Mrs. Jane and her husband patiently took their child to the doctor, although they

were worried about the result. Then, the day came, the doctor diagnosed her son as having dyslexia too. Immediately, Mrs. Jane got startled and felt blue. This was due to being agitated about how her son would grow in the future with the limitations he has and how he can live independently with his limitations.

For the first time, it was difficult for Mrs. Jane and her husband to admit that diagnosis. Since then, Mrs. Jane and her husband have had various experiences in taking care of their son. Mrs. Jane expressed her feeling that it is arduous to have a child with special needs. This is due to that many people exclude her son's existence, even deemed that her son is a crazy person, and bullied him continuously. Thus, it was one of the most complex parts she had ever had because she and her husband had to maintain his emotions stable to avoid situations that should not happen.

In this regard, Mrs. Jane also voiced that she tended to support her son emotionally and spiritually he was learning about English. She honestly got stressed when nurturing him because of the limitation that he has. Thus, she often stabilized her son's emotions first by creating good memories, situations, and conditions so that he would feel safe and happy learning at home. Moreover, she also explained that she frequently gave him little appreciation to cherish and encourage him to be better. Thus, Mrs. Jane has built a strong bond between her and her son and then genuinely shows her affection for her son. Then, she and her husband always pray for the best for his future.

In the same vein, Mrs. Jane also voiced her feeling that the challenging part in taking care of children with special needs involves herself in the academic sphere because it takes special treatment and financial aspects. She said that the financial aspect is the critical aspect if other parents want to have successful children. Unfortunately, Mrs. Jane got economic instability, which meant that her financial background could not accommodate the facilities for learning English for her son, so her son could not learn English well. It made her desperate, yet she got a bunch of support from her family, her father in particular, so at least her son got the knowledge and experience in learning English from her father.

By recognizing the financial problem, Mrs. Jane also explained that she has poor skills, insufficient knowledge, and less experience using English. Thus, she was not used to educating her son about English well and helping her son learn English. Although she did not tutor him intensively, she tries her best with her limited skills.

Surprisingly, Mrs. Jane did not feel hopeless, yet she tried implementing several ways to overcome the problems, family-centered and school involvement in particular. Moreover, she also initiated to participate in volunteering activities or seminars. She felt grateful because she got many experiences, which educated her to be an active parent.

Mrs. Jeana

Mrs. Jeana is married and lives with her husband, two lovely sons and a daughter. They live blissfully and love each other. They also have a perfect financial background. Nonetheless, Mrs. Jeana also described that her eldest daughter had been diagnosed as having mild autism despite the bliss. They never imagined that they would have a child with special needs, yet the unexpected accident happened.

Mrs. Jeana explained that the symptoms were noticed at the time when her daughter was born. She did not cry like a baby in general and stayed quiet. After a few months, her daughter's growth seemed promising, but she did not give any response when interacting with her. Mrs. Jeana and her husband had tried everything to make her respond to the parents, but she became indifferent to the people around her. Thus, her parents initiated to bring her the pediatrician who handled her since she was born to assure her daughter's problem. After several weeks of taking the examination and consultation, the doctor affirmed that their daughter was diagnosed with mild autism.

After listening to the diagnosis, Mrs. Jeana and her husband felt remorseful and woeful at first. Still, since the doctor had warned them after the unexpected accident that happened with Mrs. Jeana when she was pregnant, they have prepared all the possibilities and things for her daughter. Mrs. Jeana also admitted that it was her fault, which caused her daughter to have special needs. Sometimes she still blames herself, but she realized that she could not fault it continually, so she responds positively to her daughter's limitations.

After that day, Mrs. Jeana and her husband determined to rehabilitate her daughter by doing some therapies at night. For instance, they always gather at night to conduct a family discussion or family time, and sometimes if they have leisure time, they always pray together. Moreover, Mrs. Jeana also conveyed her feelings that she is grateful for the situation, which had happened. She has learnt to be more responsible and persevering toward her children. In addition, she also gets a lot of support from her family, which makes her feel strong; even her family also admitted her daughter's existence and still loves her unconditionally.

Hence, Mrs. Jeana enunciated her deep regret at her children, especially her daughter, because she and her husband can involve themselves when her children are doing learning activities. Despite the hectic work schedule, they frequently provide their children's education needs such as educational sources. Besides that, they always control them through their babysitter or their tutor. Then, they will personally check their development at the weekend. Moreover, Mrs. Jeana also works collaboratively with her sister to "manage and control my daughter or sometimes accompany my daughter when doing her learning activities," she said. She believes in her sister because her sister also loves her daughter unconditionally. Moreover, her sister is also close with her daughter, so she cannot lean her daughter on her sister. Mrs. Jeana

also attended volunteering or seminar activities to enhance her knowledge and gain new relations and experience

4 Discussion

The previous section has detailed a significant finding based on different themes related to parents' experiences with children with special needs in nurturing them when learning English. Therefore, this section aims at dialoguing the findings with a related literature review, described in the previous chapter.

The initial finding reveals that parents with special needs, including autism, have a tough time nurturing their children. This is due to raising children with special needs is not simple, yet it isn't straightforward. All participants also admitted that even though it was arduous, they still had to endure their responsibility for their children and always be by their children's side when needed. Unfortunately, both participants feel deep regret and are guilty to their children. This finding fits with the research conducted by DePape and Lindsay (2014), where parents who have a child diagnosed with autism often blame themselves, also experienced guilt and regret after suspecting the causes of autism.

Moreover, this perspective is also corroborated by Ooi et al. (2016), who assert that every single mother who has an autistic child tends to have mixed feelings, such as feeling grief and loss. Hence, all participants were unsatisfied after hearing the diagnosis (Lutz et al., 2012). Nevertheless, they always blame themselves for their children's disabilities. Thus, this finding contradicts the research conducted by Desai et al. (2012), who show that Indian parents with special needs blame the doctor who diagnosed the children with autism.

The finding of this study shows that emotional support from the parents influences the children's emotions when learning English. For evidence, all the participants usually express their unconditional affection to their children by listening to their problems or appreciating the things done by their children. This finding represents a similar theme in Lundqvist, Westling, & Siljehag (2018), which denotes that listening and respecting the live experience of children with autism, is pivotal because it will determine their emotion and development. By listening and respecting them, the parents already show their genuine love and care to them and value their existence. In contrast, this finding is reciprocal with research conducted by Kurz (2018), Marciano, Drasgow, & Carlson. (2014), and Nicholas et al. (2015). In addition, this finding points out that spiritual support is an obvious factor, which contributes to rearing children with special needs. This finding is linked to DePape and Lindsay (2014) and Masaka (2018), who speculate that parents of autistic children opted for conducting religious treatments to stabilize the emotion, also praying that God will cure their children's disability and provide a bright future for the children. Moreover,

this finding also has a similar perspective with this research finding, which emphasizes that spiritual support also builds the closeness of each family member.

Although emotional and spiritual aspects are crucial in disabled child-rearing, financial support tends to be a pivotal aspect because it will determine how to be engaged in the children's education, particularly in facilitating the needs. Therefore, this finding illustrates that financial support plays a pivotal role in accommodating and encouraging the children's needs in learning English. For evidence, the children who have a prerogative background tend to get additional support in the learning process, such as attending private language lessons and enjoying some cultural activities for spending their holiday and honing their English. This finding is quite similar to Sanjurjo et al. (2017), who say that the children who have privileged backgrounds will get additional support in the learning process, such as taking some courses or attending private language lessons, and enjoying some cultural activities. Moreover, this perspective is also corroborated with another research finding, which indicates that parents who have a stable financial background will provide all their children's needs in learning English. Thus, this finding tends to be relevant to Caro (2018), who describes that parents from higher SES families tend to be more cognitively involved in children's early learning. For instance, parents will provide cultural (e.g., Work of art and Classic literature) and educational sources (e.g., DVDs, books, and other materials) to stimulate them cognitively before the beginning of school.

Furthermore, there are several problems and barriers faced by Indonesian parents when practising their involvement or advocacy to their children with special needs in learning the English language. Three issues emerged during Indonesian Parents' education about English to their children with special needs: insufficient knowledge, little experience, inadequate skills in using English. These problems are pertinent with Besnoy et al (2015), Rehm et al (2013), and Forey et al (2015). Nonetheless, this finding contrasts with Lechuga-Peña, and Brisson (2018), who explain that parents face three barriers that prevent them from being involved in their children's education, such as cultural and language diversities their children's school, racism, and being individual parent or caregiver.

Having recognized that most problems faced by Indonesian parents are about their experience, knowledge, and skill in using English, financial and time issues also emerged when nurturing their children with special needs in learning the English language. This research finding corroborates Marciano, Drasgow, & Carlson's (2014) study which shows that the financial and time issue is related and delineates that raising a child with special needs takes financial support. Thus, the parents frequently prioritize their time for working.

In addition, this study revealed that all participants opted for family-centered service to cope with the emerging problem. This finding is closely related to Chao et al. (2006), who assert that family-centered service is helpful to find the concrete solution

to deal with the problem. Concepcion and Chanham (2007) also pointed out that family-centered service helps the children be closer to their family so that they will be able to solve the problem collaboratively.

Furthermore, parent-school collaboration is also employed in this last finding to the practical way to tackle the emerging problem. The first participant affirmed that she is active in asking for some help from her son's school if a problem emerges during his learning process. This finding was also strengthened by Hodapp and Burke (2014) who points out that parental advocacy seems not to have a significant impact if it is not combined with school services. However, this finding argues Zenda (2020) who explains that parent-school involvement is generally used by parents who do not have enough time for nurturing their children in the academic sphere. However, Larra and Sarascotti (2019) show that although parent-school collaboration is crucial for the children, parental involvement is still needed because it is used as the critical factor of children's development. Thus, this finding also voices that both participants are still active parents who involve themselves as much as possible in nurturing their children in learning English. Moreover, both participants also participate in volunteering activities or seminars to enhance their knowledge and gain new relationships and experience.

5 Conclusion

This current study is devised to explore the ways the parents practise their advocacy or involvement toward their children with special needs in learning English by different family backgrounds, particularly concerning SES. There are quadruple findings that can be illustrated as follows: 1. all the participants experience deep regret and guilt toward their children's disability. Moreover, they also often blame themselves for causing the disability that their children have. Then, they also have mixed feelings when raising their children with special needs, such as feeling grief, loss, and arduous, yet both participants are grateful to have them as their children. Meanwhile, 2. both participants practise various ways to nurture their children with special needs in learning English. For instance. The first participant is passive in educating their children with special needs about English. Then she tends to be involved in emotional and spiritual support instead of financial support when her son is learning English.

Conversely, the second participant practises all the support, such as emotional, spiritual, and financial support, when her daughter learns English. She is also active and creative in educating her daughter about English. This is due to 3. several problems that emerged while practising their advocacy in helping their children with special needs learn English such as, insufficient knowledge, little experience, inadequate skills in using English, limited time, and financial instability. Therefore,

4. there are three strategies that the participants apply to cope with family-centered, parent-school collaboration, and participating in seminar or volunteering activities. By recognizing the conclusion above, a couple of suggestions are proposed which expectedly will be worthwhile for parents; mainly all the parents are supposed to advance their knowledge about English since English is pivotal nowadays to be fully involved with their children with special education needs when learning English.

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Bethellionie Wahyudi, S.Pd
Universitas PGRI Adi Buana Surabaya. Jl
Dukuh Menanggal XII Surabaya, East Java
Indonesia
e-mail: lionienie@gmail.com

Irfan Rifai, Ph.D.
Pascasarjana Universitas Pasundan. Jl. Sumatera No. 41
Bandung 40117
Indonesia
e-mail: irfan.rifai@unpas.ac.id[2]

Attitudes of pre-service teachers towards inclusive education for all in India

(scientific paper)

Hemendra Mistry, Martin Skutil

Abstract: *This study sought to determine the attitudes of pre-service teachers towards inclusive education for all students in regular classrooms. Teachers' attitude towards inclusive education scale was administered through an online survey using Google form. A total of 217 pre-service teachers (male 72, female 135) enrolled in a 2-year Bachelor of Education (B.Ed.) programme at Gujarat State Universities in India had completed and responded to the survey. The study results showed that participants had a positive attitude towards inclusive education. Pre-service teachers had the most positive attitudes to supporting learning needs of diverse students in an inclusive classroom. Only two variables, the highest level of education and level of training in inclusive education were found to relate significantly to pre-service teachers attitudes towards inclusive education. There was no significant difference in pre-service teachers' attitudes towards inclusive education with regards to their gender, age, previous teaching experience and perceived level of knowledge regarding inclusion policies and legislations. The study findings have possible implications for policy makers and stakeholders involved in teachers' training in India and other countries in the South Asian region.*

Keywords: *Teachers' attitudes, Pre-service teachers, Inclusion, Education for all, Teachers' training*

1 Introduction

Developed countries have passed legislation promoting inclusive education since long international legislation influenced the inclusive education policies of developing countries [1]. With commitment to inclusive education by agreeing Sustainable Development Goals (SDGs) and United Nations Educational, Scientific and Cultural Organisation (UNESCO) Salamanca Statement [2] and being one of the signatory to the

United Nations (UN) Convention of Rights for People with Disabilities (CRPD) [3], India has made considerable progress by putting a robust legal frameworks (National Policy of Education [4]; People with Disabilities Act [5], revised as Rights of People with Disabilities Act [6]; Right to Education Act [7]) and programmes (Sarva Siksha Abhiyan [8] revised as Samagra Siksha Abhiyan [9]). These legal frameworks and programmes helped in improving the enrolment figure of Children with Disabilities (CWD) but ensuring quality education for all children for achieving Agenda 2030 (SDG 4) still remains a distant dream. The majority of the People with Disabilities (PWD) still face exclusion and discrimination, they either received education in a segregated environment or are poorly and ineffectively integrated with their potential untapped [10].

It is estimated that 2.21 percent (26.8 million) of the Indian population of over 1.2 billion live with disability in one form or another [11]. India faces immense challenges in addressing the educational needs of 6.6 million CWD in the age group 5–19 years. Even the number of children enrolled in school dropped significantly with each successive level of schooling and fewer enrolments of girls with disabilities is evident of significant gaps despite the increased enrolment of CWD [12]. Teachers' lack of acceptance is one of the reasons for not continuing education besides lack of professional knowledge, quality support and learning opportunities in inclusive schools [13]. The other categories such as LGBTQI, refugee, internally migrated communities etc., did not find recognition in Indian national policies on education (1986 and 2020) [14].

Borrowed from international organisations such as UNESCO, World Bank etc., inclusive education in India was limited to the CWD education and still lacks working definition due to a lack of systematic effort amongst the government and other stakeholders in exploring the meanings, relevance and applications of inclusive education in India [14]. Inclusive education is defined as a system of learning which includes children of all backgrounds in the classrooms and allows diverse students to grow side by side for the benefit of all [15]. An 'inclusive and equitable' education for all is at the core of the SDG 4 ambition [16].

Besides assistive technologies, accessible resources and flexible curriculum; teachers' attitudes towards including diverse children into their classrooms is also crucial to accomplish the inclusive education goal [12]. No matter how comprehensive legislative frameworks a country has, the teachers' lack of knowledge and skills, as well as negative attitudes hamper implementing inclusion policies [17]. Teachers need to be agents of change with values that support high-quality teaching for all students to provide truly inclusive education [18, 19]. For this, teacher education should prepare teachers to value learner diversity, should encourage them for collaborative work and support their continuous professional development [16, 20].

Although teachers generally do not feel their initial education has prepared them well to teach all learners [21] and many of them feels insufficiently prepared to teach in challenging environments [16].

Teachers hold the central role in implementing the policies relating to inclusive education, and therefore, their attitudes regarding inclusive education becomes crucial and need to be identified. Until recently, the Teacher Education Institutions (TEIs) were offering special education subject as an optional paper, but since the National Council for Teacher Education (NCTE) Regulations [22], inclusive education subject has been made compulsory for the 2-year secondary Teacher Education Programme (TEP). However, the initial training programmes tend to focus on CWD more than other vulnerable groups and rarely provide practical exposure in an inclusive setting [23]. Teachers in India do not rate themselves as competent to be inclusive [24] and do not have adequate training, infrastructures, institutional or peer support for inclusive education [25].

Several key variables are considered as significantly associated with the attitudes of pre-service teachers towards inclusion. With regard to gender, studies reported more positive attitudes among female educators than their male counterparts [26–28]. There is also evidence of positive influence of educators' willingness [27] and training [29–31] on their attitudes towards inclusion. The teachers with training in inclusive education [31, 32–33] and higher levels of tertiary education [27] were found to be more positive towards inclusive education. Research also suggests that teachers' self-evaluation of their capacity to teach in diverse classroom is closely linked with more positive attitudes regarding inclusion [34–36]. Knowledge about using inclusive practices and instructional strategies in the execution of inclusive practices is regarded as a crucial aspect of teacher preparation because it can change their attitudes towards inclusive education [1].

Researchers on pre-service teachers' attitudes towards inclusive education are seen as an important source to inform teacher education practices in Western countries [1] and have played a significant role in limiting implementing inclusive practices in schools in some countries of South Asian region [37–39]. Such researches are growing in India; however, they are limited to the narrower meaning of inclusive education i.e., special educational needs and disabilities while research on broader meaning of inclusive education for all is lacking in India. Furthermore, the authors did not come across such studies that measured teachers' attitudes towards inclusive education for all except the study of Keilblock [40]. Given we have less than 10 years for achieving SDG 4 and recent national policy on education [41] implementation in India, undertaking research in India was considered to be of value not only for policy-makers and stakeholders, but also for the teacher education programmes. The research aims were the following:

- To measure pre-service teachers' attitudes towards inclusive education for all.
- To identify differences in pre-service teachers' attitudes towards inclusive education based on demographic variables.

2 Method

The present study adopts quantitative research methods to achieve the above aims. Descriptive survey design was used. With the main purposes of measuring pre-service teachers' attitudes towards inclusive education, the study examines following research questions:

- What are Indian pre-service teachers' attitudes towards inclusive education?
- What are the differences in pre-service teachers' attitudes towards inclusive education based on their demographic variables?

2.1 Participants

The participants for this study were pre-service teachers enrolled in a two-year post-graduate Bachelor of Education (B.Ed.) programme in the teacher education institutions of Gujarat state of India. The teacher education institutions are not identified so as to maintain the anonymity of the respondents.

2.2 Materials

A two-part survey was used for data collection.

Part one: Demographic information

Part one of survey instrument sought information about gender (male, female, third), age (less than 25 years, 26–30 years and more than 30 years) group, highest level of qualification (graduation, post-graduation), education stream (arts, commerce, science), previous teaching experience, experience of teaching in inclusive setting (either in school internship or in previous teaching), level of training in inclusive education (less-up to 20 hours, average-up to 40 hours, high-up to 60 hours) and perceived knowledge of Indian policies/legislations on inclusive education (none, poor, average, good, very good).

Part two: Teachers' Attitude Towards Inclusive Education Scale (TATIES)

The TATIES [42] measures teachers' attitude beliefs towards inclusive education. Mistry [42] describes the scale development procedures along with its validity and reliability. This scale has a total of 19 items (11 positive and 8 negative) along with factors: attitude towards including all students in an inclusive classroom and attitude towards supporting the learning of all students in an inclusive classroom.

An example of an item is as follows: 'A good teacher feels comfortable in dealing with students with diverse background in an inclusive classroom'. Each item can be responded to on a 5-point Likert-type classification, with responses ranging from strongly agree (5), agree (4), can't say (3), disagree (2) and strongly disagree (1). The TATIES yield a total score that is obtained by adding the value of responses on each item. The value of total score can range from 19 to 95. Higher scores on the TATIES suggest that a respondent is relatively more positive towards teaching all students (inclusive diverse students) in an inclusive classroom. Internal consistency of the TATIES was calculated for the Gujarat, India sample using Cronbach's alpha and was found to be 0.77. Alpha coefficient for the two previously mentioned factors were above 0.80 (including all students in an inclusive classroom = 0.87 and supporting learning of all students in an inclusive classroom = 0.83), suggesting that they were sufficiently reliable for its use.

2.3 Design

The current study involves two-part survey design and reports data obtained from state wide online survey. Due to prevailing COVID-19 pandemic situation during the academic year 2020–21, online survey was conducted. This study investigates attitudes of pre-service teachers enrolled in the second year of the two-year teacher education programme (Bachelor of Education). Recruitment for the current study was on a voluntary basis.

2.4 Procedure

The online survey questionnaire was prepared on Google form and distributed to all the TEIs with a request to forward the questionnaire link to the pre-service teachers enrolled in the 2nd year of their B.Ed. course during the academic year 2020–21. The main reason of selecting only those pre-service teachers who were in their final phase of training (i.e., enrolled in fourth semester of two-year B.Ed. programme) was that they had completed their training on inclusive education. It was assumed that the attitude beliefs formed after receiving training on inclusive education in final stage of initial training which is likely to be sustained during the early years of their teaching career [34]. Participation in the survey was voluntary and participants were informed that they could withdraw from the study at any time and their responses will be anonymous

3 Results

A total of 207 pre-service teachers participated in the study. Of the 207 pre-service teachers, 65% were female (n = 135), 35% were male (n = 72) and most of them (91%,

n = 188) were under 30 years of age. The majority of participants had a postgraduate (masters) degree (n = 127, 61%) while 80 (30%) had a graduate (bachelor) degree. 80 (39%) participants indicated that they had teaching experience prior to joining initial teacher training (B.Ed.) while the remaining 122 (61%) participants had no previous teaching experience. More than half (n = 114, 55%) of the participants indicated that they had teaching experience at an inclusive setting either during the school internship or when previously teaching, while the remaining 45% (n = 93) had no teaching experience at an inclusive setting. Only 19% (n = 37) of participants had received high (more than 40 hours) level of training in inclusive education, 30% (n = 59) had received poor (less than 20 hours) level of training, while slightly more than half (n = 98, 51%) had an average (20 to 40 hours) level of training in inclusive education. Perceived knowledge about Indian policies/legislations (for e.g. Right to Persons with Disabilities Act, 2016; National Policy of Education, 2020) was limited, only 12% (n = 25) classified what was considered to be 'very good' knowledge; 45% (n = 93) with 'good' level of knowledge, while 36% (n = 74) had 'average' and 'poor' (5%, n = 10); and 2% (n = 5) reported they had 'no' knowledge of the inclusive policies/legislations.

Attitude towards inclusive education

The overall mean of participants on the TATIES was 3.58. A value of 4 on the TATIES suggests participants 'agree' with the statements that support inclusive education. A higher score on the TATIES indicates more positive attitudes towards inclusive education for all included in the TATIES. Therefore, a score of 3.58 is suggestive of positive attitudes towards inclusive education for all included in the TATIES scale. Participants' scores on each of the two factors of the TATIES were also analysed (see Table 1). It was found that participants had the most positive attitudes (M = 3.96) to supporting learning needs of diverse students (e.g., adjusting regular school curriculum in meeting the learning needs of all learners) than including all learners in an inclusive classroom (M = 3.30) (e.g., feeling comfortable in dealing with students with diversity in an inclusive classroom). The positive attitudes on both factors were upper side of the midpoint of the scale (3.0). This suggests that the participants had positive attitudes in both the factors.

Table 1: *Descriptive statistics of participants responses on TATIES (n = 207)*

Factors	Mean	SD
Factor I: Including all students in an inclusive classroom	3.30	1.57
Factor II: Supporting learning of all students in an inclusive classroom	3.96	1.51
Overall	3.58	0.37

Table 2 and 3 present the results for pre-service teacher groups based on demographic variables. A series of one-way analysis of variance (ANOVA) was conducted with participants' attitudes towards inclusive education as dependent variable. Post-hoc analysis using Scheffe's test was undertaken to determine significant sub-group differences where a variable had more than two categories. Scheffe's test is recommended for post-hoc analysis when the number of participants in sub-groups is unequal. It also provides more conservative estimates for sub-group differences. For each variable that was found to have a significant relationship with participants' attitudes eta-squared (η^2) values were also calculated to determine effect size (see Table 3).

Table 2 shows that there were no significant differences in participants mean attitude scores based on gender, age group, habitat, education stream and teaching experience in an inclusive setting. From the dataset, it was observed that participants over 30 years of age reported more positive attitudes (M = 3.74) than their counterparts under 30 years of age. The pre-service teachers from Commerce (M = 3.70) stream showed more positive attitudes than the pre-service teachers from Arts (M = 3.55) and Science (M = 3.55) streams.

Table 2: *Analysis of variance for variables significantly not related to the attitudes mean scores*

Variables	N	M (SD)	F	P
Gender				
Male	72	3.58 (0.35)	0.009	0.928
Female	135	3.57 (0.38)		
Age group				
Under 25 years	109	3.55 (0.35)		
26–30 years	79	3.57 (0.35)	2.152	0.119
Over 30 years	11	3.74 (0.52)		
Habitat				
Urban	107	3.58 (0.39)		
Semi-urban	20	3.65 (0.42)	0.714	0.491
Rural	80	3.54 (0.32)		
Education stream				
Arts	87	3.55 (0.38)		
Commerce	42	3.70 (0.36)	3.000	0.052
Science	78	3.55 (0.36)		
Experience of teaching in an inclusive setting				
Yes	114	3.56 (0.37)	0.755	0.386
No	93	3.60 (0.37)		

Only two variables (see Table 3), highest level of education and initial training level on inclusive education were found to relate significantly to participants' attitude scores. Pre-service teachers with graduate qualification (M = 3.66) held significantly more positive attitudes towards inclusive education compared to the pre-service teachers with postgraduate qualification (M = 3.54) [F (1, 205) = 4.94, p < 0.05].

Surprisingly, pre-service teachers with 'average' level (20 to 40 hours) of training in inclusive education expressed significantly more positive attitudes (M = 3.62) towards inclusive education than pre-service teachers with 'high' (M = 3.41) or 'poor' (M = 3.56) levels of training [F (2, 191) = 4.64, p < 0.05].

Table 3: *Analysis of variance for variables significantly related to the attitudes mean scores*

Variables	N	M (SD)	F	P	η^2
Highest education qualification					
Graduation	60	3.66 (0.34)	4.94*	0.03	0.024
Post-graduation	147	3.54 (0.38)			
Amount of inclusive education training					
Poor	59	3.56 (0.34)	4.64*	0.01	0.046
Average	98	3.62 (0.38)			
High	37	3.41 (0.27)			

* p < 0.05 (level of significance)

4 Discussion

Here, it is important to note that attitudinal study results should be interpreted with care as inferences about actual classroom behaviours on the basis of paper-pencil self-report needs to be made with caution [27]. Therefore, this study's results should be interpreted with care as the sample represented in the present study was only internet users and therefore, results could not be generalised to the teacher population who do not use internet.

This study examined the attitudes beliefs of pre-service teachers towards inclusive education in the Indian context. Overall, pre-service teachers from Gujarat, India were found to be positive in their attitudes to inclusive education. These results are in contrast with Sharma et al. [43] who studied attitudes of pre-service teachers using the ATIES in Pune region of Maharashtra state and found somewhat negative attitudes with regard to pre-service teachers. This might be evidence that exposure of contents on inclusive education through the compulsory subject on inclusive education since the NCTE Regulations [22] in the teacher training programme (B.Ed.) significantly improved pre-service teachers' attitudes towards inclusive education. The study carried out by Sharma et al. [27] confirms that appropriate training influences

participants' attitudes positively. The present study results are consistent with the recent Indian studies [44–47].

Mean scores of more than 3 on both the factors suggest that the pre-service teachers in this study have positive attitudes towards inclusive education. However, they were less positive regarding all students being inclusive in an inclusive classroom. This result is somewhat consistent with the findings that the teachers are more willing to include students who do not require modifications of teaching strategies [48] and resistant to include students with socio-emotional and behavioural difficulties [27, 49–50].

Findings in relation to demographic variables reveal that gender, age, habitat, educational stream and teaching experience in an inclusive setting were not related to the attitudes of pre-service teacher samples of the present study. The findings of indifference in attitudes of male and female participants are inconsistent with the study of Sharma et al. [1] who reported more positive attitudes among male pre-service teachers. Though recent Indian studies [45, 47, 51] support the present study finding but they also report a higher mean attitude scores of male pre-service teachers. Further studies by using the TATIES across Indian geographies will reveal true picture in this regard.

Pre-service teachers with graduate qualification were found to hold more positive attitudes compared to their postgraduate qualified counterparts. This finding is in sharp contrast to the Sharma et al. [27] who found that the postgraduate qualified pre-service teachers were positive compared to undergraduate. The exposure to inclusive education through social media and/or contact with the diverse group of students during their school or higher education might have improved attitudes of graduate pre-service teachers. This finding is somewhat consistent with Nakro [51] who studied attitudes of pre-service teachers in Nagaland. The mean attitude score of her population with graduate qualification was 3.22 compared to postgraduate qualified population (M = 3.14). Mean score less than 3.5 (i.e., agree) suggest that the pre-service teachers (both graduate and postgraduate) in Nakro's study [51] have neither positive nor negative attitudes towards inclusive education while more than 3.5 mean scores of both graduate and postgraduate pre-service teachers of this study suggest more positive attitudes in both the groups. This variation in result may be due to less training in inclusive education in Nagaland.

Surprisingly, the study revealed that the pre-service teachers with an average level of training in inclusive education (at least 40 hours) held more positive attitudes towards inclusive education in comparison to the pre-service teachers who had high (at least 60 hours) or poor (at least 20 hours) training. This finding is sharp contrast with Sharma [27] and Hsien [52] who reported more positive attitudes among the pre-service teachers with high levels of training.

5 Conclusion nd implications

Since the Parsuram study [53], many studies attempted to measure teachers' attitude towards inclusive education in India. Unlike most of the previous studies that examined teachers' attitude by considering narrower meaning of inclusive education for some (i.e., SEND), the present study is perhaps the first study that examined the attitudes of pre-service teachers about inclusive education for all in India. The findings suggest positive attitudes of pre-service teachers however; it needs further observation on what extent they demonstrate the self-reported attitudes in their behaviours in real inclusive settings. Further research on teacher population across geographies in India would be also of value in generalising the present study's findings.

In its move towards achieving SDG 4, India is promoting inclusive education for all through policies [41], legislations [6, 7] and education programmes [9]. Teacher training is considered as an important aspect in all these policies, legislations and programmes. The teacher education institutions require providing explicit instructions in meeting learning needs of all students in inclusive classrooms. Since the NCTE Regulations [22], inclusive education is made compulsory subject; however, practical exposure to diverse classroom is neglected in most of the teacher education institutions. Practical exposure of inclusive classrooms to prospective teachers would be of great value in preparing competent teachers for inclusion. The TEPs also need to incorporate inclusive pedagogy and teaching practice in inclusive classroom for improving the attitudes and behaviours of teachers in an inclusive classroom. Recent studies [18, 54] also pointed the need of exposure of diverse classroom during the initial teacher training.

The stakeholders involved in teacher training are required to provide in-service training on the aspects in which the newly qualified teachers are least positive or negative so as to improve their attitudes towards diversity in their classrooms.

With the national policy education [41] supporting inclusive education for all, and provisions of teacher training for inclusion in Samagra Siksha [9], it is important that TEIs prepare teachers with ability to cater for diversity. Teachers with positive attitudes will also have impacts on the attitudes of all students and community towards diversity.

With ratification of UNCRPD [3] and signing SDG4, countries in the Asian region are pursuing inclusive education to a greater or lesser extent and this is still an emerging concept in many countries. This study shows to a small extent that the teacher education in Asian countries needs reforming in teacher education curriculum to provide pedagogical training to teachers. This is of prime importance as teacher's role is crucial in translating the inclusive education policies into practices. Lack of adequate initial training on inclusion and inexposure to teaching in inclusive settings may result in teacher hesitation regarding joining inclusive schools and inability in

catering diversity in their classrooms. These will greatly affect implementing international as well as national declarations on inclusive education in countries in the Asian region.

Acknowledgement

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(reviewed twice)

Hemendra Mistry, Ph.D.
ICSSR Postdoctoral Fellow
Department of Education
The Maharaja Sayajirao University of Baroda
Vadodara-390002
Gujarat
India

Mgr. et Mgr. Martin Skutil, Ph.D.
Institute of Primary, Pre-primary and Special Education
Faculty of Education
University of Hradec Kralove
Rokitanského 62
500 03 Hradec Králové
Czech Republic

The concept of readiness of employees of selected residential social services in the context of emergency situations in the Czech Republic

(overview essay)

Bianka Hudcová

Abstract: The preparedness of workers in residential social services can have an impact on the users of the services in the context of various kinds of emergencies. The users are mostly people with disabilities who need (with regard to individual categories of disability) different levels of support from other people. In emergency situations, service staff often becomes the only competent person who can effectively intervene and prevent the fatal consequences of such a situation. In this context, however, it is necessary to ask whether these workers are prepared for such situations and what, according to the workers, is readiness at all.

Aim: To present the results of a pilot study in order to find out how employees of selected residential social services perceive the concept of preparedness in the context of emergency situations.

Methods: A qualitative approach with an exploratory-descriptive character was used in the pilot study. An interrogation technique was used to collect data. Content analysis was used for their analysis.

Results: In the context of readiness, 3 categories were identified by content analysis of the obtained data – personal, professional and organizational readiness. These were specified in more detail using summary protocols.

Conclusion: Even employees of residential services may feel fear and anxiety arising from, for example, their own (un)preparedness when dealing with emergencies. Closely related to this is the concept of self-efficacy, which will be the subject of further research within the main research of the author's dissertation.

Keywords: readiness, employees, residential services, social services, emergency, crisis, disability

1 Introduction

In emergency situations, workers in residential social services are often the only competent persons who can intervene effectively to prevent the fatal consequences of such a situation. In this context, however, it is necessary to ask whether these workers are prepared for these situations and what is preparedness. A similar issue was addressed in a pilot study by Chrastina et al. (2020). The implemented pilot study was not specifically focused on the perception of staff readiness for emergency management. The central theme of the pilot study was the perception of the readiness of these workers to accompany the dying. By interviewing in combination with interviews, it was found that workers in residential social services perceive readiness as personal equipment and experience in the field. According to the participants in the pilot study, education, transfer of experience between colleagues, previous experience with a similar situation, knowledge of the life story of the service user and the specifics of communication with these people play an important role in preparedness. According to the American Psychological Association (2020), readiness is defined as the immediate ability to act or respond to a stimulus. Bartoňková (2010) views the readiness of employees as a set of certain skills, abilities, knowledge, competencies, personality traits and empathy. Vakola (2013) describes the so-called "organizational readiness". It helps to create flexibility, adaptability, but also to build trust and attitudes among the organization's employees. Tureckiová (2004) mentions in the context of preparedness the importance of continuous development of employee performance.

Hartl and Hartlová (2010) describe "crisis preparedness" in the context of emergency situations. That is, the individual's ability to manage or eliminate the consequences of emergencies. It is a set of standardized procedures aimed at managing the crisis. Emergencies are characterized by the fact that they are unexpected, they happen suddenly, so there is not enough time to prepare for them. The readiness of employees is one of the factors influencing the origin, course and management of these situations. In such a case, employees and users of the service may experience feelings of vulnerability, helplessness, inability to act, and distrust of their own abilities. The degree of impact of emergency situations on the affected persons is conditioned primarily by the (in)readiness of the staff of the service to cope with such situations, as well as by the (un)predictability of their occurrence. In practice, in this context, there is a tendency to underestimate possible risks, mere formality and outdated procedures, inability of employees or service users to actively use these procedures (Bednář, 2012).

In order to be able to provide quality care and services to users, workers in residential social services use previously acquired knowledge, skills, abilities, both on a professional and personal level. The question of the readiness of employees is thus related to their professional and personal preconditions. These can be defined in the

context of the readiness of residential services as "competence to perform a certain activity" (Belz, Siegrist, 2015). Kubes et al. (2004) perceive competence as the ability or skill to carry out an activity. The condition for the implementation of the activity is the ability of the worker to perform the activity correctly – ie. have appropriate qualifications (knowledge, skills) in the field of performance. According to the author, competence can be seen as a power granted to us by the authority, or as the ability to perform activities in a qualified manner. This claim is partly agreed with by the American Psychological Association (2020), which describes competence as the ability to control life (the ability to solve problems effectively) and the set of skills (the task-oriented activity).

The readiness of residential staff to deal with emergencies is also related to their personal preconditions (Chrastina et al., 2020). Mátel (2019) among the personal preconditions of a worker includes, for example, the ability of empathy, good communication skills, emotional resilience and stability, determination, creativity, flexibility in action, ability of continuous education in their field, ability of self-reflection, knowledge and maintaining one's own boundaries and motivation work with the user and more. In the event of an emergency, the worker should be able to assess the imminent danger, ensure safety for themselves and the service user, establish and maintain safe contact with the user, take responsibility for necessary decisions (often under time pressure), knowledge and respect of borders (their and the users), confidence in one's own abilities, motivation, adequate directives, independence in acting, psychological resilience, cooperation (teamwork), respect, creativity, flexible thinking and acting, self-reflection, etc. (Špatenková et al., 2011).

The readiness of workers in social residential services is also linked to their education (Chrastina et al., 2020). The conditions of education of workers in social residential services are specified in more detail in the Act on Social Services No. 108/2006 Coll., as amended (§109–117). Staff training should not be seen only from the point of view of undergraduate study of helping professions. In the field of education of workers, their further education also plays an important role (Mátel, 2019; Kopřiva, 2013; Bartoňková, 2010; Matoušek, 2008). The need for further education of social services workers is also referred to in Annex No. 2 to Decree No. 505/2006 Coll., which implements certain provisions of the Act on Social Services (as amended). In the annex to this decree, the need for further professional development of employees is emphasized within the framework of quality standard No. 10 ("Professional development of employees"). According to these sources, the responsibility for the readiness of these workers is largely on the part of the employer, respectively a service provider (Chratina et al., 2020). Continuing education in social services is necessary in view of the ever-increasing demands on the knowledge and skills of workers. It could be said that this need for training in the field of helping professions is becoming a systematic part of further professional and personal development of workers.

In social services, education is put under pressure, for example, due to the development of new methods, forms of work and work procedures, increasing the quality and efficiency of work, adaptation to organizational or situational changes (Bednář, 2014). Employees of residential services can use in their professional and personal development, for example, professional training, courses, seminars, lectures, sharing experiences with colleagues, supervision and more. (Mátel, 2019; Kopřiva, 2013; Bartoňková, 2010). According to Chrastina et al. (2020) the support of social workers is an important aspect of increasing their readiness. This may take the form of regular emergency management training, the establishment of a written emergency management procedure, offering assistance and the opportunity to communicate openly about possible concerns about emergency management, eg through interviews, supervision, discussions with a supervisor or a team, etc.

Despite continuous training leading to both professional and personal development, it is necessary to take into account the fact that these workers may be prepared to use their knowledge, skills and abilities to varying degrees (Kubeš et al., 2004). Baštecká et al. (2005) emphasize, first of all, the need to perceive the emergency worker as themselves. Even employees of residential services may feel fear and anxiety arising from, for example, their own (un)preparedness when dealing with emergencies.

2 Aim

To find out how employees of selected residential social services perceive the concept of preparedness in the context of emergency situations.

3 Method

With regard to the nature of the described issues and the goal of the research survey, a quantitative approach with an exploratory-descriptive character was used in the pilot study. Prior to the actual implementation of the research survey, a directory of contacts of large-capacity social residential services of the Czech Republic was created. All residential social services with a capacity of over 40 users were considered these services (MLSA CR, 2007). Subsequently, employees of selected services were approached with a request to participate in the research survey. These workers had to meet the following criteria: job position – helping worker (special pedagogue, social worker); place of business – residential social service with a capacity of more than 40 users; education – depending on the performance of the job position (Act No. 108/2006 Coll., as amended). The willingness of cooperation from the employees of selected organizations was also decisive for participation in the research survey.

The survey technique was used to carry out the pilot study. The employees were contacted electronically – by e-mail. It contained a request to participate in the research with a click on an electronic form guaranteeing the anonymity of their answers to the submitted question. This concerned a subjective view of the concept of "emergency preparedness" in their service (what they imagined and how they perceived it). Data collection took place from September 2021 to January 2022. Twelve employees took part in the research survey.

The obtained data were subjected to content analysis of a descriptive nature. Open coding was used in the analysis. Categories (meaning units) were created from the identified codes. In order to fully understand and clarify the meanings of individual categories/codes, they were specified in the form of specific statements of employees in the form of a summary protocol.

4 Results

Several categories and codes were created by open coding by content analysis. These are shown in the table below (Table 1: Content analysis of the obtained data – categories and codes).

Table 1: *Content analysis of the obtained data – categories and codes*

"When you say 'readiness' in the context of emergency situations on persons with disabilities at your work, what do you imagine?"	
Cathegory	**Codes**
Personal readiness	abilities
	skills
Professional readiness	knowledge
	awareness
	cooperation
Organizational readiness	structure of the organization
	material provision
	personal resource
	documentation
	prevention

Based on the analysis of the category "personal readiness", it can be stated that some workers of selected residential social services describe readiness in the context of emergency situations in their service as certain abilities or skills on the part of the worker. These are, for example, the ability to react in an emergency situation, flexibi-

lity, employee empathy, the ability to saturate the individual needs of service users with regard to their specifics. A detailed description of this category can be found in Table 2: Summary protocol – category "personal readiness".

Table 2: *Summary protocol – category "personal readiness"*

Cathegory – Personal readiness	
Codes	**Workers' statements**
abilities	*"…the worker's ability to respond to any situation that may arise in the social service in relation to clients."*
	"Under the term 'readiness' I imagine that the worker must be very flexible. Being equipped with the abilities and skills that allow them to respond to any emergencies with our users."
skills	*"…be able to respond to user needs that may arise during the service."*
	"Everything is based on the fact that within their expertise, extraordinary empathy, acquired experience they must know the individual specifics of a particular user."

In the analysis of the obtained data, the category "professional readiness" was created. The given category contains knowledge, information and cooperation within selected organizations. The staff describes the readiness, for example, as knowledge of methodologies and work procedures, possible measures, techniques and methods of working with users in emergency situations. The readiness is related not only to the ongoing updating of the mentioned methodologies and procedures with an emphasis on mapping the situation (individual needs, specific) of users, but also to informing employees about possible updates or sudden changes in the situation in the organization. Employees see cooperation as an important part of preparedness in the context of emergencies. It can take many forms. According to the staff, this is a collaboration between colleagues, users and their families, the service provider and other services (eg firefighters, paramedics). According to the employees, constant communication, mutual support and transfer of experience (eg in regular meetings) between employees can be considered as the basis of good cooperation. The content of the category is described in more detail in Table 3: Summary protocol – category "professional readiness".

Table 3: *Summary protocol – category "professional readiness"*

Cathegory – Professional readiness	
Codes	**Workers' statements**
knowledge	*"…to know the methodology of the workplace and work procedures."*
	"…the konowledge of actual measures, including getting of these measures, unification of the measures, not to change the measures from one day to another."
	"They must be such a professional to be able to react correctly to an arisen emergency situation and to be able to handle the situation best."
	"They must know which techniques and methods to use in the situation, whether they should always choose techniques for calming of the situation, distraction, or on the contrary, they work with the user, where it is necessary to use authority and sometimes increased voice and repeated emphasis."
	"…readiness in the context means for me that the personnel in duty know what to do if this situation appears."
awareness	*"…mapping the client's situation – what extraordinary situations can occur (aggression, seizures, escapes, etc.), how such situations took place in the past, what worked and what did not."*
	"…we update the methodologies frequently and inform employees about their content."
	"…the most important is to inform all staff about the upcomong situation in time…"
cooperation	*"It is important to know the personality of the user as much as possible within the observations, experiences, meetings within the whole team, then we can responsibly anticipate and be able to respond to the given emergencies.."*
	"The support and functioning of the entire work team is important, as such tense situations may arise when it is necessary to call for help from a colleague and resolve the situation in a different than usual way."
	"If a worker can establish a real relationship with the user, the emergency can be handled."
	"Engage in cooperation with the founder and other departments (fire brigade, hospitals, emergency services)."
	"JIt is necessary to add that when dealing with such emergencies, there may be times when users' rights are narrowed and their quality of life is reduced. It is good to remember this risk and constantly communicate with all the people affected. I think this should be the basis for successfully managing such a crisis, and if this can be done, I think we can talk about readiness."

The content analysis also identified the category of "organizational readiness". Employees state that they would include the structure of the organization under the term readiness. Thus, the division of the organization into smaller departments, households, rooms, etc. can contribute to the readiness. The readiness can also take the form of material provision by the organization, eg in the form of protective, evacuation aids. Readiness is also related to sufficient staffing of the service, eg in terms of sufficient capacity and pre-arranged volunteers or strengthening the work team in the event of an emergency. Workers also say that preparedness is related to sufficient information, access and transferability. It is not "only" about ensuring the way the information is passed on, but also about its timeliness, comprehensibility

and knowledge. The employee should thus be prepared to pass information not only between colleagues, but also towards the users of the service, their family members or guardians.

As readiness, employees also describe the creation of documentation related to emergency situations in the organization. The employee can be helped to be prepared in the context of emergency situations, for example, by creating a detailed crisis plan for each user for individual situations, procedures for dealing with these situations, etc. Employees describe preparedness in the form of prevention as important. These include various model situations, emergency response exercises together with service users, activation activities, practical training of staff (eg the correct use of evacuation aids and procedures) or the setting up of a "crisis staff". A more detailed specification of this category is shown in Table 4: Summary protocol – category "organizational readiness".

Table 4: *Summary protocol – category "organizational readiness"*

Cathegory – Organizational readiness	
Codes	**Workers' statements**
Structure of the organization	*"It is good to divide users into smaller groups. (by department, by household or by room)."*
material provision	*"…have emergency and evacuation equipment ready for an emergency situation"*
	"…have a reserve stock of protective equipment and disinfectants ready for the service (expiration must be checked)"
personal resources	*"…sufficient capacity is needed in wards…"*
	"…it is advisable to have pre-arranged volunteers or contractors who could assist in the event of a failure of the regular staff."
information transfer	*"The staff has sufficient information, which the organization presents to them in writing and updates according to the development of the crisis situation and the conditions of the organization. People know them and apply them in practice. They are checked to ensure that they are complied with."*
	"Social service users and their relatives are provided with up-to-date information, which they understand so that the cooperation can take place without worries and stress.""
	"All information should be in writing. We should introduce them to other employees who come into contact with the clients."
	"…Family members and carers need to be informed."

Codes	Workers' statements
documentation	*"…creating a contingency plan for each client for a given situation (what are the causes, triggers, manifestations, what, who, when, what will be the sources of help, aftercare, etc."*
	"…preparation of a crisis plan for specific situations with specific clients at our Center…"
	"Selection of clients with risky behavior towards themselves or others. Description of the situation and specific, clear points, how to proceed in such a case, who to contact, how to 'pacify' the client, where to place them separately, which persons to contact in this case. Which situation is so serious that a doctor and an ambulance have to be called.""
	"…elaborated crisis situation procedure based on individual needs and abilities and possibilities of the client. As part of individual planning, each client has a risk situation prepared. This procedure helps the social worker to know how to proceed in a given crisis situation, so that the situation does not surprise them and that they are able to handle any crisis situation."
	"We anticipate crisis situations and have developed methodologies. For each client separately, we have described how to prevent crisis situations and, if they do occur, how to deal with them."
	"…Have a contingency plan in place, for example, for a situation of staff shortages, etc."
prevention	*"We practically practise some situations with staff and users. We monitor the occurrence of emergencies in the social service and respond to some preventively – by preparing risk plans."*
	"In my opinion, people with disabilities should know what is going on around them, what can happen and what they can meet. If they know, it is possible to prepare them for some situations. How to keep what to do. It all depends on the type of disability and the seriousness of it. As part of activations, it is possible to focus on individual cases of crisis situations, to analyze them together with the disabled. It is a matter of preventing these situations."
	"…staff training – in general (eg working with aggression, first aid, etc.), in a specific level (my role in the client's crisis plan, and in the level of teamwork)."
	"…Have a work team trained in crisis procedures…"
	"…you must have well-trained staff to work in a high-risk environment… (CORRECT use of protective equipment, disinfectants and all necessary procedures in general)."
	"…it is appropriate to establish a so-called crisis staff, which solves current events and developments with a capable coordinator for the service."

5 Discussion and conclusion

Emergencies are characterized by their unpredictability. They are unexpected, undesirable and associated with negative experiences and the necessity/possibility of change (Špatenková et al. 2011). This is an area that is often overlooked in the provision of social services in the Czech Republic. This can be problematic especially

in the provision of residential high-capacity social services, where emergencies can have a significant impact on users and workers. With regard to the limitations and individual needs of users (in the context of individual categories of disability), it is the workers who can act effectively and without delay in an emergency. However, it is necessary to realize that even in emergency situations, employees may feel fear and anxiety stemming, for example, from their own (un)preparedness (Baštecká et al., 2005). Based on this finding, a pilot survey was conducted to find out how employees of selected residential social services perceive the concept of preparedness in the context of emergency situations. In the context of readiness, 3 categories were identified by content analysis of the obtained data – personal, professional and organizational readiness.

The "personal readiness" category enables the area of readiness of employees of selected residential social services to be viewed in terms of abilities and skills of the worker (eg ability to respond in an emergency, flexibility, empathy, ability to saturate individual needs of service users with regard to their needs and specifics). Mátel (2019) describes the readiness in a similar way. According to the author, however, it is possible to describe, for example, empathy and flexibility in action together with communication skills, emotional resilience, stability, determination, creativity, self-reflection, knowledge and retention and motivation when working with the user, as certain personal preconditions of the employee. Chrastina et al. (2020) or Spatenkova et al. (2011) mentioned these as well. According to the authors, the employee should be able to assess the imminent danger, ensure safety for themselves and users of the service, establish and maintain safe contact with users, take responsibility for their decisions, trust in their abilities, autonomy of action, cooperation, respect, self-reflection, etc. and skills can be according to the authors Belz, Siegrist (2015) and Kubeše et al. (2004) as a competence to perform an activity. Thus, the ability to deal effectively with the situation and the skill to meet the goal/task (American Psychological Association, 2020).

The "professional readiness" category enables the area of readiness of employees of selected residential social services to be viewed in terms of knowledge and information of employees and also in terms of cooperation within selected organizations. The staff describes the readiness, for example, as knowledge of methodologies and work procedures, possible measures, techniques and methods of working with users in emergency situations. The readiness is related not only to the continuous updating of the mentioned methodologies and procedures with an emphasis on mapping the situation (individual needs, specific) of users, but also on informing employees about possible updates or sudden changes in the situation in the organization. Employees see cooperation as an important part of preparedness in the context of emergencies. It can take many forms. According to the staff, this is a collaboration between colleagues, users and their families, the service provider and other services (eg firefighters,

paramedics). According to the employees, constant communication, mutual support and transfer of experience (eg in regular meetings) between employees can be considered as the basis of good cooperation. Alexander (2015) and Suttell (2003) also agree. The authors consider detailed planning, preparation of methodologies, procedures and strategies for managing emergencies, as well as the transmission of information about these facts in the context of emergencies to be crucial. Employees can develop professional readiness not only by sharing experience and working with colleagues, but also through further education. However, the possibility and availability of further education depends not only on the workers, but also on the employer (the organization in which they are employed) (Chrastina et al., 2020). Continuing education in social services is necessary with regard to the ever-increasing requirements for knowledge and skills of employees (Bednář, 2014). These are, for example, professional trainings, courses, seminars, lectures, sharing experiences with colleagues, supervision, teamwork and others (Mátel, 2019; Kopřiva, 2013; Bartoňková, 2010).

The third category identified is "organizational readiness". According to this category, it is possible to include the structure of the organization under the concept of readiness – the division of the organization into smaller departments, households, rooms, etc. Furthermore, material provision by the organization, eg in the form of protective, evacuation aids (Boyce, 2017; Butler, 2017; Koo et al., 2012). Readiness is also related to sufficient staffing of the service, eg in terms of sufficient capacity and pre-arranged volunteers or strengthening the work team in the event of an emergency. Workers also say that preparedness is related to sufficient information, access and transferability. It is not only "about" ensuring the way the information is passed on, but also about its timeliness, comprehensibility and knowledge. The employee should thus be prepared to pass information not only between colleagues, but also towards service users, their family members or guardians (Chrastina et al., 2020). As readiness, employees also describe the creation of documentation related to emergency situations in the organization. The employee can be helped to be prepared in the context of emergency situations, for example, by creating a detailed crisis plan for each user for individual situations, procedures for dealing with these situations, etc. Employees describe preparedness in the form of prevention as important. These are various model situations, emergency management exercises together with service users, activation activities, practical staff training (Chrastina, 2020; Hashemi 2018; Bednář, 2014; Snider et al., 2011; Baštecká et al., 2005). Despite all the above facts, in the practice of workers of residential social services, there may be situations where workers are ready to use their knowledge, abilities and skills to varying degrees (Kubeš et al., 2004). In other words, they may not fully believe in their own readiness. Even employees of residential services may feel fear and anxiety arising from their feelings of (un) preparedness when dealing with emergencies (Baštecká et al., 2005). Closely related to this is the concept of self-efficacy. It takes the form of a belief

in one's own abilities and skills aimed at effectively (successfully) mastering the set goal (Bandura, 1997). It is an individual assessment of a person's ability to take action (under certain circumstances) to achieve a successful outcome. Expectations of personal effectiveness differ from expectations of outcome because individuals may believe that their actions will lead to a result, but if they do not believe in their abilities in such a situation, they are unlikely to dare to realize such an activity (Zimmerman, Cleary, 2006; Bong, Skaalvik, 2003).

Determining the degree of self-efficacy in workers of selected residential social services will be the subject of further research in the main research of the author's dissertation and entitled "Analysis of the readiness of workers to provide first psychosocial assistance to people with disabilities in residential services".

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(reviewed twice)

Mgr. et Mgr. Bianka Hudcová
Institute of Special Education Studies
Faculty of Education
Palacky University in Olomouc
Žižkovo náměstí 5
771 40 Olomouc
Czech Republic
e-mail: bianka.hudcova01@upol.cz

Core practices in understanding the progress of students with special education needs in order to respond to intervention success

(overview essay)

David D. Hampton

Abstract: *Currently in the United States (USA), implementation of a widely used Evidence-Based Practice (EBP), Response to Intervention (RtI) model to increase reading instruction are being implemented by more school administrators and teachers, looking to learn effective RtI practices to support learning in mathematics. This article explores some of the key elements of RtI practices in mathematics, including screening for the early identification of students who may have Dyscalculia, or are struggling learners. We will also examine a process of progress monitoring for measuring instructional proficiency for all students. We describe some of the similarities and differences between RtI processes in reading and mathematics. The article addresses the use of diagnostic data and details the importance of the National Teachers of Mathematics (NTCM) standards and Common Core Mathematics standards, among others. The article concludes with a discussion of some evidence-based interventions in mathematics, and we provide an implementation checklist to assist educators as they begin to implement RtI in mathematics.*

Keywords: *Curriculum-Based Measurement, Assessment, Screening, Progress Monitoring, Interventions*

1 Introduction

The Individuals with Disabilities Act (IDEA) explicitly allowed the use of student response to instruction when identifying a learning disability. This government policy acknowledged that early identification with less dependence on discrepancy between intellectual potential and achievement. To address the flexibility that IDEA allows, many states and school districts have begun transitioning away from the previous identification model and moving toward a form of Response to Intervention (RtI;

Zirkel & Thomas, 2010). Although RtI models may be relatively new to most educators. School districts in several states (i.e., Iowa, Minnesota, Florida, Ohio, and Illinois) have been using RtI models for identifying and assisting struggling students in reading for more than a decade with positive results (Jimerson, Burns, & VanDerHeyden, 2007).

Two important inferences about the implementation of RtI are drawn from these state initiatives: (a) RtI models may be successfully implemented in schools to meet the needs of struggling learners, and b) RtI models assume different identities and formats across different schools and districts. These differences are due, in part, to the notion that each school district is unique and that RtI is described in many ways (Hoover & Love, 2011). Although most of the evidence supporting the use of RtI models has been conducted in reading, increasing attention is being paid to the area of mathematics, as the realization that students who struggle with reading often also struggle with mathematics as well.

There are three significant reasons students who have Dyscalculia need to learn mathematics. First, mathematics is integral to many important life skills (Minskoff & Allsopp, 2003). Each day, people are presented with the need to have basic mathematics proficiency, such as when purchasing goods and services, performing household budgeting, and meeting today's technical work demands. Second, high-stakes assessments, particularly at the secondary level, include mathematics skills (i.e., algebra) that have become a benchmark for obtaining a high school diploma (Minskoff & Allsopp, 2003). Therefore, students who have learning difficulties must have basic proficiency with these mathematical concepts if they are to pass these tests and successfully graduate from secondary school. Third, mathematics has become integral to student understanding in other subject areas, such as the sciences, economics, and computer literacy. Students who struggle with mathematical concepts will find it difficult to learn this important complex content. Without a basic knowledge of mathematics, students may struggle to pass courses and standardized tests, leading to potential academic failure (Minskoff & Allsopp, 2003).

Research investigating the effective implementation of RtI has its foundation in reading; however, there are many core components founded in reading research that can be utilized in creating an RtI model in mathematics. Riccomini and Witzel (2010) have identified six core components that form RtI models first established in reading research but are fully translatable to mathematics. The first component is a system centered on the idea that all students can learn when EBPs are implemented and continually monitored. The second component includes universal screening to measure all students' levels of proficiency at least three times each academic year, serving to identify students who may need more specialized instruction. The third component is that a system of progress monitoring implemented to confirm the effectiveness of teacher instruction and to inform academic decision making. The fourth

component includes the exclusive use of EBP in our instruction being used in both core learning and intensified academic interventions. For the fifth component, tiers of instructional supports are created and appropriate EBP and trained educators are used to implement supports to students in each tier. Finally, the sixth component suggests that ongoing program evaluation is essential to ensure the effective implementation of RtI systems in schools.

As teachers and administrators begin to implement RtI in mathematics, many aspects used in reading are routinely applied. There are some differences between reading and mathematics. Unlike reading, mathematics difficulties may be blamed on the notion that not everyone can be proficient in mathematics. Even parents and some teachers will often excuse problems in math by rationalizing that they were not good in math at that age either (Riccomini & Witzel, 2010). The National Mathematics Advisory Panel (NMAP; 2008) stated that "all students can and should be mathematically proficient in grades pre-K through 8" (p. 10). Another important distinction between RtI implementation in reading and mathematics is the type of measure used for screening and progress monitoring. In reading, the primary measures that have been used have been measures of oral reading or word selection during a silent reading task. In mathematics, many measures are group administered and include assessments of computation skill and applied knowledge of concepts. Finally, core instruction and academic interventions will differ in content in mathematics, although many reading interventions can be applied to some extent to mathematics vocabulary and word problems, for instance. There is significantly less research in mathematics interventions than in reading, but recent documents published by the NMAP (2008) and Gersten et al. (2009) summarize current findings in mathematics.

2 Screening

A recent document published by the National Center on RtI, titled "Essential Components of RtI: A Closer Look at Response to Intervention" (National Center on RtI, 2010) suggests that screening in an RtI model relies on two processes. First, universal screening, which consists of a brief assessment administered to all students, is performed at the beginning, middle, and end of the school year. Second, students who fall below the benchmark levels associated with the set of measures, are then given additional assessment, or can be monitored for an extended period of time to gather more information regarding the student's risk for Dyscalculia.

One type of measurement that has been widely used in RtI frameworks for universal screening is Curriculum-Based Measurement (CBM; Deno, 1985). In the area of mathematics, CBM universal screening measures are available for pre-K to first grades in early numeracy, for elementary students in computation and concepts and applications, and for secondary students in estimation and algebra (Chard et al.,

2005; Clarke & Shinn, 2004; Foegen, 2000; Foegen, Olson, & Impecoven-Lind, 2008; Fuchs, Hamlett, & Fuchs, 1998, 1999; Lembke & Foegen, 2009). The screening tools chart on the National Center for RtI Web site (rti4success.org), updated frequently, provides an expert evaluation of screening tools that are submitted for examination. Suggested screening tools that have been determined to be EBP can be found on the National Center's Web site by clicking on the screening tools chart.

2.1 Implementation of Screening in Mathematics

Screening measures are administered in 1 to 8 minutes, with early numeracy measures administered individually and measures for elementary and secondary students administered in a group, typically by each classroom. Measures range from early numeracy tasks, such as counting, number identification, and quantity discrimination for preschool and primary grades, to computation, completing algebra equations, and mathematical concepts such as data, time, and measurement for late elementary to secondary school students.

A summary of reliability and validity data and establishing suggested growth rates and sources for many common CBM measures are included in Table 1. This table can give educators a sense of how measures fare across studies. Included in this list are measures from common web-based programs, including AIMSweb (aimsweb.com) and Wireless-Generation (mClass:Mathematics; wirelessgeneration.com). Other screening tools for early numeracy can be found on the Research Institute for Progress Monitoring site (progressmonitoring.org), for K-8 mathematics on easyCBM.com, and for algebra on the Algebra Assessment and Instruction site (www.ci.hs.iastate.edu/aaims/).

Table 1: *Technical Adequacy of Elementary Mathematics CBM Measures*

Study	Grade Level	Alternate Form Reliability	Criterion Validity	Growth Rates (Weekly)	Source
Counting Knowledge					
Hampton et al. (2012) (using mClass math measures)	K-1st	.84–.90 (K) .83–.91 (1st)	Concurrent: WJ-BM: .45 (K), .40 (1st) Predictive: WJ-BM: .56 (K), .44 (1st)	1.54 digits (K) 1.16 digits (1st)	www.wirelessgeneration.com
Baglici, Codding, & Tyron, 2010. (using TEN measures)	K-1st			.65 digits (K) .34 digits (1st)	www.aimsweb.com
Clarke, Baker, Smolkowski, & Chard (2008)	K		Concurrent: SESAT: .55–.59	Did not fit linear growth model	
Clarke & Shinn (2004) (using TEN measures)	1st	.93; Test-retest-.78–.80	Number Knowledge Test: .70 WJ-AP: .60–.64 M-CBM: .49–.50	.55 units	www.aimsweb.com
Number Identification					
Hampton et al. (2012) (using mClass math measures)	K-1st	.87–.94 (K) .84–.91 (1st)	Concurrent: WJ-BM: .44 (K), .49 (1st) Predictive: WJ-BM: .45 (K), .49 (1st)	.73 digits (K) .53 digits (1st)	www.wirelessgeneration.com
Baglici et al., 2010. (Using TEN measures)	K-1st	.71–.84		.11 digits (K) .15 digits (1st)	www.aimsweb.com
Lembke & Foegen, (2009)	K-1st	.91–.92 (K), .87–.90 (1st) Test-retest (median of 3 scores): .83–.87 (K)	MBA: .52 (K), .49 (1st) Teacher ratings: .47–.61 (K); .46–.60 (1st) TEMA: .33 (K); 1.52 (1st) SESAT: 1.52 (1st)	.79 (K), .25 (1st)	www.progressmonitoring.org
Clarke et al. (2008)	K		Concurrent: SESAT: .53–.61	Did not fit linear growth model	
Lembke et al. (2008)	K-1st	.79–.93 (K) .77–.89 (1st)	Teacher ratings: .44–.66 (K); .03–.70 (1st) SESAT: .47 (1st)	.34 digits (K) .24 digits (1st)	www.progressmonitoring.org
Chard et al. (2005)	K-1st		Number Knowledge Test: .58–.65 (K); .56–.58 (1st)	1.3 digits (K) .88 digits (1st)	
Clarke & Shinn (2004) (using TEN measures)	1st	.89–.93 Test-retest: .76–.85	Number Knowledge Test: .70 WJ-AP: .63–.65 M-CBM: .60–.66	.47 units	www.aimsweb.com

Study	Grade Level	Alternate Form Reliability	Criterion Validity	Growth Rates (Weekly)	Source
Magnitude Comparison (QD)					
Hampton et al. (2012) using mClass math measures	K-1st	.66–.88 (K) .63–.84 (1st)	Concurrent: WJ-BM: .26 (K), .48 (1st) Predictive: WJ-BM: .40 (K), .46 (1st)	.60 digits (K) .48 digits (1st)	www.wirelessgeneration.com
Baglici et al. (2010) (using TEN measures)	K-1st	.89–.91		.21 digits (K and 1st)	www.aimsweb.com
Lembke & Foegen (2009)	K-1st	.83–.89 (K) .81–.89 (1st) Test–retest (median of 3 scores): .84–.86 (K); .84–.91 (1st)	MBA: .38–.50 (K); .31–.48 (1st) Teacher ratings: .46–.59 (K); .56–.66 (1st) TEMA: -.45 (K); .57 (1st) SESAT: .60 (1st)	.49 digits (K) .12 digits (1st)	www.progressmonitoring.org
Clarke et al. (2008)	K		Concurrent: SESAT: .62	Growth of 3.3 across 5 assessments	
Lembke et al. (2008)	K-1st	.83–.91 (K) .70–.85 (1st)	Teacher ratings: .55–.62 (K); .04–.75 (1st) SESAT: .50 (1st)	.27 (K) .12 (1st)	www.progressmonitoring.org
Chard et al. (2005)	K-1st		Number Knowledge Test: .50–.55 (K); .45–.53 (1st)	.28 digits (K) .42 digits (1st)	
Clarke & Shinn (2004) (using TEN measures)	1st	.92–.93 Test–retest:.85–.86	Number Knowledge Test: .80 WJ-AP: .71–.79 M- CBM: .71–.75	.36 units	www.aimsweb.com
Missing Number					
Hampton et al. (2012) (using mClass math measures)	K-1st	.72–.84 (K) .66–.80 (1st)	Concurrent: WJ-BM: .29 (K), .39 (1st) Predictive: WJ-BM: .47 (K), .53 (1st)	.31 digits (K) .10 digits (1st)	www.wirelessgeneration.com
Baglici et al. (2010) (using TEN measures)	K-1st	.81–.86		.33 digits (K) .02 digits (1st)	www.aimsweb.com
Lembke & Foegen (2009)	K-1st	.59–.75 (K) .73–.81 (1st) Test–retest (median of 3 scores): .79–.82 (K); .78–.88 (1st)	MBA: .49–.57 (K); .44–.45 (1st) Teacher ratings: .57–.64 (K); .56–.70 (1st) TEMA: .48 (K); .54 (1st) SESAT: .75 (1st)	.17 (K) .03 (1st)	www.progressmonitoring.org
Clarke et al. (2008)	K		Concurrent: SESAT: .60–.64	Did not fit linear growth model	

Study	Grade Level	Alternate Form Reliability	Criterion Validity	Growth Rates (Weekly)	Source
Lembke et al. (2008)	K-1st	.76–.82 (K) .61–.79 (1st)	Teacher ratings: .50–.64 (K); .21–.61 (1st) SESAT .21 (1st)	.15 digits (K) .11 digits (1st)	www.progressmonitoring.org
Chard et al. (2005)	K-1st		Number Knowledge Test: .64–.69 (K); .61 (1st)	.33 digits (K) .35 digits (1st)	
Clarke & Shinn (2004) (using TEN measures)	1st	.78–.83 Test-retest-.79–.81	Number Knowledge Test .74 WJ-AP: .68–.69 M-CBM: .74–.75	.23 units	www.aimsweb.com
Next Number					
Hampton et al. (2012) using mClass math measures	1st	.52–.80 (1st)	Concurrent: WJ-BM: .52 (1st) Predictive: WJ-BM: .56 (1st)	.27 digits (1st)	www.wirelessgeneration.com
Number Facts					
Hampton et al. (2012) using mClass math measures	1st	.63–.81 (1st)	Concurrent: WJ-BM: .52 (1st) Predictive: WJ-BM: .67 (1st)	.18 digits (1st)	www.wirelessgeneration.com
Computation					
Fuchs et al. (1998: MBSP	2–6	.45–.93	MCT: .77–.87; SAT-MC: .55–.93	.20–.77	www.proedinc.com
Concepts and Applications					
Fuchs et al. (1998: MBSP	2nd–6th	.45–.93	CTBS: Total math: .71–.81; CTBS: Computation: .64–.74; CTBS: Concepts/Applications: .64–.81	.12–69	www.proedinc.com
AIMSweb Math-Concepts and Applications	2nd–6th	.83–.89		.4 points (2nd: 50th percentile); .2 points (3rd: 50th percentile); .1 points (4th/5th: 50th percentile)	www.aimsweb.com

Note: Adapted from a table originally published in Clarke, Lembke, Hampton, & Hendricker (2011). MBA = Mini Battery of Achievement; MBSP = Monitoring Basic Skills Progress; M-CBM = Mathematics CBM; OC = oral counting; SESAT = Stanford Early School Achievement Test; TEN = Test of Early Numeracy; WJ-AP = Woodcock Johnson Applied Problems; WJ-BM = Woodcock Johnson Broad Math Score.

3 Progress monitoring

NCTM; 2000, reported that assessment in mathematics should be more than a test to gauge learning at the end of instruction. But instead, assessment should become a foundational component of the instruction that guides teachers and enhances students' learning. NCTM recommends that teachers continually gather information about student performance and make appropriate decisions about instruction in real-time, content, pacing, review, and remediation for students who may be struggling. NCTM warns that assessment practices that are out of the realities of with curriculum and instruction, give inaccurate findings to all those concerned with learning.

Any assessment of mathematics learning should, first and foremost, be anchored in core mathematical content. It should reflect topics and applications that are critical to a full understanding of mathematics as it is used in today's world and in students' lives after their education has been completed (NCTM, 2000). Although CBM for screening has previously been discussed, CBM is also an excellent, research-based tool for progress monitoring.

3.1 Implementation of Progress Monitoring

CBM serves as an EBP tool for progress monitoring in that it meets the requirements for ease of classroom teacher use, sensitivity to instructional effectiveness, ability to frequent monitoring progress of student performance, adaptability for use in determining the effectiveness of the particular intervention, and relevance to the issue of measuring multiple skills contained in acquiring mathematics proficiency (Clarke & Shinn, 2004; Fuchs, Compton, Bryant, Hamlett, & Seethaler, 2007; Lembke, Foegen, Whittaker, & Hampton, 2008; VanDerHeyden, Witt, Naquin, & Noell, 2001). CBM has numerous distinctive features, but most critical is the technical adequacy of CBM measures that validate the ongoing assessment of student progress and instructional decision making (Hosp, Hosp, & Howell, 2007; Stecker, Lembke, & Foegen, 2008). Progress monitoring allows teachers to chart student data on a regular and ongoing basis, and measures student progress over time (Lembke et al., 2008). For more information about progress monitoring in mathematics, see a review of the literature conducted by Foegen, Jiban, and Deno (2007). More detail about the reliability and validity, as well as growth rates, for elementary mathematics measures specifically can be found in Table 1. These growth rates can help teachers as they set individual goals for students by multiplying the suggested growth rate by the number of weeks until the end of the goal period.

4 Tiered Intervention Framework

The RtI framework resembles a prevention science model by providing a tiered approach to academic intervention (Lembke, McMaster, & Stecker, 2010). Whereas the prevention science model suggests universal, selective, and indicated prevention cycles (National Research Council & Institute of Medicine, 2009), RtI employs three tiers of academic intervention: universal (Tier 1), strategic (Tier 2), and intensive (Tier 3; Fuchs & Fuchs, 2006). Students are assigned to various tiers of intervention based on instructional need. Students who fail to respond to research-based interventions at a tiered level may be moved to receive a more intensive intervention. Lembke et al. (2010) further explain that students unable to respond to multiple tiers of intervention may be referred for special education services. Students are assigned to tiers based on data gathered during the screening process.

5 Conclusion

Although not as much has been written about and applied in schools for RtI in mathematics compared with RtI in reading, the essential features, such as implementing, screening, progress monitoring, intervention implementation, and data utilization, remain important fixtures of best-practice teaching. In fact, incorporation, or improvement of one of these elements would result in productive changes for a school or district. As school members explore how to begin using an RtI structure in mathematics, they can capitalize on any work that is already completed in reading and can also complete a needs assessment on RtI practices to determine where to focus productive and effective instruction.

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(reviewed twice)

Dr. David D. Hampton, Ph.D.
Visiting Fulbright Scholar
Department of Special Education
Faculty of Education
Palacky University
Olomouc
Czech Republic

Associate Professor
Bowling Green State University
School of Counseling and Special Education
College of Education and Human Development
Bowling Green, OH
USA
e-mail: hamptod@bgsu.edu

The case for Equine-Assisted Interventions (EAI) for children and adults with specific areas of need

(overview essay)

Rebecca Byrom, Andy Smith

Abstract: *This review paper explores the validity of using therapeutic equine-assisted interventions in supporting individuals with specific disabilities, mental health needs and progressive medical conditions.*

1 Introduction: Defining Equine Assisted Intervention

Equine-Assisted Intervention (EAI) is an alternative, therapy-based approach designed to support wellbeing and engagement through activities such as horse riding, horse care, social interaction and teamwork. Its aim is focused on developing transferrable life-skills for those experiencing social, emotional and physical needs (Harrington, 2015, p. 19); EAI has been reported to be particularly effective for developing and enhancing skills for independence (Borgi et al., 2016, p. 2). The engagement of vulnerable individuals with horses has been recognised as a successful factor in promoting positive mental health, trust-building and the creation of a sense of worth for the key reason that horses, which are generally non-judgemental and accepting in nature, are highly responsive animals, enabling people to interact with them non-verbally, through body language and gestures (Earles et al., 2015, p. 150).

2 The Aim of this review paper

This review paper explores EAI from two perspectives: Therapeutic and pastoral. EAI as a therapeutic intervention presents conflicting results; Veselinova (2013)

and White-Lewis et al. (2019) concluded that although EAI does have an impact physically, this is not significantly more than standard forms of therapy and progress has been recorded as noticeably slower. Contrastingly, as a therapeutic intervention for mental health and/or trauma, EAI is found to be highly effective, more so than standard therapies, particularly for vulnerable young people (Mueller and McCullough, 2017; Walker Buck et al., 2017). Furthermore, Harrington, (2015) identified that it had served as an effective distraction technique for a young person with a history of self-harm (p. 35). It is through the lens of this argument that the overall aim of this review is to describe and critically reflect on evidence which supports the judgement that HEI is an effective therapeutic provision for individuals with Special Educational Needs/Disabilities (SEND) and for those with mental health needs.

3 Background Context: The Human/Horse Relationship

Levine (1999, p. 29) identified that the first evidence of horses being domesticated was found to be between 3000–5000 BC. Levine's paper is now over twenty years old, and scientific methods have since advanced within the field of forensic anthropology, meaning that there is now the potential to isolate a more specific timeframe for identifying when horses were first domesticated. Anderson and Meints (2016, p. 3344) have identified that it was the Ancient Greeks, using horses primarily for transport and war, who were the first to suggest that horses could be used for therapeutic and rehabilitation purposes, thus the derivation of the term 'hippotherapy' emerged; however Librado et al. (2016, p. 423) stated that only minimal further investigation has been undertaken into the origins of domesticated horses and so no contradictory conclusions have been obtained.

The treatment of horses by humans has considerable impact on their temperament. Horses that have been mistreated – physically abused, neglected, over-exerted, confined to small spaces, for example – are more likely to display aggressive behaviours such as biting and kicking (Hausberger et al., 2008, p. 9a), but may still seek out human affection. Schaefer (2007, p. 48) states that the effects of abuse on horses are identical to the effects of abuse on humans; these being both long and short-term, including such actions as withdrawal, changes in behaviour, being over-eager to please or displaying a lack of trust. The effect of trauma and abuse on animals is an under-researched area, there is even less research into timescales regarding recovery from trauma/abuse. Considering that animals can have parallel experiences to humans regarding the effects of abuse, it might be appropriate to assume that recovery time from this treatment also shares similarities with humans, where recovery can take many years with a significant number never fully managing a full recovery but only developing strategies to learn to live with the adverse experiences (Anderson et al., 2012, p. 1279). The most significant aspect in recovering from trauma/abuse is the

establishment of new relationships and rebuilding existing ones (Lewis et al., 2015, p. 385–387) but animals who have suffered from trauma/abuse display trust issues relating to humans; this is a common issue, supporting the view that social factors can influence personality and temperament (Niemela and Esantostefano, 2015, p. 24).

Smith et al., (2018) state that horses are generally renowned for their sensitivity to human emotions and non-verbal signals, both key reasons why the human/horse bond has been, a strong one for so long (p. 307–308). Horses respond more positively to humans displaying more docile body language as opposed to those presenting dominance as this can be interpreted as threatening, as docile gestures are more calming, making the horse more approachable (p. 311). This characteristic seems to make horses ideal animals to be used in animal-related assisted interventions designed to support physically and/or emotionally vulnerable individuals.

4 Equine Assisted Intervention (EAI) and Special Educational Needs and Disability (SEND)

Despite judgements emerging from some studies' findings, notably those conducted by Srinivasan et al. (2018) and Park et al. (2013), who highlighted that results were inconclusive to credit EAI as a wholly effective intervention, there is a counter-argument supported by qualitative data collected directly from EAI participants and their families which confirms the efficacy of EAI. Tan and Simmonds (2018) and Lemke et al. (2014) both acquired responses and perspectives from those who regularly engaged in EAI. These responses conveyed how much the participants enjoyed their EAI activities and how they (and their parents and/or carers) directly related this to positive change in their lives.

4.1 A Focus on EAI and Individuals with Autism

Research into the effects of EAI on individuals with SEND largely focuses on those on the Autism Spectrum (Autistic Spectrum Disorder – ASD). ASD has been defined in many ways over the years, however recent research defines it as a neurodevelopmental condition affecting an individual's rate of typical development, social interaction, communication and cognitive functioning; it is more commonly diagnosed in boys but is becoming increasingly diagnosed in girls (Lai et al., 2014, p. 896). Jordan (2019, p. xxvia) emphasises that ASD is very much an individual condition – no two cases are the same and characteristics differ largely between individuals. Another trait of ASD is that individuals with the condition experience the world in very different ways from those without from a sensory perspective, known as 'sensory overload' which is explained as a sometimes overwhelming or intolerable amplification of the senses (Bogdashina, 2016, p. 64–65). To self-regulate, individuals with ASD might develop

repetitive behaviours such as tapping a particular object when walking past, rocking, hand flapping or lining up objects. (p. 65). Despite the differing needs of individuals with ASD, it is not an 'illness' which needs to be 'cured', rather, these needs must be considered and accommodated to enable individuals with ASD to access the world and be treated with respect and as human beings (Jordan, 2019, p.xxvib).

A study conducted by Llambias et al. (2016) consisting of nineteen children with ASD identified that EAI was effective in addressing sensory needs. Horse riding provided enhanced (and enjoyable) vestibular-proprioceptive feedback for the children participating– the sensory systems responsible for balance, movement and spatial awareness (Cuturi and Gori, 2019, p. 1–2). Particularly within some special school settings, therapy balls are used for individuals with ASD to give the same vestibular-proprioceptive feedback that horse riding is shown to provide; the use of therapy balls has been reported as enabling children to sit for longer periods of time as they are able to bounce if they need to, making them more alert/able to concentrate and improve their overall engagement and participation (Bagatell et al., 2010, p. 896). The similarity between the use of the therapy balls and horse riding is that they get the vestibular-proprioceptive feedback from both – the therapy balls from bouncing and from horse riding by the bouncing or rocking motion as the horse moves. In addition, Lambias et al. (2016) also identified that horse riding had a calming effect on some of the participants through a combination of the motion and the quiet, outdoor environment where the EAI took place (p. 2). Similarly, Barakat et al. (2019, p. 353a) explored how the natural environment in general can have a positive effect on children with ASD, referring to it as a 'healer' and identifying the key benefits as reducing stress/anxiety and promoting positive feelings (p. 355).

A contentious area relating to the use of EAI for individuals with ASD is its positive impact on improving the social functioning of individuals with ASD. Lanning et al. (2014) compared the effects on social functioning using EAI with that of an unspecified non-EAI and the results identified that EAI had a higher rate of social functioning improvement amongst the group using this approach. Opposingly, a later study consisting of direct observation and literature analysis, found widely varying results but concluded that there is not enough clear evidence to confirm that EAI is significantly beneficial to improving the social functioning of individuals with ASD (Srinivasan et al., 2018, p. 162). However, the perspectives of parents of individuals with ASD is a far more positive one in relation to how EAI improves social functioning. Tan and Simmonds (2018) reported that parents commented on the relationships their children were building with the horses, regarding them as friends, and having increased interaction with facilitators and other children taking part in the EAI (p. 763). One parent discussed how their child, building a relationship with the horses, has enabled them to help their child consider the consequences of their behaviours, using the example that the horse would be upset (p. 764), thus utilising

the skills learned in EAI in a wider context. Another parent discussed the friendships their child formed with other children in the EAI group, commenting that not only have they built new relationships through the activity, but that these relationships have continued outside of the EAI setting with the children often seeing each other for 'playdates' (p. 754).

The perspective of the parents are valid because they consider the long-term effects of the EAI and appreciate every positive impact, no matter how insignificant it may seem. Therefore, from the perspective of parents, EAI seems to be recognised as a very valued intervention for their children with ASD as it enables them to develop skills for use in the wider world.

4.2 A Focus on EAI and Individuals with Physical Disabilities

The Office for Disability Issues, in the Equality Act (2010), defines the umbrella term 'Physical Disability' as,

> "a physical or mental impairment and the impairment has a substantial and long-term adverse effect on his or her ability to carry out normal day-to-day activities" (p. 7).

Issues that physical disability may cause include full or partial paralysis and chronic pain; balance, co-ordination and general mobility issues, resulting in the use of assistive aids with challenges carrying out basic tasks such as eating and personal care (Veselinova, 2013, p. 161). In connection with EAI, Kraft et al. (2019) compared the outcomes of nine randomly-selected children aged two to five years old with physical disabilities, where four underwent EAI and five underwent an undetailed standard form of physical therapy over a course of twelve sessions. All of the participants undergoing the interventions displayed improvements in functional mobility, but the participants in the standard physical therapy group showed more significant improvements than the participants in the EAI group (p. 19); however, it is noted in the report that the standard physical therapy focused on a specific skill over a period of time whereas the EAI addresses a range of skills over the same period (p. 19b), hence this is likely to be why more progress was shown by the standard physical therapy group. Similarly, Park et al. (2013) established an identical pattern of results in their study, however they found more significant improvements in the EAI group, where larger increases in abilities to carry out personal care and mobility were identified (p. 1740). Unfortunately, both studies illustrate that, because such small sample sizes and specific age-ranges were used, this does not serve as sufficient evidence to prove the benefits of EAI across a wider participant age-range.

Much like individuals with ASD, individuals with physical disabilities have also been found to benefit socially from EAI, specifically in relation to interactions with

peers. Wanneberg (2014) investigated how EAI helped reshape the identities of adults with acquired physical disabilities; one reason for this being that it helps individuals to forget about their disability during the time that they spend on horseback because when they ride with able-bodied peers, they are not restricted by their own body's limitations like they may be when taking part in other physical activities such as walking or cycling (p. 73–74). Furthermore, just being in the EAI environment with other people who share a common interest in horses was found to be a key factor – a participant with a physical disability commented that, in that setting, everyone naturally socialises regardless of age, gender or disability purely over their enjoyment of being involved with horses (p. 73). Kendall et al. (2014) presented similar findings – that the general context in which EAI takes place is a highly positive and relaxing environment and that EAI activities are exciting and looked forward to by most participants.

As with literature relating to children with ASD, parent voice is again under-represented with regards to physical disability (Cavendish and Connor, 2018b, p. 33). Lemke et al. (2014) gathered data on the perceived impacts that EAI had on children with spinal muscular atrophy – a severe, degenerative and regressive neuromuscular disease caused by degeneration of the alpha motor neurons in the spinal cord, resulting in muscle weakness and paralysis (D'Amico et al., 2011, p. 71). Lemke et al's data/feedback was collected from the participants and their parents; their findings complemented Wanneberg's (2014) findings which focused on what individuals with physical disabilities felt like when taking part in EAI, in short they reported that they are not held back by the limitations of their bodies. Lemke (2014) quoted one participant who said, "when I got up on the horse I could do everything once I got up. I think it gave me independence" (p. 239). Others commented that physical skills they learnt during EAI were transferrable into daily life such as walking and the ability to lift objects (p. 240). One parent stated that her son did equestrian competitions, supporting the view that individuals with physical disabilities are helped to feel no different from others. Several parents stated how they noticed how much strength their children had gained since participating in EAI and how much better their balance was (p. 240), again, social and relationship aspects were frequently highlighted, with parents stating how their children would always talk about the horse they rode and the friends they met in the EAI setting (p. 241).

Rett Syndrome, is a condition mostly affecting girls, causing developmental regression and profound and multiple learning, physical and communication difficulties (Rett UK, 2016) ; an additional physical condition found in many girls with Rett Syndrome is scoliosis, or curvature of the spine, which usually progressively worsens and can become severe (Killian et al., 2017, p. 21–24), having significant impact on posture. The position assumed when riding a horse aligns the hips, shoulders and spine; to stay comfortably on the horse, this position must be maintained throughout.

This position and the movement of the horse, over time, works to strengthen the muscles and skeletal system (p. 503). Although this would not serve as a cure for scoliosis in Rett Syndrome, it helps to strengthen the spine and slow the deterioration of the condition, reducing its severity.

5 A Focus on EAI and Mental Health

Literature focusing upon the effects of EAI on individuals who have experienced mental health issues and/or trauma presents a positive picture relating to how spending time with horses can be beneficial to mental wellbeing due to their gentle natures. Yorke (2015) and Kinney et al. (2019) suggested, in their respective studies, that horses influenced increased trust and emotional healing in humans. Moreover, Yorke (2015) researching into the science of forming relationships, identified that EAI caused neurons in the brain to establish the pathways that supported emotional healing.

Depression and anxiety are two of the most common mental health disorders. Depression is characterised by feelings of low mood, guilt and fatigue, ranging from mild to severe (Sanchez Peralta, 2015, p. 34) and anxiety with recurring excessive and uncontrollable feelings of worry which are often accompanied by issues with sleeping, fatigue, memory, concentration and irritability (Stein, 2013, p. 175). Both can be triggered by stressful or traumatic events but the trigger may not always be obvious (Kinderman et al., 2015, p. 456). They are often, although not exclusively, co-morbid (Cimpean and Drake, 2011, p. 141) and allied to other physical and mental health conditions (Ahire et al., 2012, p. 177–178). One of the most common uses for EAI in terms of supporting people with depression, anxiety and mental health needs in general is in conjunction with, or as a part of, an Equine Assisted Psychotherapy programme (EAP). An EAP facilitator is a trained therapist and the horse is used as part of the practice (Johns et al., 2016, p. 199). The most important aspect to the EAP as identified by facilitators and participants is the horse's non-judgemental nature and how it simply responds to the person it sees, being able to make sense of human behaviours and respond accordingly (Wilson et al., 2017, p. 22–23). Wilson's study explored how EAP benefits individuals with depression and/or anxiety, highlighting that it is a more 'hands-on' approach because the participant is getting involved in an environment outside of the more traditional consulting room with the use of 'talking therapy' sessions (p. 25). Wilson specifically investigated the role of EAP from the perspective of the therapist, the findings indicated that progress was made within each individual session, providing benefits in a shorter time-frame than more traditional therapies (Wilson et al., 2017, p. 24). This 'hands-on' approach has also been shown to serve as a distraction from self-harm as Harrington (2015) anecdotally commented that a girl who frequently displayed self-harming behaviour was

directed to EAI in the form of grooming and trimming a horse's tail, although there was the risk that she may have used the scissors to cut herself, in this instance the use of scissors for a purposeful task relieved the urge to self-harm (p. 35a).

In their earlier study of EAP/EAI practices, Johns et al. (2016) presented identical results to Wilson et al. (2017), describing EAP as a more flexible approach to therapy without the confinements of an office (p. 200a), drawing similarities with previous studies of the effects of EAI on individuals with ASD. Johns's study also explored how participants inter-acted and engaged with their allocated horse, commenting on how the horses' personalities stood as a key factor in making them effective therapy animals by being non-judgemental and generally docile in nature but each with their own personalities and highly trusting nature (p. 201). Interestingly, Scopa et al. (2019) identified a level of commonality in the characteristics of Therapists and of horses used in EAI, when defining key Therapist attributes which included honesty, flexibility, respect, warmth, empathy and trustworthiness (p. 9); when compared with the characteristics of a horse, there is a significant similarity, perhaps this justifies why horses make ideal therapy animals?

'Project Stride' was a study carried out by Alfonso et al. (2015) which researched the impact of EAI on women aged 18–29 with anxiety. The project consisted of both riding and horse care activities and was carried out over six sessions:
(1) *'building trust in my horse and in me'*,
(2) *'effective communication under the saddle'*,
(3) *understanding my feelings and actions'*,
(4) *'becoming a team'*,
(5) *'sustaining the team'* and
(6) *'putting it together and making the learning last'.*

Participants were paired with the same horse throughout (p. 464). The project incorporated the application of cognitive/behavioural techniques to the activities in a way that enabled participants to focus their attention on the horse rather than on their own actions, building strong bonds with their horse and being able to transfer those learned skills into everyday life (p. 466). Interestingly, the EAI facilitators, although well-informed for the purposes of the project, had no formal training in mental health interventions (p. 466) but they delivered a programme which was effective and relevant for the participants. Similarly, Hauge et al. (2015) observed the effects of EAI on adolescents in regard to their self-esteem and social interactions, emphasising that the EAI was not carried out as a therapeutic intervention, but as a straightforward series of activities. Carrying out horse-related tasks was found to encourage the participants to interact with each other, particularly when faced with challenging tasks where they would need to ask for help (p. 343). This demonstrates

that the benefits of EAI do not necessarily have to be directly related to the horse as just being in that particular 'equine-related environment' carrying out a variety of tasks and challenges encourages the development of social interaction. Combined, 'Project Stride' and Hauge's research, suggest that EAI does not have to be solely for therapeutic purposes in order to have a positive effect upon participants as improved/increased social interaction and enjoyment seem to be natural outcomes.

Despite the findings of the studies being largely positive, concerns were raised about the safety of the participants around the horses, although there is very little in-depth research into this within the literature. These concerns stem from inexperience with horses and not being fully informed as to the benefits and risks of EAI (Leveille et al., 2017, p. 275). A facilitator also commented that in their role, they are always on high-alert as to how a horse may react to a client (Johns et al., 2016, p. 200b), however the decision as to whether a facilitator chooses to practice psychotherapy is ultimately their own choice, taking into account their levels of experience and the needs of the participant (Wilson et al., 2017, p. 24–25). Furthermore, it is important to note that horses used in EAI are specially-selected based on their nature, temperament and response to human beings (Hauge et al., 2015, p. 336) in order to minimise risk to both facilitators and participants.

6 A Focus on EAI and Emotional Trauma

Emotional trauma is defined as being *"an experience of unendurable emotional pain and… unbearability of emotional suffering"* (Stolorow, 2015, p. 124) caused by traumatic events including, but not exclusive to, physical, emotional and sexual abuse, neglect, chronic and serious illness and divorce (Souers and Hall, 2016, p. 15). Anyone can experience trauma at any point in their lives and it can affect them both long-term and short-term in different ways (Mueser and Cook, 2013, p. 63), for example, the 'fight, flight or freeze' response, flashbacks, panic attacks and long term, specific mental health issues such as post-traumatic stress disorder (PTSD), anxiety and depression (Mind, 2020).

Mueller and McCullough, (2017) trialled an EAP approach with a group of young people with PTSD caused by adverse childhood experiences. The results were compared with a second group undertaking cognitive behaviour therapy (CBT). Comparative findings presented an equal and significant reduction in the symptoms of PTSD across both groups and although noted that the majority of the participants of the EAP intervention formed immediate bonds with the horses, this made the EAP intervention more appealing to the younger people in the study. (p. 1168). Mueller and McCullough (2017) noted that all activities carried out during the EAP sessions involved a level of intimacy with the horse that traumatised children and young people would generally fear and attempt to avoid (p. 1169). The fact that most participants in the EAP

developed bonds, almost immediately, with the horses demonstrated that they were able to form attachments which had the potential to be transferred into everyday situations (p. 1169). This potential for transference was also identified by Smith-Osborne and Selby (2010) who stated that EAP provides an ideal safe environment for practising social and attachment-forming skills because humans will generally hide their emotions, thoughts and judgements whereas horses do not, being far easier and less emotionally complex to read (p. 299).

Yorke (2010) explored the effects of animals on individuals who have experienced trauma from a neurobiological perspective, identifying that EAI helps the brain to establish neuronal pathways which contribute to healthy attachment, emotional healing and positive, overall wellbeing through physical closeness/touching and mutual trust with the horse (p. 565), further stating that such an approach that its effects have been likened to those of antidepressants but without the negative side-effects (p. 566). These findings combined with Mueller and McCullough (2017) establishing that EAI is as effective as CBT, can imply that EAI may very well have the same level of positive impact as traditional interventions for trauma and mental health issues. This is a particularly useful idea in relation to children in the care system. Children in care have all had at least one traumatic experience in their lives in being separated from their families but many have had additional traumatic experiences such as bereavement or abuse which often lead to mental health issues (Bonfield and Guishard-Pine, 2017, p. 22). Children in care often experience prolonged distress because of difficulties in accessing mental health services and those who do gain access to services frequently find that they are not useful (p. 23). This links to Walker Buck et al.'s (2017) findings that this is largely because of the impact of trauma on cognitive processes and participants' perceptions of the environment being unsafe. Furthermore, Mueller and McCullough (2017) identify that EAI is equal in effectiveness with CBT, giving the potential for it to be used during the time the child has to wait to access mental health services and/or in conjunction with traditional therapies as it does not have the waiting lists that standard mental health interventions have.

An effective EAI approach is not only restricted to being used to support the needs of vulnerable children and young adults only as Kinney et al. (2019) conducted a literature-based investigation into the effects of EAI on Veterans with Armed Service-related health conditions, a significant aspect of this being trauma and PTSD-related which was present in every participant. The most highly-reported outcome was the benefits to the veterans' abilities to form new bonds and relationships both with the horses and with their fellow colleagues on the study who had a common experience, in the form of increased trust, patience and a newfound respect for others (p. 10). In the study, the Veterans developed a more positive view of themselves through improved self-confidence and, ultimately, self-acceptance (p. 10).

7   A Focus on EAI and Progressive Diseases in Older Adults

The term 'dementia' describes a group of progressive diseases of the brain which are characterised by cognitive impairment, aphasia (speech production difficulties), apraxia (motor planning and coordination) and executive dysfunction (emotions and behaviour), with symptoms ranging from mild to severe, dependent on the individual and stage of the disease (Camicioli, 2014, p. 1). The two most common types of dementia are Alzheimer's disease, a physical disease affecting the function of nerve cells within the brain, and vascular dementia, caused by a disease of the blood vessels within the brain, a stroke or a series of transient-ischaemic attacks (TIA), causing nerve cell death (Alzheimer's Society, 2018; National Health Service, 2022). Dementia usually presents at around the age of 65 years old and although no single cause or causes have been identified, associations with family history, head injury, obesity, diabetes and mental illness have been observed (Holmes and Amin, 2017, p. 688).

Dabelko-Shoeny et al. (2014) explored how EAI might reduce challenging behaviours in individuals with dementia. These behaviours might include verbal abuse (such as shouting and/or swearing), physical abuse (hitting, biting, scratching etc.), hallucinations, agitation and upset, and wandering (Nazarko, 2011, p. 268). EAI provided a wholly multi-sensory experience for the participants – the horses may initiate the interaction and through their bodies provide touch, sound, smell, postural stimulation and participants also commented on how they enjoyed being in the countryside as it was a relaxing environment (Dabelko-Shoeny et al., 2014, p. 151). A further finding from this study was the role of EAI as a motivator for physical activity. All participants had some form of physical limitation such as getting up and standing unassisted, however when the horse was brought out, participants would attempt to get up or ask for help to do so and readily offer to walk the horses, things which care staff had never or rarely seen them do (p. 152). As Mueller and McCullough (2017, p. 1168) identified in relation to trauma, EAI/EAP is far more appealing to individuals than traditional forms of therapy, thus, it would not be unreasonable to translate this into the context of individuals with dementia and, along with Dabelko-Shoeny et al.'s (2014) findings, to conclude that EAI is motivational for individuals with dementia, thus enhancing mental, physical and emotional wellbeing; however, this study does have limitations as if participants started to show signs of distress or anxiety, they would be taken away from the horse (p. 146–147), creating difficulties in observing the effects of continuing with the activity and how it affected the challenging behaviour exhibited in that instance. In addition, the findings generated by this study as to whether EAI is effective in reducing challenging behaviours, could only be applied to the local context/environment and were not able to be generalised.

Ho (2017) investigated how voluntary work impacted upon psychological wellbeing of elderly individuals, finding that those who carried out voluntary work had

better psychological wellbeing than those who did not (p. 1037). Although this does not relate to EAI, when critiqued alongside the EAI literature, it could be interpreted that engaging in EAI activities gives the individual the same sense-of-worth and purpose that volunteering would. This effect was noted by Fields et al. (2018) who investigated how EAI can be used to improve individuals' overall quality of life in their final years/later stages of their condition/disease. As prevalent in all contexts of EAI, the social factors have been consistently heavily influenced as horses were seen to act as mediators for positive interactions, inducing increased/improved communication and engagement between the participant and the horse and the participant and the facilitator and/or staff member (p. 314). Participants expressed interest, pleasure and would willingly participate in horse-care activities (p. 313–314). Verbal feedback attained from an EAI known as the Connected Horse Project included carers commenting that *the interaction with the horse brought her back to a better time in her life* and *the person with the diagnosis got to leave that role for a little bit* (Meis, 2016, p. 15).

Parkinson's is a progressive neurodegenerative condition with cognitive symptoms not dissimilar to those of dementia but predominantly including physical and neurological symptoms such as tremors, impairment of the posture and gait and muscle weakness and stiffness (Kalia and Lang, 2015, p. 896). According to the charity Parkinson's UK (2020), the condition occurs when brain cells responsible for the production of dopamine, a chemical neurotransmitter responsible for transmitting signals between the nerve cells of the brain, makes insufficient amounts of dopamine to control body movement. Peppe et al. (2018) developed and trialled a five-week EAI programme for individuals with Parkinson's, observing the effects that it had on the physical symptoms and emotional well-being of four participants. As well as horse care and riding, in contrast with the other studies, this EAI involved additional physical exercises whilst on horseback including rotating the body, bending and stretching the arms and twisting and bending the trunk (p. 94). These exercises were designed to specifically target the physical symptoms of Parkinson's, and were aiming to improve coordination, balance, gross motor function and posture, both whilst on the horse and in the wider, practical context of daily life. In contrast, the investigation carried out by Kraft et al. (2019) comparing the effects of EAI to those of a standard form of physical therapy, reporting a year later, identified that whilst both interventions did show positive results, the physical therapy proved to be more effective as it was targeted on the development of a specific motor skill (p. 19) rather than movement generally. This suggests that whilst a targeted approach to developing physical functioning appears to be more effective overall, this can still be carried out through the means of EAI which has additional benefits, particularly relating to enhancing positive mental health and social functioning. Results of the physical

aspect of the EAI investigated by Kraft et al demonstrated immediate improvements on the physical functioning of the participants (p. 94).

As identified previously, EAI has shown the physical benefits for individuals with dementia and Parkinson's but it can also have positive physical effects on older adults in a wider context. Hallberg (2018) commented that some of the physical benefits to the elderly might include improving balance and muscle strength as well as minimising the risk of falls and aiding the recovery from falls (p. 101). de Araujo et al. (2013) explored how EAI promoted strength, balance and mobility in older people aged between 60 and 84 who were all in good health through their study which involved each participant taking part in sixteen sessions of EAI set within a programme of progressive riding activities over an eight-week period. In a similar approach to Peppe et al.'s (2018) research study into EAI for individuals with Parkinson's, additional exercises were undertaken on horseback but at a higher intensity as participants of de Araujo's study had a higher level of physical ability. de Araujo et al.'s (2013) results and findings confirmed that physical exercise is paramount to maintaining good physical health and that EAI has a strong potential for supporting this as it is shown to strengthen lower limb muscles and promote good posture. Likewise, Kim and Lee (2015) carried out a study into how Horse Simulation exercises could be an effective form of physical exercise in preventing falls in older adults in good health. Geng and Wu (2015, p. 1) explained that Horse Simulation involves a mechanical horse which is engineered from meticulous observations of horse movements and behaviours, serving as a very close substitute which copies and repeats the movements of a real horse. Kim and Lee's study compared the results of this 'simulated' EAI with the results of a conventional therapy programme, and identified that the simulated/mechanical EAI had shown that the participants demonstrated a significant improvement in their limits of stability (p. 63). However, the benefits already noted of working with real horses in an outdoor environment were, naturally, missing.

Another angle researched in relation to the effects of EAI on older adults is within the area of pain relief, specifically for those with arthritis – an inflammatory disease of the joints and bones, causing pain, stiffness and swelling (Bescoby, 2010, p. 39). White-Lewis et al (2019) reported that an EAI intervention for individuals with arthritis took place over six sessions and comprised solely of riding, with the hypothesis that it would reduce pain and improve the range of movement in their joints. This EAI was found to gradually decrease pain and improve the range of movement most notably in the back and hips after all the EAI sessions had been completed (p. 7). The improvement in movement and the reduction in pain being attributed to the rhythm of the horse's movement, allowing the rider's hips to naturally relax (p. 10); unfortunately it was also found to make knee pain worsen, likely due to pressure from the seating on a horse which requires a rider's heels to be pushed downwards in the stirrups, this particular position needing pressure from the legs to adopt correctly,

causing stress to the knees (p. 9). A conclusion of this rests in an individual's unique situation as to how their condition affects them and their preferences for pain relief – for those whose hips are affected, and EAI is more likely to help, however for those whose knees are affected, it is likely to be more of a hindrance. As the study was only carried out over a short-term period with a small participant group, only tentative results were generated, at best and so no generalisable conclusions or critical commentary can be made.

8 Conclusion: The Case for Developing the Use of EAI as a Therapeutic Approach

EAI has been identified as a positive/successful approach for supporting the development of social skills for vulnerable children, young adults and older adults. Yorke, (2010), Lanning et al. (2014), Wanneberg, (2014), Alfonso et al., (2015) and Tan and Simmonds, (2018), commented that EAI had a higher improvement rate than non-EAI applications through building relationships with horses and the other participants engaged in the equine-related activities undertaken, leading to friendship-forming and enhanced social skills. Smith-Osborne and Selby, 2010), presented a scientific perspective, and stated that EAI was found to help the brain establish neuronal pathways, contributing to forming healthy attachments demonstrating why it is effective in helping to build bonds and relationships. Wanneberg, (2014) and Hauge et al. (2015) explored how EAI enabled participants to re-shape their identities by helping them to think and function beyond their disabilities, not being limited to what their bodies can do, thus building self-esteem. While Johns et al., (2016) and Wilson et al., (2017) saw EAIs as a 'hand-on' approach, preferable to talking therapies, particularly for vulnerable children and young people, as it provided a less pressured environment. For individuals with ASD, Llambias et al. (2016) identified that EAI fulfils sensory needs, vestibular-proprioceptive through the movements of the horse and the calming effects with a lack of physical restrictions created by the environment reducing stress and anxiety. Bescoby, (2010), Araujo et al., (2013), Park et al., (2013), Lemke, (2014), Dabelko-Shoeny et al., (2014), Meis, (2016), Peppe et al., (2018) and Kraft et al., (2019), commented on EAI's use in improving overall physical functioning, strength, mobility and relieving pain resulting in increased ability to carry out tasks, acting as a motivator for physical activity and an improved quality of life.

Expanding the use of EAI to support a wider range of needs seems to be a beneficial course of action due to its versatility as an intervention which can be deployed to support a range of social, emotional and physical needs (Dabelko-Shoeny et al., 2014; Wanneberg, 2014), Furthermore, the source material and literature explored in this paper have repeatedly mentioned how effective EAI is on enhancing/improving participant well-being and overall quality-of-life (Meis, 2016; Fields, et al., 2018;

Peppe et al., 2018), thus noting its real potential as a credible pastoral intervention. Where some studies (Yorke, 2010; Park et al., 2013; Wilson et al., 2017) have found standard therapies to be more effective than EAI or equal in effectiveness, there is the potential for both to be used in conjunction – the standard therapeutic approach being better to focus on specific/targeted areas and the EAI approach focusing on multiple areas of functioning (Kraft et al., 2019).

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(reviewed twice)

University of Northampton, Waterside Campus
University Drive, Northampton. NN1 5PH
United Kingdom
Andrew.smith@northampton.ac.uk
+44 1604 892082
01604 892082

Comparison of the pragmatic level of communication in children with autism spectrum disorder using pictorial and drawn material

(overview essay)

Lucie Vrbová

Abstract:The paper provides an insight into the possibilities of using different types of visual material, intended for practical use in the evaluation or development of social communication skills. The aim of the paper is to assess the optimal type of task and the way of its administration in terms of effectiveness in students with ASD. The theoretical part of the paper contains both the definition of autism spectrum disorders and the pragmatic language level, as well as a thorough insight into Skinner's analysis of verbal operants, especially intraverbal and receptive skills, mastering which is necessary for functional application of learned skills in everyday social communication situations. Three types of pictorial and cartoon materials are used in the research survey. The first is a pair of images designed to distinguish socially acceptable behaviors. The second contains situational pictures, where the student distinguishes the main character's likes or dislikes according to the context of the situation. The third material is modified by the principles of structured learning, in which the respondent assigns to the pictures a suitable statement from the menu. The aim of the research part of the paper is to evaluate the results of individuals in partial tests, especially if they achieve significantly more acceptable results in tests for identification, assignment or spontaneous creation.

Keywords: autistic spectrum disorders, intraverbal skills, pragmatic language level, pictures with social context

1 Introduction

According to Bělohlávková (2013), we learn adequate communication and social skills inadvertently and naturally in the context of interaction with other people throughout our lives. Deficits in the field of communication and social interaction form, among other things, the core of autism spectrum disorders. The ICD-10 dis-

tinguishes between communication and social skills within the diagnostic criteria, but they are already grouped into one category within the DSM-V, as deficits in these areas are a manifestation of the same basic problem. As part of intervention strategies focusing on the development of skills of individuals with ASD, applied behavioral analysis (ABA) is currently gaining prominence, the effectiveness of which has been proven and supported by numerous researches. During therapy, the ABA uses various forms and techniques in order to modify behavior, improve social communication skills, develop leisure and gaming activities, self-service skills, but also the ability to perform work tasks.

Cottini and Vivanti (2017) include social stories and cartoon dialogues among the didactic strategies using pictorial material which is particularly interesting for children. Social stories are short written stories often supplemented with pictures or visual diagrams describing a particular person, situation, ability, or event. Specific sentences, most often written in the first person, contain instructions for an adequate response, describing the thoughts and feelings of other people in a given situation. Social stories aim to teach individuals to regulate their own behavior during an interactive situation. Part of the story is a description of the acquired behavior, the appropriate situation for the use of this behavior, the possible consequences of the behavior, including the feelings and reactions of other individuals. Stories are effective precisely because individuals with PAS often cling to routine. We can thus create a routine or rule using a proposed story, which the individual can then transfer to a real situation, (Šporclová, 2018). Cartoon dialogues use pictures, symbols and colours to illustrate abstract concepts and ideas during conversations. Cartoon dialogues should be used in situations where the situation is difficult for the child, or to clarify a new situation or to clarify the behavior of other people. Schematic pictures are created by the teachers during their interpretation. It helps students who do not understand the rapid exchange of information during a normal conversation. Everything is done in slow motion and the students can more easily focus their attention on essential information. Cottini, Vivanti (2017)

1.1 Autistic Spectrum Disorders

Based on the terminological changes set out in the Diagnostic Static Manual (DSM – V), Volkmar, Wiesner (2017) abandons the umbrella term pervasive developmental disorder, which is replaced by autism spectrum disorder. Autism spectrum disorders are the most serious disorders of children's mental development. "This category includes severe developmental disorders that originate in early childhood and are characterized by a quantitative disorder of social interaction, communication, and a tendency to stereotypical and ritualistic behavior. It is therefore a pervasive developmental disorder, where the term pervasive can be interpreted as permeating into all sides of the

personality and foreshadows the fact that the child's development is deficient, profoundly in many ways." (Říhová, Vitásková, 2012, p. 7). It is a very complex disability that negatively interferes in the earliest childhood with the development of the child's communication, who is later unable to form interpersonal relationships within the norm. (Mühlpachr, 2004)

The International Classification of Diseases (ICD-10) published by the World Health Organization and the Diagnostic-Static Manual (DSM-V) issued by the American Psychiatric Association are the main diagnostic systems for classifying autism spectrum disorders that corresponded significantly until 2013. The current fifth revision of the DSM brings a number of changes related to autism spectrum disorders, not only in the terminological field, but also within the division of partial disorders. The manual reconsiders the hitherto stable view of the area of the diagnostic triad, defining the deficits typical for the determination of PAS. The concept of the diagnostic triad is still being worked on by the 10th revision of the ICD; in foreign literature (Volkmar, Wiesner 2017, Cottini, Vivanti 2017) we already find a redefinition of the "symptomatic dyad", which is based on deficits in the areas of imagination and social communication. The concept of autistic dyad links social and communication deficits into one category, because the shortcomings in these two areas do not reflect two different deficits, but only one. In the area of social communication, we include both deficits related to verbal and nonverbal communication, and shortcomings in the social area including a limited ability to initiate social interaction and the ability to respond to the initiative of the other person. Deficits in the field of imagination manifest themselves as a limited repertoire of activities and interests and stereotypical, repetitive behavior, (Cottini, Vivanti 2017). However, according to Bogdashina (2003, p. 13), these manifestations "are only a complex of functional compensatory reactions conditioned by a certain basic disability and cannot be considered as primary features". The Diagnostic – Static Manual creates a new diagnostic category, social communication disorder, which identifies individuals with deficits in the field of social communication, but without the fulfilled criterion of stereotypical and rigid behavior, when this person does not have narrowly defined interests and sensory specifics. (Volkmar, Wiesner 2017, Thor 2016)

1.1.1 Social skill training

Čadilová, Žampachová (2020) indicate social skills as a wide range of skills that we apply in interpersonal relationships, thanks to which we can naturally express our needs, verbalize our intentions, feelings and take into account the needs of others. Social competencies are always impaired in pupils with ASD, even in individuals with high cognitive functionality, so it is necessary to pay increased attention to the development of these skills. Learning with social skills takes place throughout life within the framework of social learning, during which complex ways of acting and

behavior appropriate to the social situation are acquired. Behavior patterns applied during social situations are not innate, but later mastered, thus there is space opening up for us to compensate for deficits in this area.

According to Vosmik and Bělohlávková (2010), social skills include the ability to correctly perceive, understand, respond and communicate. These components are defined by Patrick (2011, pp. 37–38) as social input, internal processing and social output. "Social input refers to the way we perceive speech and voice modulation, body language, eye contact, attitudes, gestures and other cultural expressions that accompany the addressed social message. Internal processing concerns our own interpretation of the transmitted message in order to know and manage our own emotions and reactions. The social output concerns our response to the message we receive, which we express in our own words, voice colour, body language, eye contact, attitudes, gestures and cultural behavior."

Social skills training can be carried out individually, in groups or during normal real-life situations, with the provision of an appropriate level of support. The examiner presents and clarifies social issues, focuses on the individual problems of the individual, together they deal with situations and conflicts. We use visual materials to convey social skills – pictorial diagrams, written procedures, teaching aids focused on social situations. For group teaching, it is appropriate to use games, dramatization leading to an understanding of the specifics of behavior and training in adequate responses. Frequent repetition and creation of suitable situations leading to the necessary use of the acquired skill leads to the generalization of the learned skill (Čadilová, Žampachová, 2020).

The ABA offers a number of methods and strategies that can be used in learning of social skills. For example, it can be a task analysis in which a complex skill is divided into individual steps, or various types of prompts, positive feedback, etc. The complex method includes the so-called behavioral skills training, which consists of 4 components: instructions (explanation of the learning goal and giving instruction), modeling (examiner demonstrates skill), training (student demonstrates skill), feedback (examiner will provide immediate feedback to student). The process of modeling and practising a given skill takes place until the student automates the skill and demonstrates it flawlessly (Fisher, Piazza, Roane, 2011, Hassan et al. 2018).

1.2 Pragmatic language level

The pragmatic level of language, or the level of social application of communication, represents the use of speech in practice, in a social context. According to Lechta (1990), we cannot look at the pragmatic language level as a compendium of individual language standards, but as a complex communication skills of an individual applied in social interactions. According to Vitásková, Kytnarová (2016), the pragmatics of communication form a strong position among other levels, which is due to the in-

creasing pressure on social competences and conversational skills of the individual in the educational and professional environment.

Bednářová, Šmardová (2011) state that the pragmatic level of speech includes the so-called regulatory function of speech, which is achieving goals using speech and directing social interaction. The use of communication in social interaction requires a continuous analysis of the relationships between communication partners in a specific context, as well as the ability to understand the intentions of the conversers. (Thorová, 2012) The American Association ASHA (Social Language Use, Pragmatics) identifies the use of language for various purposes as three essential skills at the pragmatic language level, ie the individual's ability to greet, make requests, promises, modify speech according to the listener's situation or needs and knowledge of certain rules for conversation and storytelling.

According to Thorová (2012), the following skills are needed to apply the pragmatic level of language:
- Knowing that it is necessary to answer when a question is asked
- Participate actively in the conversation and keep in mind whose turn it is during the conversation
- Keep in mind the fact that the individual must represent his message in a form that is understandable and interesting for the listeners
- Ability to keep a conversational topic
- Fulfil one's own intention of communication so that the individual influences and convinces the listeners with their speech
- Choose the right words and conversational style appropriately
- Know appropriate behavior when communicating with different communication partners

1.3 Verbal behavior

One approach to applied behavioral analysis, which Cottgini and Vivanti (2017, p. 80) describe as "systematic and long-term teaching in small measurable units; tasks, individualized on the basis of the dynamic functional profile of the child, are divided into short sections, each unit is taught in repeated and short periods, initially in an individualized relationship of two people", is verbal behavior based on the theoretical work of B.F. Skinner Verbal Behavior (1957). Skinner considers language to be a verbal behavior, where the skill of understanding and speaking can be acquired by an individual through learning and empowerment, (Cooper, 2014). Esch, Esch (2010, p. 190) define the analysis of verbal behavior: "Skinner's analysis of verbal behavior is not an instructional strategy or learning method – it is an analysis. It analyzes the contexts of the environment in which certain verbal reactions occur."

Verbal behavior deals with the analysis of human communication, which he views as a type of behavior that can be taught like any other behavior. In the approach of verbal behavior, the emphasis is on the function of the word, not its form. One word that sounds the same can have several different functions depending on the context in which it is used (Skinner, 1957). Verbal behavior is strengthened both in interaction with other people and in the form of so-called automatic reinforcement, where the individual tries to produce sounds from their surroundings (Barbera, 2007). According to Skinner (1957), the complete language repertoire consists of several different types of speaker and listener behavior.

Verbal behavior involves social interaction, where the speaker gains access to empowerment and control over the environment through the behavior of his listener. At the heart of Skinner's functional analysis of verbal behavior is the difference between manda, tact, and intraverbal response, which, according to Cooper (2014), can be considered as elementary verbal operants. These are the types of verbal behavior traditionally included in the expressive component of speech. Skinner (1957) categorizes verbal behavior into two areas, which are formed by primary and secondary operants. The classification of Barber and Rasmussen (2018) corresponds to the division of communication as such, because it divides verbal operants into nonverbal and verbal operants. The basic unit of communication is made up of primary verbal operants – mand (requirement), tact (designation), intraverbal (reaction to what others say), echoic (verbal repetition). Among nonverbal operants, the authors of imitation skills – mimetic, visually perceptual skills. According to Skiner (1957), secondary verbal operants modify speech.

Example:
The word CAT has 4 basic functions within the expressive component of speech:
1. An individual says "cat" when he wants to get a cat (request, so-called mand).
2. The individual says "cat" when he sees the car (description, so-called tact).
3. The individual repeats the word "cat" after the examiner says the word "cat" (echoic reaction).
4. The examiner asks, "What pet has four legs, a tail, body hair and hunts mice?
The individual answers: "Cat." (Ability to answer questions without visual support, so-called intraverbal).

Intraverbal skills can be considered (Barbera, Rausmusssen, 2018) as the basis of conversation. Functional dialogue often consists of a combination of three verbal opponents – tact, mand, intraverbal. More complex comments or tacts can be considered a mand used to start a conversation and seek attention. The core of the conversation is mostly a mand, whose goal is to get information. The conclusion is made up of intraverbal reactions – answers to questions. Carbone (2016) states that in a situation

where an individual has a limited repertoire of intraverbals, it is necessary to provide a sufficient number of visual stimuli during the teaching and to modify the teaching according to the pupil's skills. It is appropriate to use the individual's repertoire of descriptive vocabulary (tacts), receptive component of speech (listener's reaction), echoic reaction, visual perception or motoric imitation.

Example:
(Barbera, Rausmusssen, 2018):
Person # 1:   "I haven't seen you here yet." – tact/mand for information
                "Are you new here?" – information mand
Person No. 2: "Yes, I moved from Olomouc last week." – intraverbal reactions
Person No. 1: "Aha, from which part of Olomouc?" – mand for information
Person No.2: "From Slavonín."
Person No. 1: "It's very nice in Slavonín." – intraverbal reactions, mand for attention

Communication is an integral part of the whole educational process. Deficits in communication can then cause barriers to the acquisition of new skills in pupils with ASD (Sundberg, 2008). If we look at speech from the point of view of verbal behavior analysis, we will see connections that will help us identify deficits in communication. Based on this finding, we can then design appropriate learning methods and goals (Carbone 2016).

2   Methodology

Although the diagnosis of autism spectrum disorders in the Czech Republic is the exclusive competence of clinical experts who determine this on the basis of behavioral manifestations, it is essential that experts from other disciplines are competent to identify major deficits in the individual. Most of the standardized test material, which is significantly limited, is targeted at the individual's overall profile, but the detection of partial deficits by individual experts is in the interest of influencing the individual's further development. Thus, experts often have to modify the available test material to work with individuals with ASD, and there is a difficulty in evaluating the results obtained in this way, because there is a complete lack of normative data.

The research part of the survey is qualitatively focused, as the data collection took place in the form of individual interaction with deliberately selected respondents. The main research goal is to examine skills in the field of pragmatic language using pictorial and drawn material. The analysis of the problem will be based on the use of the material Evaluation of the level of the pragmatic language level in people with ASD (Vitásková, Kytnarová 2016), Picture cards by A. Gully – Emotions, Joy, Sadness or Anger and modified social stories (Cottini, Vivanti, 2017).

2.1 Research objectives

The main goal of the research survey was to create material for the research survey in the form of modification of available didactic material intended for work with pupils with ASD – choice of picture cards, creation of a drawn social scenario.

Sub-objective No. 1 was to find out whether there is a difference in the evaluation of skills results by identifying, assigning or commenting on pupils with autism spectrum disorder.

Sub-objective No. 2 was to find out whether there is a connection between the age of the respondents and the results achieved in the individual tasks.

Partial goal No. 3 was to find out whether the type of school is reflected in the level of social and communication skills of an individual with ASD.

Based on the setting of sub-objectives, the following hypotheses were formulated:
H1: In individuals with ASD, there is a difference in social communication skills assessed through identification, assignment or commentary.
H2: The age of the respondents is reflected in the level of acquired skills.
H3: There is a difference between the skills of respondents educated in mainstream schools and schools established according to §16 par. 9 of the School Act.

2.2 Description of the research set and methods

The research sample consisted of boys and girls with autism spectrum disorder aged 8–14 years, ie pupils fulfilling compulsory school attendance both in mainstream schools and in schools established in accordance with Section 16, Paragraph 9 of the School Act. The intellectual preconditions of the majority of respondents (7 out of 8) fall into the zone of mild mental disabilities. Respondents' legal representatives were contacted through personal contact or electronic communication. After being informed of the objectives and testing procedure, the legal representatives gave their consent to the involvement of their children in the investigation. Subsequently, three diagnostic materials were administered in direct interaction with the examiner. The testing itself was preceded by a short anamnestic interview. The survey itself took place in January 2022. Respondents in this research survey are divided into three categories – according to gender, age and type of school where they attend compulsory school. For the purposes of this research, each pupil was identified by an abbreviation consisting of a gender designation and a number. A total of 8 people were examined, of which only two subtests were administered to one pupil, because the respondent

did not yet have a functionally acquired reading skills. The distribution of the research sample based on the above groups is represented by Tables 1, 2, 3.

Table 1: *Distribution of the research sample – gender*

Gender	Number	Percentage (%)
Boy	6	75 %
Girl	2	25 %
Sum	8	100

Table 2: *Distribution of the research sample – age*

Age	Number	Percentage (%)
8–10	2 (B1, B2)	25%
10–12	2 (B4, B3)	25%
12–14	4 (G1, G2, B5, B6)	50%
Sum	8	100

Table 3: *Distribution of the research sample – school*

School	Number	Percentage (%)
Mainstream school	3 (CH1, CH2, CH4)	37,5%
School §16 par. 9 SA	5 (CH3, D1, D2, CH5, CH6)	62,5%
Sum	8	100

The analysis of pragmatics skills in pupils with autism spectrum disorder was performed using three non-standardized pictorial and drawn materials, some of which were modified on the basis of the principles of structured learning.

K. Vitásková and L. Kytnarová (2017) are the authors of the material Evaluation of the Pragmatic Language Level in People with ASD. Diagnostic material, created primarily for the needs of speech therapists, evaluates the pragmatic communication behavior of individuals with ASD. Partial illustrations are associated with a pragmatically communication-oriented event. The pairs of images are intentionally black and white so as not to evoke negative feelings. The pair of pictures evaluate visual contact, greeting, farewell, request, proxemics during communication, expression of displeasure, waiting during communication, alternation during conversation, behavior in the store and reaction to loss. The aim of the respondents, after submitting a pair of pictures by the examiner, was to select one on which the correct variant of the communication situation is depicted and to justify their choice of the picture.

The social stories created for the purposes of this survey are based on the didactic material of the publication Autsimus (Cottini, Vivanti 2017). The material consists

of three pairs of pictures, always with a similar social context. The pictures are very reminiscent of comics. The aim of the respondents was to correctly add an adequate comment from the offer of verbal comments, which would correspond to the social situation. The choice of picture pairs was intentional, just to focus on a similar area of social skills – greeting, peer interaction, adult interaction – request for a thing. Due to the typical deficits in individuals with ASD, this material was modified on the basis of the method of structured learning, where the respondents chose the correct text from the menu for the pictures.
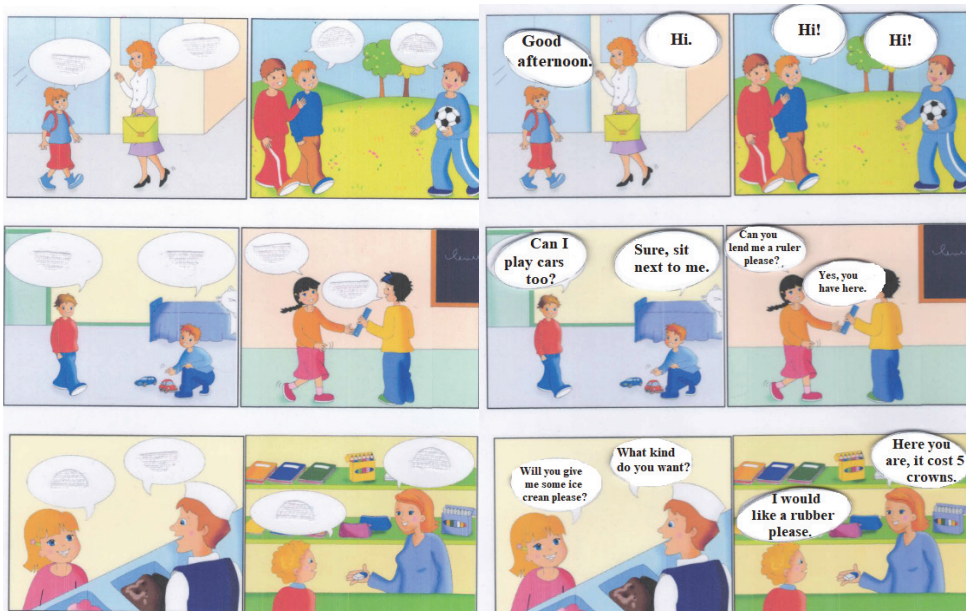
Picture 1: *Picture material – social stories*

The image material for the assignment consists of the image cards Emotions and Joy, Sadness or Anger, published by Pasparta, by Angela Gully. Illustrations of social situations are colourful, but the coloured border of the cards, evoking emotions has been removed. The aim of the respondents was to distinguish the emotions depicted in the 9 illustrations only within the bipolar evaluation – pleasing/displeasing, pleasant/unpleasant. Most respondents also marked their answer graphically in the corner of the card – a red circle indicates unpleasant emotions, a green circle indicates pleasant emotions. One respondent stuck a smiley and frowning emoticon sticker in the corner. The file consists of 5 pleasing pictures and 4 displeasing.

Picture 2: *Picture material for assigning positive/negative emotions*

3 Results and discussion

The evaluation of the results of individuals in partial tests is given in Table 4. The order of respondents in the table is chosen in ascending order according to age from the youngest to the oldest. Due to the fact that individuals in the individual tests were able to obtain a different number of points, the graph includes a percentage representation of the results, which is necessary to compare the success of individuals in the sub-tests, see. Graph 2.

Table 4: *Evaluation of results in partial tests*

Respondents	Identification Evaluation pragm.		Spontaneous creation Social scenario		Matching Pictures – emotions		Celkový výsledek	Final result
B1	7/10	70%	6/12	50%	8/9	88,8%	21/31	67,7%
B2	5/10	50%	–	–	9/9	100%	14/19	73,6%
B3	10/10	100%	8/12	66,6%	9/9	100%	27/31	87,1%
B4	8/10	80%	6/12	50%	9/9	100%	23/31	74,1%
G1	9/10	90%	10/12	83,3%	9/9	100%	28/31	90,3%
G2	10/10	100%	12/12	100%	9/9	100%	31/31	100%
B5	10/10	100%	10/12	83,3%	9/9	100%	29/31	93,5%
B6	10/10	100%	10/12	83,3%	5/9	55,5%	25/31	80,6%

Overall success	89/100	89%	62/84	73%	49/54	90,74%

Within the research, respondents were able to obtain a total of 31 points: evaluation of the pragmatic language level of speech – 10 points, social scenarios 12 points, emotional images 9 points. Each sub-item was evaluated by one point. From the above graphical representation of the results, it is clear that the best results were obtained by individuals with autism spectrum disorder in a task focused on matching, which was evaluated using emotional images. The error rate for this subtest was only 9.26%. When evaluating the pragmatic language level, the overall error rate of all respondents was 11%. The highest error rate of 27% results from the evaluation of respondents' results focused on social scenarios. The average success of respondents in all subtests ranges from ≈ 90.74% (pictures – emotions) to the level of 73% (social scenarios).

Graph 1: *Number of correct answers of individual items of partial tests*
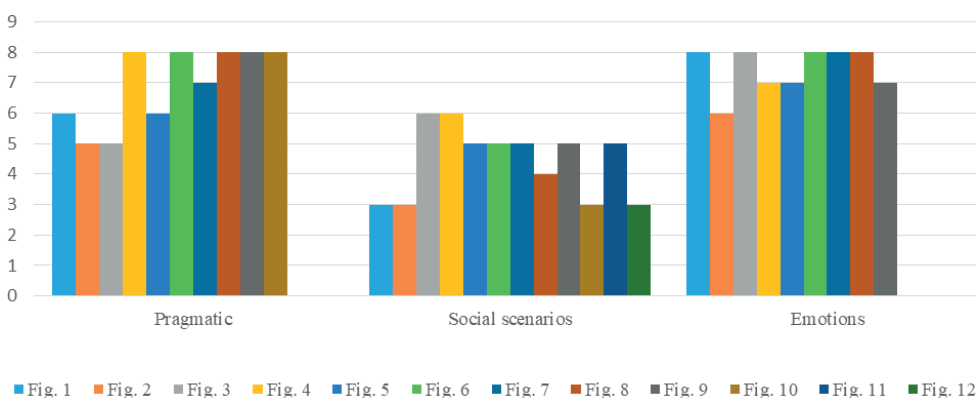
If we monitor the number of correctly answered items in Graph 1, we can find a relatively low discrepancy in the Images-Emotions subtest, where we find the highest error rate in Figure No. 2 farewell on departure. We find more significant differences in the test aimed at identifying communication situations, where for half of the items all respondents marked the correct picture. The items with the highest error rate in this test are items No. 2 and No. 3, which evaluate visual contact during greetings and farewells. The uneven distribution of the correctness of the answers is evident in the social scenarios, where we find the same error rate for four items, which reaches 50%. On the contrary, all respondents correctly completed the children's response to the greeting.

According to Skiner's analysis of verbal behavior, we cannot clearly determine which of these subtests evaluates individual verbal operands. Skills in the field of pragmatics are such complex skills that in order to identify partial verbal operands, it would be necessary to perform a detailed analysis of verbal behavior, which is not the purpose of the research. In general, however, the situation can be seen as that if the respondent's goal is only to respond to the examiner's verbal instruction (eg show which picture is correct) without adding a verbal speech to his/her answer, this is receptive identification. In contrast, a situation where the respondent responds to the instruction verbally (eg this situation is nice/unpleasant for the person and the proband answers nice), we can call the skill as intraverbal. Only one communication act is composed of several verbal operands, it always depends on its purposes and the way the communication partners react.

Graph 2: *Percentage representation of respondents' success in partial exams*

Social scenario Evaluation pragm. Pictures - emotions
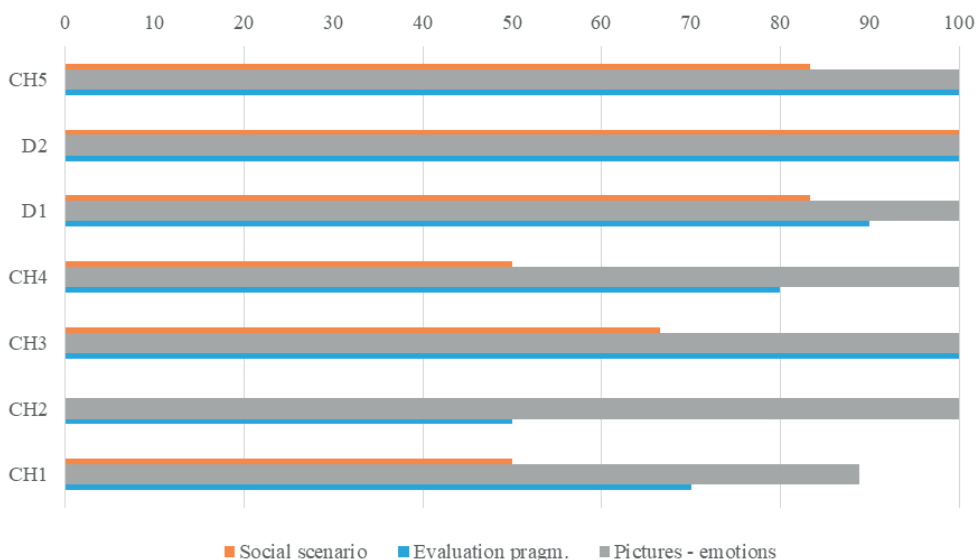
7 individuals with intellectual preconditions in the zone of mild mental disabilities were involved in the research survey, only one respondent (B1) did not have an associated intellectual disorder. One respondent was able to meet only two subtests within his abilities and skills – evaluation of pragmatics and matching of images of emotions. Only one respondent won 100% in all exams. 75% of respondents achieved 100% success in at least one administered subtest. By far the highest error rate was captured by the youngest respondent included in the research survey.

In finding the answer to the research question "There is a difference in individuals with ASD in the field of social communication skills assessed through identification, matching or commentary." We compared the overall success of respondents in all three areas, for better clarity, the data obtained are shown in Table 4. It is clear from this that the respondents achieved different results in the individual tests. The research assumption that there is a difference in socio-communication skills assessed through identification, assignment or commentary has been confirmed.

Another research question was: "Is the age of the respondents reflected in the level of acquired skills?" To clarify this question, it was effective for better orientation to rank the respondents by age and evaluate their results and transfer this data to a comprehensive graph. By comparing the data from the graph of the percentage of success in the partial exams, Graph 2, we could notice that the success rate for respondents from the lowest age category is declining. In contrast, success rates increase with the age of the respondents. The research hypothesis that the age of the respondents is reflected in the level of acquired skills was accepted.

The third research assumption was that there is a difference between the skills of respondents educated in mainstream schools and schools established under § 16 par. 9 of the School Act. We cannot clearly confirm or refute this hypothesis, because for its assessment it would be necessary to assess the same number of respondents of the same age educated both in mainstream schools and in schools established according to §16 par. 9, SA. Within this research, the ratio of respondents was 3: 5 in favour of schools established in accordance with §16 par. 9, SA, while two respondents educated in mainstream schools were included in the lowest age category. From the evaluation of the results demonstrated in Graph 2, it is clear that individuals educated in schools established according to §16 par. 9, SA, achieve a higher score in individual exams, but we must also take into account another variable, which is the age of the respondents. To evaluate this hypothesis, it will be necessary to carry out further research.

4 Conclusion

Part of the grant-specific research entitled Research of specific determinants and mechanisms of verbal and nonverbal communication disorders, voice, cognition and orofa-

cial processes from speech and special pedagogical point of view (IGA_PdF_2021_030) was a paper entitled Comparison of the pragmatic communication plane in children with Autism Spectrum using pictorial and drawn material.

The content of the paper was first a theoretical introduction to the issue of autism spectrum disorders and a closer look at social skills training, as well as to the area of verbal behavior and pragmatic language levels of speech. Deficits resulting from the pragmatic language level of speech in individuals with ASD can be predicted with respect to the diagnostic criteria set by the Diagnostic-Static Manual (DSM-V) of the American Psychiatric Association, which views communication and social skills as intertwined.

The research was carried out using three types of pictorial and drawn material. At present, we in the Czech Republic are not offered any standardized test material to evaluate the pragmatic language level in pupils with ASD. During the research survey focused on the evaluation of social and communication skills of individuals with autism spectrum disorder, further stimuli and questions arose for a new research survey. Above all, it will be necessary to establish cooperation with a behavioral analyst in order to analyze the behavior of respondents in the administration of pictorial and drawn material, as well as to obtain a higher number of respondents. The main benefit of the survey lies primarily in the comparison of available educational materials and their subsequent use in the practice of special educators, but first it will be necessary to verify it on a higher number of probands.

Clearly, the same diagnosis of autism spectrum disorder, combined with intellectual assumptions in the same level of mild mental retardation, does not imply the same communication profile in the pragmatic language level of speech. Deficits resulting from the diagnosis require education in various areas, ideally also with the use of different types of educational material, which we wanted to point out in the article. Although the pragmatic profile of an individual is very similar in many areas, it is necessary to treat each of them as an individual.

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(reviewed twice)

Mgr. Lucie Vrbová
Instituue of Special Education Studies
Faculty of Education
Palacky University
Žižkovo nám. 5
771 40 Olomouc
Czech Republic

Tinnitus and its effect on the quality of life in adolescents

(scientific paper)

Ivana Pospíšilová, Lucie Fabóvá

Abstract: The paper focuses on aspects of quality of life in adolescents suffering from tinnitus and its broad-based impact on life. The research was conducted in an interview with six participants, both female and male in adolescence. The interview provided a deeper look at the subjective perception of the quality of life of people with tinnitus on a physical, mental, social and societal level. The main finding was that adolescents with tinnitus had a change in their quality of life, not only in a negative but also in a positive direction, which is evident only with the passage of time when an individual with tinnitus learns to live. Another finding was that increased perception of tinnitus occurs after physical exhaustion, fatigue, and stress. The most significant changes in adolescents were in the field of cultural activities and the disruption of family, partnership and friendships. The research also discusses new forms of therapy that can lead to coping with the disease. The main goal of the research was to identify, analyze and describe the effect of tinnitus on the quality of life of individuals in adolescence. This goal has been met.

Keywords: quality of life, tinnitus, adolescent age, problem in various areas, possibilities of new methods

1 Introduction

Human hearing is exposed to many arduous sound attacks during life, which can have very adverse effects on the hearing itself. The defense mechanism during such attacks, such as excessive noise after attending concerts, discos or excessive noise from the train whistling, etc., is the rustling, humming, buzzing and rumbling in person's ears. Few people can imagine that these sounds would not have to disappear and one can hear them for a lifetime, completely continuously. The biggest problem

is that these sounds are perceived when one falls asleep or is silent around him. This sound becomes unbearable and begins to interfere with one's daily life in all areas. Not only the mental but also the physical side of life is endangered, which can result in serious disorders and problems. The technical term tinnitus auris itself is not very well known to the general public, but if you state that it is specifically an ear murmur (noise, whistling), you will find that a large part of the human population has encountered this problem today. This phenomenon is becoming an increasingly common phenomenon, which can become an unpleasant companion throughout life and make it uncomfortable or completely disrupt its overall quality. (Fabóvá, 2015)

1. Theoretical background

The term tinnitus is derived from the Latin word 'tinnire', which means 'piercing voices', or from the word 'tinnio', – 'tinkle'. The term hides a number of auditory perceptions that do not have a sound source from the external environment. These auditory sensations can be diverse in nature, manifested in deep tones and sound like growl, hum, rustle, knock, beat, buzz or high tones and resemble whistling or ringing. (Zemek, 2011)

Tinnitus most often occurs between the ages of 40 and 70, with approximately the same prevalence in men and women, and is rarely present in children (Crummer, Hassan, 2004). We do not know the exact national statistics, but clinical studies show that almost every second person over the age of 60–65 suffers from various forms of subjective tinnitus. Based on this finding, tinnitus becomes the third most common symptom, after headaches and dizziness, which leads the patient to a doctor. (Hahn, 2000)

Due to the modern age, when we are surrounded by constant stress and noise, tinnitus no longer occurs only in the elderly, but more and more adolescents and children are increasing in ENT clinics. We believe that the number of these patients will increase during this age group, because adolescents are among the main users of modern technology (use of mp3 players with loud music, mobile phones, handsfree, wifi), they live an increasingly unhealthy lifestyle and their recklessness thus becoming adepts that tinnitus can easily affect. (Fabóvá, 2015)

A big research has been done in the United Kingdom. This study found an increasing incidence of tinnitus over time, with an emphasis on an ever-increasing health burden. Knowledge of patient characteristics, lifestyle factors and selected comorbidities contributes to a better understanding of tinnitus risk factors. The research was conducted on a large group of 109,783 adults diagnosed with tinnitus between 2000 and 2016, which provided an overall age-standardized incidence rate of 25.0 new cases of tinnitus per 10,000 inhabitants. Throughout the study, there

was a steady increase in the incidence of tinnitus. Approximately 80% of tinnitus cases were diagnosed aged 40 years or older. The highest incidence was observed in individuals aged 60–69 years (41.2 per 10,000 population, 95% CI: 40.7–41.7). Smokers and alcoholics had a lower risk of being diagnosed with tinnitus compared with non-smokers and non-drinkers. The incidence of tinnitus has been strongly associated with the recent diagnosis of several otological and vestibular disorders, as well as head and neck disorders. (Stohler N. A., 2019)

Statistics from clinical studies show that 15–17% of the world's population suffers from tinnitus, and for 5% of them, tinnitus represents a significant reduction in quality of life. As it affects the suffering person all day, it does not allow them to concentrate on work, it prevents relaxation in the process of sleep, which is disrupted mainly in the phase of falling asleep. This results in increased fatigue and irritability, which can lead to disruption of interpersonal relationships, anxiety, depression and thus lead to a significant change in the overall image of the personality. Due to the sleep deficit and lack of rest caused by constant tinnitus, the patient may suffer not only mentally but also physically, until it may eventually lead them to perform a suicidal act. (Hahn, 2000).

Tinnitus is not a disease, but a symptom, meaning that it is the main manifestation of some diseases, so it is seldom an isolated symptom. It is usually accompanied by other disorders. In Kulka (2007, p. 50) mentions the following accompanying disorders:

- Hypacusis: 80% of patients have hearing loss. The patient is stressed that the necessary acoustic information is overlaid by unwanted noise.
- Hyperacusis, phonophobia: Up to 70% of patients suffer from this additional symptomatic. This is an increased sensitivity to sounds. The sounds of everyday life are unpleasant and in extreme cases the patient is afraid of any sounds.
- Vertigo: Many patients suffer from imbalances, which make them very insecure. They are constantly confronted with the feeling that something is wrong.
- Musculoskeletal disorders: Stiff neck muscles, vertebrogenic problems or, for example, bruxism (intense gnashing and chattering of teeth) may have their own stressful causes, but tinnitus is often accompanied.
- Depression, anxiety: These conditions are initially reactive in nature, but over time they may become chronic and require psychiatric and psychotherapeutic care.

We know the impact of tinnitus on humans, but we do not know the etiology of the onset. There are many causes that cause tinnitus, but its mechanism is often not detected at all. Common causes include simple sebaceous plugs, eardrum damage, inflammation (external and moderate otitis), Eustachian tube obstruction, Meniere's disease, otosclerosis, drugs, drugs, ear tumors, not only acoustic traumas, some CNS diseases, cardiovascular diseases etc. (Vokurka, 2009)

Authors Tiler, Coelho, Noble (2006) claim that there are patients who reject, control or accept their tinnitus. Their research suggested that in some cases there may be a common genetic cause of tinnitus and depression. A potential candidate is the serotonin transporter gene SLC6A4.[1]

By not proving a clear cause of tinnitus, it is only a very difficult or even impossible treatment to completely eliminate this problem. In the course of 2006, research was conducted to determine the success of tinnitus treatment. Its results confirm that tinnitus is incurable in most cases (Maite, 2007). The treatment of tinnitus "is one of the biggest problems in audiology" (Novák, 2003, p. 294), because it is not easy to determine the root cause of the murmur, according to which the subsequent therapy takes place. We also cannot treat tinnitus as a specific disease because "tinnitus is not a disease in itself, tinnitus is a symptom, as is headache, for example. The symptom cannot be treated. This means that tinnitus cannot be "cured". What can be cured is the cause of the symptom, ie the disease that is its cause. One can also learn to manage the symptom "(Thora, Goebel 2006, p. 70). There is one of the new therapies, the cornerstone of which is the behavioral-cognitive habituation of tinnitus, which is implemented in the form of the so-called Tinnitus Retrainig Therapy (TRT), which brings both positives and negatives. It is not a cure. Eliminate tinnitus, however, goes by inducing a habit of tinnitus-induced reactions and its perception. It allows patients to control their tinnitus, live a normal life and participate in daily activities. According to the article (Jastreboff; Jastreboff, 2000), TRT is a highly effective therapy in people with tinnitus and can be used to treat all types of patients. It does not require frequent visits and does not interfere with hearing and there are no negative side effects. Approximately 20% of patients achieved a change in their tinnitus perception by focusing their absolute attention on it and losing it completely. The only negative aspect of TRT is that the completion protocol must focus on the individual needs and profile of the patient, which in turn requires significant time involvement of the treatment staff, who must be specially trained. In addition, development requires specific plastic changes in the nervous system (leading to accustoming to tinnitus). The inurement lasts approximately 18 to 24 months, as estimated from retrospective patient observations.

2 Methodology of research survey

The study focuses on the quality of life of adolescents who suffer from tinnitus. Due to the fact that there is relatively little research dealing with the issue of tinnitus in

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[1] One of the most important genes controlling serotonin function (5-hydroxytryptamine, 5-HT) is the serotonin transporter gene. The serotonin transporter (5-HTT) ensures the uptake of serotonin from the synaptic cleft into the neuron. Caspi A et al. (2003)

this age period, we decided to gain knowledge to approach the topic and increase awareness of the issue.

The main goal is to identify, analyze and describe the effect of tinnitus on the quality of life of adolescents.

The main goal is elaborated into the sub-goals of assistance described below, where we try:
- to find out how tinnitus affects the quality of life of adolescents.
- to detect changes in the lives of adolescents after the onset of tinnitus.
- to determine the form of compensation for improving the quality of life in individuals with tinnitus in adolescence.

To achieve the sub-objectives described above, the following **research questions** are identified:
- How does tinnitus affect the quality of life of adolescents?
- What changes have occurred in the lives of adolescents after the onset of tinnitus?
- In what form do adolescents compensate for their tinnitus?

2.1 Methodological framework of research

Qualitative research was conducted on the basis of semi-structured interviews with adolescents aged 18 to 21 who suffer from tinnitus. Qualitative research was chosen because of the nature of the research, which focuses on the subjective perception of living with tinnitus. The method of intentional (purposeful) selection was chosen for the selection of the research sample.

Sampling criteria:
- Age from 18–21 years
- Gender man-woman
- Tinnitus for at least 1 year
- Etiology unknown

Based on the established criteria, a total of 6 adolescents participated in the research.

An overview of basic data about adolescents who participated in an individual interview: In order not to violate the privacy of the respondents, their identity was hidden under the initials of their names.
Girl V – 21 years old. Tinnitus for two years
Girl K – 19 years old. Tinnitus for one year
Girl L – 18 years old. Tinnitus for one year

Boy M – 19 years old. Tinnitus for about a year and a half
Boy L – 20 years old. Tinnitus for two years
Boy D – 18 years old. Tinnitus for two years

2.2 Results

The respondents suffered from tinnitus from one to two years. They did not know the exact etiology of its origin, but mentioned the possibilities that could cause it. These included, for example, otitis media, a strong compressed air wave acting directly on the ear, an exploding firecracker near the individual, frequent dancing at deafening speakers at discos with parties until the early hours of the morning. In most of the respondents, stressful circumstances also took place before the onset of tinnitus, which, together with the above-mentioned influences, could have been the triggering factors for the onset of tinnitus. They mentioned, for example, a divorce of parents, the death of a grandmother and great-grandmother in one year, a break-up with a long-term girlfriend. Each individual described their tinnitus in different words. Some had trouble describing it in the beginning, so I asked the supplementary question: "what does its sound remind you of"? After this clarification, the interviewees spoke and mentioned, for example, the burbling of a waterfall, the sound of a pressure cooker, the murmur of an old television, the sound of a whisper when listening to a seashell, the sound of a wind blowing. Although each individual described the sounds in their own words, the results were either high tones in the form of whistling or low tones in the form of drone. Respondents also stated that it is not always just one sound, but that sometimes there are more sounds. These sounds, or rather noises, as the interviewees call them, change their intensity and, in certain situations, may worsen. Respondents agreed that they perceive tinnitus the most when there is silence, especially before they fall asleep, or at school when there is silence and they have to concentrate. As a result, tinnitus impairs their concentration and they have trouble falling asleep. But silence does not worsen tinnitus. What makes the tinnitus worse was mentioned, for example, fatigue (most often), physical exhaustion, stress and loud noises (whistling of bicycles on the train platform, loud concerts, discos). When we asked the respondents what feelings tinnitus evoked in them, each individual named different feelings, but as a result, their subjective perceptions of feelings changed over the duration of tinnitus. At first, they perceived tinnitus worse and their feelings were mostly negative. A feeling of fear and anxiety prevailed in them. Individuals focus more on it and "fight" against it. Interviewee L: "I have feelings of fear that the sound will never go away and that I have a serious illness". Whereas in individuals in whom tinnitus lasts for more than a year, a change in feelings and overall view has been seen. We can say that they took their tinnitus easy. Respondent M: "At the moment I don't mind, but when it started and I didn't hear

one ear at the same time, I only heard the noise, so it bothered me a lot and it made me feel anxious." Interviewee V: "My feeling of tinnitus is constantly changing. I had negative feelings especially at the beginning, when I focused a lot on tinnitus and basically only perceived the sound. I think that since the tinnitus started, so I have gradually started to come to terms with it, what else can I do (smile)".

How does tinnitus affect the quality of life of adolescents?

This research question was answered by questionnaires that were created based on areas of quality of life according to WHO. These are, for example, the questions: does tinnitus prevent individuals from doing daily activities? What problems are associated with tinnitus? Do individuals feel changes in physical health (loss of energy, fatigue, increased need for rest), whether tinnitus has affected relationships in the family, with a partner, or with friends? Due to the answers of the interviewed, tinntius disrupts the daily lives of adolescents, for example at school or at work, where it reduces their concentration. It also disrupts the sleep process. All respondents said they had trouble falling asleep. Psychiatric problems such as fatigue, depression, anxiety, fear, psychosomatic difficulties and moodiness are also associated with tinnitus.

Adolescents stated that, due to the mentioned problems, they initially sought more medical care, specifically that they most often sought first aid from their general practitioner and then professional help from an ENT specialist, neurologist and psychologist. Later, when some respondents thought that medical care was not efficient, they stopped visiting doctors, did not go for regular check-ups, and stopped taking medication. Respondent D: "I don't see a doctor anymore, on the contrary I have to go for check-ups, but I don't go, I haven't been there for over a year. I don't think it makes sense."

The remaining part of the respondents had the opposite problem and they are looking for more medical care, not only in ENT clinics, but also in other alternative treatment experts, and they are trying to get rid of tinnitus. Some respondents also reported that after the onset of tinnitus, they began to develop other health problems over time, and despite the various examinations they undergo, all of their results were negative. According to doctors, they are completely healthy, but they do not feel that way. Thus, we are talking about a psychosomatic illness, which can gradually manifest itself in individuals with tinnitus and thus affect their physical and mental side. Interviewed V: "I visit doctors more, but I don't just mean ENT within tinnitus. I don't know if it's related to it, but I started to experience so-called digestive-related psychosomatic illnesses. The results of the examination are all right, but I still have problems and no one knows what is wrong with me."

Given the above, we can say that tinnitus is involved in impairing the quality of life in the physical dimension. A similar disruption occurs in the dimension of social relations, when individuals with tinnitus stated that after the onset of tinnitus,

they started to reduce the attendance of various cultural events, where there was a higher intensity of sound (concerts, discos), which aslo affects their friendships. They also avoid the places where more people talk at once. All respondents stated that after the onset of tinnitus they had a problem with speech comprehension in noise, where more people spoke at once (pubs, restaurants, busy public places), or there was higher sound intensity, or more sounds at once (cinemas, concerts) and started the visit these places less, which has an impact on the social dimension of quality of life. Like the two previous dimensions, tinnitus also disrupts the mental health and environmental dimensions. In the mental health dimension, adolescents with tinnitus are affected in most areas. Due to the fact that tinnitus is often accompanied by mental difficulties, it affects self-concept, negative and positive feelings, thinking, learning and concentration. In the environmental dimension, as mentioned above, the respondents stated that they avoid places with higher sound intensity, which can affect not only the social area, but also the area of getting to know and gaining new information, knowledge and experiences.

What changes occurred in the lives of adolescents after the onset of tinnitus?

We can say that tinnitus brought a change in the lives of all those interviewed. If we were to divide the changes into positive and negative, negative changes were mentioned more often. Negative responses prevailed in individuals who had tinnitus for a shorter period of time. Among the negative changes that tinnitus has brought, the main problems are falling asleep, relaxing and feeling tired. Some respondents claimed changes in their social lives. They reduced their cultural life, which disrupts their social ties with friends. They tend to be grumpy more often, and this disrupts family relationships. They avoid noisy places. They experience communication disturbances when they are in a noisy environment. In summary, individuals state that they are no longer as active as before. On the other hand, the respondents were able to see certain positives in the change in their lives. They stated that they slowed down and began to realize what health was, some of them ate better and started exercising. Overall, they now value their body more, look after it and perceive themselves more. Some directly stated that they had "calmed down". Respondent "K" to the question: "Did tinnitus bring you any positives?" She answers: "Yes, it did, I slowed down, I started practicing yoga and eating healthier. Overall, it seems to me that my way of life has changed and I think in a good way."

In what form do adolescents compensate for their tinnitus?

The first compensation that the interviewers encountered was medical care, in which the most frequent drug treatment was chosen, which was aimed at dilating the arteries and blood vessels of the inner ear, to improve its blood circulation. Some individuals also reported taking antidepressants from the onset of tinnitus. Treatments such as

hyperbaric chamber, infusion therapy, psychologist-led psychotherapy and alternative therapies such as acupuncture, homeopathy, phytotherapy and kinesiology were also mentioned. In most cases, the respondents said that in their opinion, drug treatment was unsuccessful. The acute form of tinnitus was positively affected by the hyperbaric chamber in combination with infusions or psychotherapy, but not in terms of reducing tinnitus, but its acceptance. The respondents also tied to help themselves. They choose various strategies to try to deal with their tinnitus problem. They mainly use "comping strategies".[2] It is a reaction (the way) an individual tries to manage their problem. The interviewees named the following strategies to manage tinnitus: effective strategies: the need for different activities to distract attention, movement (walking the dog and into countryside), better lifestyle, acceptance of tinnitus, active movement (yoga exercises), relaxation exercises (autogenous training). Passive strategies: masking tinnitus with external stimuli (music, television), escape (avoiding silence, noisy environment, stressful situations, people, etc.). Maladaptive: high concentration on tinnitus, thinking about it, constantly searching for information about it on the Internet, in the literature, frequent visits to doctors with the hope of removing tinnitus, taking antidepressants and sleeping pills. The desire for tinnitus to disappear, introversion with subsequent social isolation. We cannot say that the comping strategies are still the same. An individual's management of tinnitus changes over time, and with it, comping strategies do too. The above describes the variety of comping strategies that individuals choose to fight with tinnitus. However, one comping strategy was chosen by all respondents – masking tinnitus with music. So we can say that it is a masking of silence with music, which serves to prevent the individual from concentrating so much on their tinnitus. This strategy was chosen by all individuals and is used throughout the duration of tinnitus. Tinnitus management is influenced not only by the comping strategies that the individual chooses, but also by its duration. Respondents who had tinnitus for more than a year stated that they had become familiar with tinnitus and that they dealt with it. In contrast, individuals who suffer from tinnitus for a short period of time do not control it and "fight" against it. Respondent L "I haven't dealt with it yet and I don't know if I ever will. I wish it was gone."

3 Discussion

In all respondents, tinnitus changes over time. Respondents agreed that silence does not worsen the intensity of tinnitus, it only attracts more attention, so they focus more on it. Korres et al. (2010 in Veldová, 2014) states that there is no background

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[2] According to Budda and Pugh (1996), Veldová (2014) divides tinnitus comping strategies into three categories: effective strategies, passive strategies and maladaptive strategies.

sound in silence that would reduce the sound contrast between tinnitus and a quiet environment. Therefore, there is no reduction in the perception of tinnitus. Increased perception of tinnitus occurs in all respondents after physical exhaustion, when individuals are tired and perceive tinnitus more under stress. Each person has different feelings about tinnitus. Everyone agreed, however, that negative feelings prevailed at the beginning of tinnitus. Later, adaptation to tinnitus occurs and positive feelings appear. All respondents agreed that tinnitus impairs the quality of life in all its dimensions, especially in the first year. After that, reconciliation with tinnitus takes place and the quality of life is constantly affected in some areas, but it is no longer as disturbed as in the beginning.

In these 75% of patients, the habituation time usually ranges from 6 to 12 months. (Toupet et al., 2003). Changes in a person's life are broad-spectrum and are reflected in all areas of life, as our respondents prove. The most significant changes in adolescents occurred in the field of cultural activities. Individuals reported that they had calmed down and were no longer as active with regard to social life as before the onset of tinnitus. They reduce the attendance of loud concerts, discos, some even less walk among the people. Overall, their way of life has changed. They now respect their body, look after it and perceive themselves more. The data indicate that approximately one-quarter of people suffering from tinnitus feel severely affected by it, and the remaining three-quarters get used to it (Crummer, Hassan, 2004). One of the confirmatory studies (Erlandsson, Hallberg, 2000) is a study of the prevalence of tinnitus (0.5–1% of respondents) that states that tinnitus seriously affects their ability to lead a normal life. In this survey, the quality of life and its relationship with psychological, psychosomatic and audiological tinnitus-related factors were studied in a sample of 122 patients. Six of the thirteen variables included in the model proved to be significant regressors. These were impaired concentration, depression, perceived negative attitudes, hypersensitivity to sounds, average hearing level (best ear) and duration of tinnitus (the shorter the duration of tinnitus, the more negative the impact on quality of life). The three most important predictors were directly related to perceived mental distress. An unexpected finding was that tinnitus fluctuations, vertigo, headaches or perceived social support did not appear to be significant regressors.

These results confirm our conclusions. In the area of physical dimension, it was a feeling of fatigue, which was increased among the respondents. It is a disturbance in the area of sleep that breaks down tinnitus and thus there is no overall rest of the body. In terms of the dimension of mental health, these were mental disorders, which began to occur together with tinnitus among the respondents. The most common were anxiety and depression. The question is whether it is different for men or women. A study by Bashir Ahmed et al. (2017) was designed to examine the alleviating role of gender between tinnitus perception and psychological stress in men and women with tinnitus. The participant consisted of 110 patients with tinnitus

(men n = 70, women n = 40). Data were collected from various hospitals in Pakistan through a complete otorhinolaryngological examination. Two scales, Depression, Anxiety and Stress Scale (DASS) and Tinnitus Handicap Inventory (THI), were used to measure the perception of tinnitus, stress, anxiety and depression in patients with tinnitus. The results of this study revealed that gender acted as a moderator between the perception of tinnitus, depression, anxiety and stress. The results showed that gender was a positively significant predictor of anxiety ($\beta = .45$, $p < 0.01$), depression ($\beta = 1.17$, $p < 0.01$) in patients with tinnitus. The results suggest that women are more prone to anxiety than men. Depression is also more perceived by female patients with tinnitus. We did not study this problem in our research.

In the area of the social dimension, family, partnership and friendships are disrupted. Due to the higher irritability of adolescents, negative thinking, self-esteem, avoiding the company of people, limiting cultural events (concerts, discos), social ties with peers and the family are disrupted.

The impact on the quality of life of an individual with tinnitus is not negligible, and precisely because of this, people suffering from tinnitus seek help and treatment. The first compensation that all respondents encountered was drug treatment, which did not have a positive effect on any of them. Basically, it is nothing special that drugs do not work. This is also confirmed by Holcát (2006), who states that since in most cases the cause of the murmur is not recognized, it cannot be causally treated. The effective and important treatment reported by respondents was psychotherapy, which did not help to treat tinnitus, but to get used to it and accept it as part of one's person. The importance of psychotherapy in the process of murmur treatment is also mentioned in Holcát (2006), according to which psychotherapy is a very good method, with the help of which the patient does not get rid of the murmurs, but at least manages to cope and gets used to the murmurs. Of all the strategies that patients most often named to manage tinnitus, the best was the help of music to camouflage it. Music has thus become a part of their daily lives. Other therapies are available abroad, such as infusion therapy and vasodilator therapy. There are currently many authors[3] working on the new TRT treatment mentioned above, which could help people with tinnitus in our conditions as well.

4 Conclusion

Due to the increasing noise, which is increasingly affecting humans, tinnitus is beginning to spread like a sea wave to the entire population. Most of the human population has experienced short-term whistling or tinnitus without hearing loss. It may take less than five minutes (eg after exposure to excessive noise) and disappear. In

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[3] Hesse, Schaaf, Grosbois, Pellec, Toupet, Maite etc.

contrast, pathological tinnitus lasts longer than five minutes, occurs more than once a week, and is perceived continuously throughout the day. If tinnitus becomes an annoying problem for an individual, the perception of their own quality of life may be impaired. The quality of life of an individual with tinnitus at the beginning of its onset can be impaired in all its dimensions. This can result in difficulty falling asleep and sleeping in general, increased fatigue, irritability, decreased attention, difficult concentration, mental problems (depression, anxiety) associated with emotional lability. Due to the list of tinnitus-related problems, desperate individuals begin to seek medical help and try to get rid of the unbearable companion that accompanies them throughout the day. If tinnitus is not associated with another condition (such as hearing loss), most patients visit the doctor with delay, and this greatly reduces the effectiveness of its treatment. The intervention is also influenced by the origin of it and the subsequent diagnosis. Treatment difficulties occur in the subjective type of tinnitus, which is most common among patients. Tinnitus is becoming "one of the biggest problems in audiology" (Novák, 2003, p. 294). Tinnitus is a problem for which there is currently no universal way or cure to help patients get rid of it completely. Everyone is an individual and deals with their problems differently. Trying not to succumb to tinnitus, trying to eliminate it, and if that does not work, it is important to learn to accept it and get used to it so that it does not bother them unnecessarily in their thoughts. The general aim of the research was to comprehensively capture the issue of tinnitus in adolescence and to raise awareness of the subjective perception of quality of life in individuals with tinnitus in this age period. The main goal was to identify and analyze the effect of tinnitus on the quality of life of adolescents. Given the above-mentioned main goal, the research was carried out in a qualitative form that allows to capture the subjective view of individuals on the issue. The research method became a semi-structured interview, which allowed flexibility in asking supplementary questions. The results of the research showed that tinnitus has a great impact on the quality of life of all respondents and in the initial phase disrupts it to a greater extent. In adolescents, due to the complexity of the self-seeking period, this disruption is exacerbated. As a result, however, it turned out that the interviewed individuals got used to their tinnitus during the year. Thus, we can say that the interviewed adolescents have a higher possible degree of adaptation. After a year, adolescents not only perceived the negatives of tinnitus, but were able to name the positives. Tinnitus no longer compromised their quality of life to the same extent as at the beginning.

Living with tinnitus, especially at the beginning, is not easy at all. Every individual longs for a moment of silence. Therefore, one of the main recommendations will be to prevent tinnitus with the help of prevention, such as noise control, to try to protect one's hearing as much as possible, to avoid stressful stimuli that also affect tinnitus. When tinnitus affects the person and all treatment fails, it is important to deal with

it, try to accept it and come to terms with it. Rest and sleep are important and are greatly affected by the noise due to the silence that tinnitus enhances. Therefore, it is appropriate to use, for example, the so-called masking (relaxing music in headphones, etc.), which overlaps the silence. If classical medicine does not work, not to be afraid to try alternative or new methods. We can name many recommendations for fighting tinnitus, but to minimize the impact of tinnitus on quality of life, it is important that each individual finds his or her own way of overcoming tinnitus.

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(reviewed twice)

Mgr. Ivana Pospíšilová Ph.D.
Institute of Special Education Studies
Faculty of Education
Palacky University in Olomouc
Žižkovo náměstí 5
771 40 Olomouc
Czech Republic
e-mail: ivana.pospisilova@upol.cz

Artefiletics as a pro-inclusive strategy supporting common education in formal space

(overview essay)

Paula Maliňáková

Abstract: *The paper presents artefiletics as one of the pro-inclusive strategies through which it is possible to support inclusive education in primary school. By using the techniques of artefiletics, which are based mainly on expressive artistic expression and reflective dialogue, it is possible, from the point of view of all present, to know the pupil's personality within the team, and so forth. Thanks to the integration of artefiletics as a pro-inclusive strategy, all participants can reflect on each other's experience in the group from the perspective of the participant, supervisor, or educator. This paper also describes a specific artefiletic model that was part of the survey findings. The implementation took place at the first stage of primary school, where we created two groups – control and experimental. The characteristics of the artefiletic module (created from 4 groups of activities) provide opportunities to develop inclusion in education process. At the same time, the paper is supplemented by specific examples of the pupils' works coworking in a heterogeneous class.*

Keywords: *Inclusive education, Class, Artefiletics, Approach*

1 Introduction to the issues of artefiletics

In Slovakia, the term artefiletics has been used since the 1990s. Artefiletics offers the possibility of implementing specific elements connected to inclusion in the school environment. Through artistic expression, artefiletics reveals, recognizes, and implements human behavior's unconscious and subconscious motives into the conscious dimension. This analytical work of self-knowledge teaches pupils self-reflection. The artefiletic intervention is mediated by a reflective dialogue between the teacher and the pupil. According to Homzová (2015), artefiletics is considered a modern screening, preventive and interventional approach used in various school environments,

especially abroad. Regardless of its differences, moving in artefiletics allows pupils to develop emotional, social, and creative aspects. At the same time, it is possible to observe changes in self-reflection, classroom acceptance, development of communication skills, graphomotor skills, and progress in other areas of school education. Šobáňová (2020) claims that art education is primarily about practical, creative activities of an expressive and receptive nature. The author perceives the pupil's otherness in the given context (2020, p. 42) as a source of inspiration (similarly, it is so in art, at the latest from the modern period), not as a problem. Art tasks are designed not only based on expression, practical tasks but also on the base of cognitive challenges. Also, in artefiletics, thanks to a pupil's artistic expression and subsequent reflection, a teacher can capture the pupil's specific problems within his or her expression and reflection to an artistic activity. According to Slavík (1997), an authentic art becomes a means of transformation, discovering the inner-fictional world.

Benefits of the artefiletic module in support of building an inclusive environment

We consider inclusion a phenomenon since it is much discussed but not implemented. Therefore, we can speak of inclusion as **a trend that brings innovation**, which we rarely observe; hence it is still an extraordinary process in education. At the same time, inclusion can be considered a particular innovation to increase the quality of the educational process in school (Lechta, 2018, Šuhajdová, 2020). Implementing inclusive education is not an easy or short-term task for the school and its participants. There is a clear need for an in-depth focus on inclusive education solutions for the benefit of all participants. It is related to the setting and direction of acceptance of heterogeneity on the part of the school and its culture in the given country, region, and so forth. An elaborated theoretical basis of inclusive education and its broader transdisciplinary connection and an entire legally fulfilled framework with the praxeological anchoring in the school or classroom are needed. Based on this and practical experience, it is possible through a pro-inclusive approach to artefiletic activities, reflective dialogue in an inclusive classroom that we know that artefiletics helps us:

1. *Build social cooperation in the class/group*. Discover and deepen pupils' potential in the classroom, understand the processes in the classroom, group, or school club of children.
2. *Develop the individual's emotional stability in the class/group*. Emotionally knowing how to express oneself in an art form and thus release tension that could otherwise be a manifestation in the form of negative behavior. It teaches the participants to work with relationships through experiential work with the class/group. Improves pupils' self-reflection. It supports the building of a positive perception of pupils, empathy for others, and the related acceptance and acceptance of the diversity of pupils and pupil groups.

3. *Know the individuality of the pupil in the class/group.* To develop the pupil's personality within the team, and so forth. It supports creativity, trust, initiative, mutual communication. It breaks the aversion or disadvantage of the teaching processes and allows the pupil to experience appreciation and success, despite his disability and otherness.
4. *Educate the arts* in connection with the possibilities of experiential knowledge of various situations.
5. *To build visual literacy* in the context of mutual interaction between word and image critical concepts and vice versa.
6. *Accept and be interested* in pupils in the class/group. It creates opportunities to improve pupil achievement or appreciation in the class/group.
7. *Increasing the professional competencies of teachers.* Competence enhancement primarily affects reflective dialogue, and it is this method, path, the approach that can help build a better functioning inclusive education and pupils' acceptance of each other.
8. *Increasing pupils' competencies.* The critical competencies in the field of methods in this type of teaching will develop pupils' professional knowledge, offer divergent solutions, find connections with real current life, critical thinking, and evaluation. The educator develops his/her critical competencies related to the learning process and the learning outcomes by creating the school curriculum and competencies for teamwork.

2 Survey preview

We implemented the integration of artefiletics as a pro-inclusive strategy in an experiment. According to Gavora (2010), when implementing the experiment itself as a quantitative method, it is possible to prove the causal consequences of pedagogical action, i.e., one educational phenomenon affects another. The characteristics of individual groups are presented in tabular processing (Table 1).

Table 1

Group	Count	Group characteristics
control	8	A contrasting group that worked differently than the experimental one (without the principles of the artefiletic approach). The group worked with the same material, same time, and same conditions.
experimental	8	We carried out the activities with an experimental group of pupils at the primary level of the school system. The experimental group consisted of pupils with specific disabilities: Below, we offer you an overview of selected activities, which we applied to a sample of 8 pupils in the primary school. It was a range from 1st to 4th year. There were three boys in the group (1st boy: dyslexia, dyscalculia, dysgraphia, dysorthography; 2nd boy: dyslexia, dysgraphia, dysorthography; third boy: dyslexia, dyscalculia, dysgraphia, dysorthography) and one girl with a disability. This research sample was compiled randomly. Regarding the family history concerning the complete or incomplete family, there was a girl in the alternating care of the parents, who took care of herself, resp. she demanded more attention and went to see the teacher all the time. If we were to provide a more detailed view of the family environment of other pupils, perhaps not suitable conditions for the necessary preparation for school, learning, providing the necessary teaching aids, and so forth., we could still identify two pupils.

At the beginning of the experiment, we tried to identify subjects according to different vital competencies and characteristics to ensure an equal selection of respondents for the experimental and control groups (cf. Gavora, 2010). An input measurement is required to determine how similar the experimental and control groups are. In the experiment, such an input measurement is called a pretest. Due to this, we performed a pretest of both groups and observations to compare individual pupils and their selection for the experimental and control groups. According to Gavora (2010), it does not always have to be a test. This can be any measurement you check to see how similar the two groups are in the essential characteristics. We entered the test simultaneously and under the same conditions for both groups and compared the results. The pupil's task was to draw pictures into geometric shapes on A4 sheet of paper or create connections between them. They should have approached them within the imagination, gained previous visual experience, and so forth. Moreover, we tried to fill as many geometric shapes as possible, connect them, and transform them. We did not find a significant difference between the two groups, and the pupils showed relatively similar observations. There was someone who did not fill in the whole paper, drew the whole paper, needed to make sure with the question, and so on. Since we worked in the school environment (hobby education), where there are no fixed groups of pupils, it was possible in terms of research to ensure the selection of subjects according to the conditions that characterize Gavora (2010) in the implementation of pedagogical research.

3 The experiment in the form of group artefiletics

In connection with artefiletics as a pro-inclusive strategy, we created a model that focused on discovering and deepening pupils' potential in the school environment. The mentioned model aimed to acquire practical skills, looking for new possibilities, creative solutions, which are inevitably brought by group-implemented artefiletics with an emphasis on optimizing inclusive education in the school environment. When working with the group, we focused the mentioned approach on group dynamics and relations between individual group members (which was also a condition for education in various subjects). The chance of the artefiletic approach is that the group's members are developing in the area of sociability, i.e., positive relationships, cooperation, mutual communication, support, and mutual interactions are supported, which is also the fundamental essence of inclusive education. The experimental artefiletic model aimed to meet three goals, namely cognitive, affective, and, of course, psychomotor concerning manipulation, which we can again connect with inclusive education, which seeks to address these aspects. The application of artefiletics offers the identification of a research sample of pupils and points out a possible proposal for solving current problems of inclusive education through an artefiletic approach. *Artefiletics inspire the use of this method in our conditions in the pedagogical activity of a teacher of art subjects.* The author of this project is Jana Homzová, and the pilot project was implemented in Dubová Elementary School, Bratislava, under the supervision of Zuzana Krnáčová, lecturer of the ongoing accredited course *Artefiletics and Inclusive Class in the process of creation, reflection, and acceptance (2021).* The artefiletic products of the experiment participants were assessed based on specific factors, which we processed into the attached scheme as a flexible process (Scheme 1).

Scheme 1
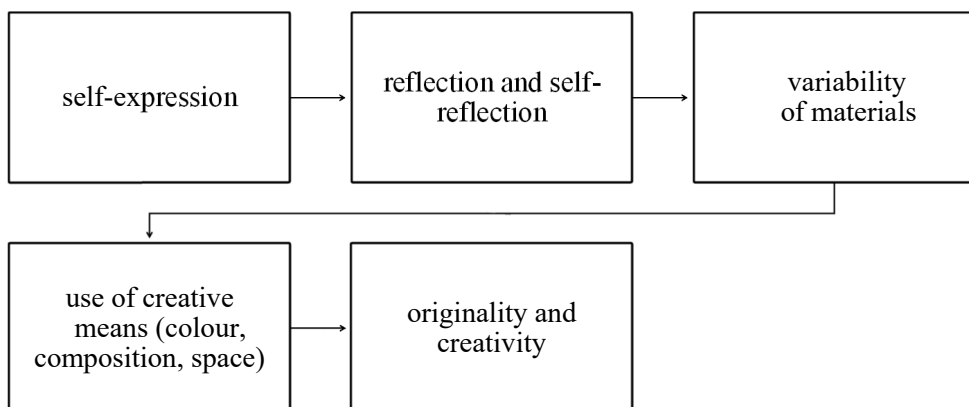
The scheme describes the individual sequential steps of the ongoing experiment. The individual steps are incorporated within a vertical and horizontal space.

4 Presentation of an artephilectic model in the form of an experiment

The individual activities within the artefiletic module were divided into four groups (Scheme 2). Individual activities within the artefiletic module were adapted for primary school pupils. Changes were made, and the researcher realized new possibilities for how to fulfil the possibility of an inclusive path realized through artefiletics towards positive changes concerning the acceptance of the pupils' personality in the experimental group and the participants to each other.

Scheme 2: *Content of the artefiletic model*

| activities aimed at relaxing and relieving tension | activities aimed at developing social relations in the classroom | conflict resolution activities | activities aimed at expressing opinions, attitudes and emotions |

5 Activities aimed at relaxation and release of tension

Activities aimed at relaxation and release of tension focus on comparing one's own opinions with classmates' opinions on creation. Also, to get to know your hobbies and character traits and, of course, to get to know the hobbies of your classmates. The given aspects are on the cognitive level.

On the affective side, it is perhaps a more complicated grasp than, for example, realizing that just like everyone else is unrepeatable, it is necessary to respect the differences in the characteristics of your classmates. To adapt to the class, to accept the opinion of another classmate, even if it does not have to be only positive, and, of course, to learn to be empathetic. The activities we have applied in this spirit are *group painting, playing with sand and chalk, prints*. Demonstrations of pupils' work (8, 9 years old) focused on relaxation and release of tension. The works are composed of textiles or clothing. A bee is depicted. The second image shows a teddy bear with a mobile phone.

Figure 1: *A bee*

Figure 2: *A bear with a mobile phone*

Activities aimed at developing social relationships in the classroom

These activities teach pupils to get to know themselves and the degree of belonging. Also, present your opinion, know your class, name your inner voice, or communicate or cooperate in activities. These were activities that focused on developing and functioning social relations in the group. We took advantage of activities under these names, *namely the stone symbol of the group, our class, school photo album, communication drawing, color meeting.* Demonstrations of pupils' work (10 years) focused

on developing social relationships in the classroom. The work is drawn with drawing art material of a broader range. It is a communicative picture with the story.
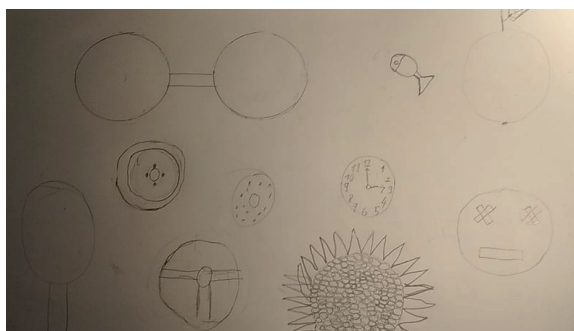

Figure 3: *The story of a kitten*

Figure 4: *My day*

Conflict resolution activities

When conducting activities such as *classroom problems, problem-solving visualization, or a suitcase, we* came across interesting and creative solutions to problems, either within the framework of artistic expression or the interview with the pupils themselves. These tasks place the pupil in the position of a solver of problems, their creative solution, and their survival, where a more significant and especially adequate degree of effectiveness of the teacher as an artifact's moderator, resp—reflective conversation. Demonstration of pupils' work (10 years old) focused on conflict resolution. The work is drawn with the use of drawing art material in pencil. It is a technique of "frottage" and capturing various structures around us in the metaphor of application to the school group of pupils
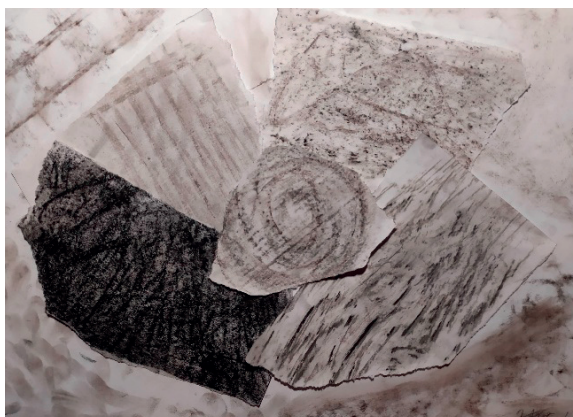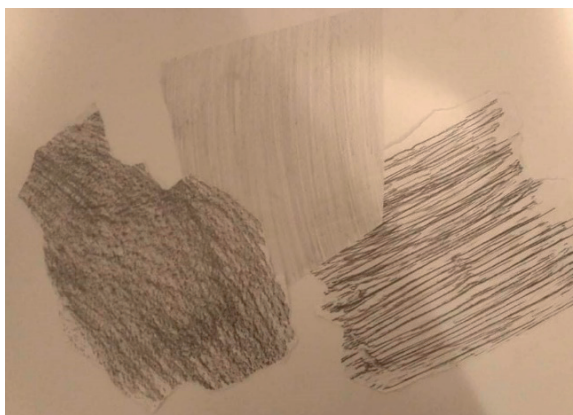
Figure 5: *My mood*

Figure 6: *My day*

Activities aimed at expressing opinions, attitudes, and emotions

In such activities, demands are placed on expressing one's emotions, feelings, whether to discuss a current topic or verbalizing one's opinion on colour, expressing one's emotions through colour. To be able to accept oneself and one's classmates, to empathize empathetically with one's classmate's experience. Search in the abstract and non-figurative works of the association. Activities with names *like a mask, modeled mood, collage of opinions, color, collage of myself, tree of life, action watercolor, mandala, what I am, what I should be, what I want to b*e are focused on perhaps the most sensitive issues, namely building opinions, attitudes and emotions. Teachers are well aware that the emotional setting of pupils in a group is an essential factor that can affect the course of education itself, both positively and negatively (Homzová, 2015, pp. 31–44).
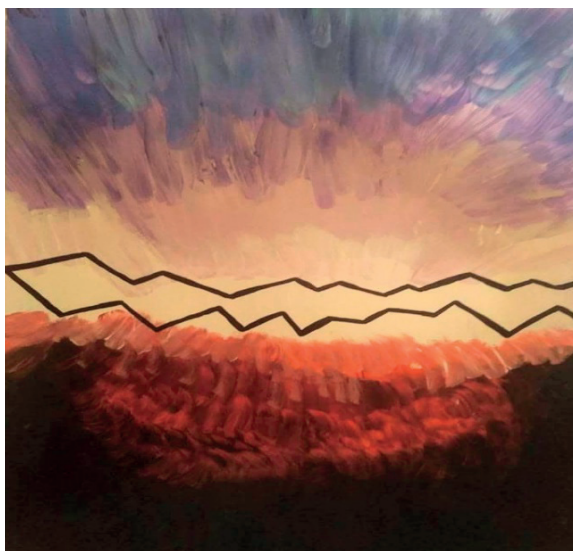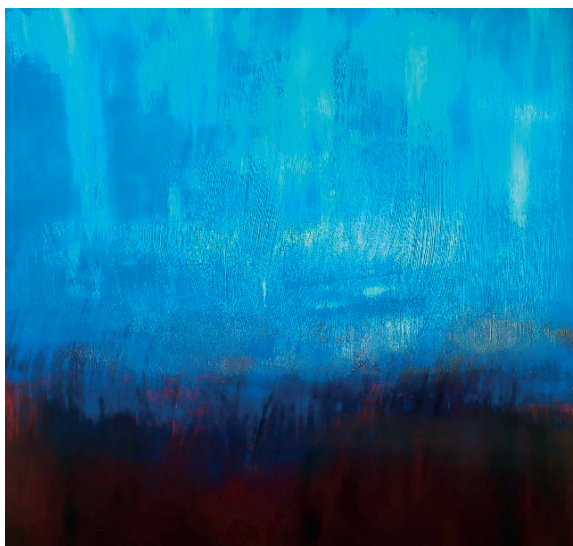
Figure 7: *My self*

Figure 8: *This is me*

Demonstrations of pupils' work (10 years old) focused on conflict resolution. The works are painted with the use of tempera painting art material. It is a colour expression of character, personality, qualities, emotions of each pupil, through the means of expression of colour.

Continuous evaluation of the artefiletic model in the form of an experiment

The combination of both inclusive approach and artefiletics can fulfil individual tasks, which we consider beneficial for each participant in the school environment:

- To develop, deepen, improve and innovate the professional competencies of pedagogical and professional staff for the facilitation and reflection of group class dynamics on the way to inclusion.
- To expand and innovate expertise on inclusive education, group processes, and the identification of pupils' individual needs.
- Apply the latest knowledge on inclusive education to work with group class dynamics.
- Apply innovative approaches based on the principles of artefiletics and develop professional competencies (self) reflection and facilitation in the lesson or the program.
- Deepen competencies related to the peculiarities, specifics, and principles of working with pupils with special needs.
- When working with the class, expand preventive and interventional competencies in artefiletic techniques, methodology, and reflective dialogue.
- Provide new starting points for working with other professionals for pupils at risk.

6 Final evaluation

The artefiletic method enhances pupils' critical social competencies through the support of teamwork, mutual communication, and crucial competencies concerning their person through self-reflection, awareness, assessment, and development of themselves and their values. This form of action on pupils will thus gain interdisciplinary connections with other areas of school education. With this inclusive approach, we can direct the current problems of inclusive education at the primary level of the school system to positive changes and the gradual removal of barriers to inclusion.

Artefiletics is a path that we can incorporate into primary education as part of individual lessons that appeal to reflection and acceptance. In a more trivial sense, this would emphasize the principle of feedback, where the teacher is the moderator of the conversation between the pupil and him or her, respectively. Not to miss the stage in education where mutual communication between pupil is needed. Another possibility is to set aside artefiletics as a separate subject, which with all the mentioned elements teaches pupils to grow and develop emotionally and socially with an individual curriculum tailored to the given group of pupils. Furthermore, the last option would be to set up early communities with artefiletic activities, where pupils talk about what they experience, how they feel, how they deal with critical classroom situations, communicate without pointing, listen, and respect each other. Artefiletics is a possible way of fulfilling inclusion conditions in terms of getting to know each

other, acceptance, coexistence or creating a pleasant climate, motivation to learn or achieve better school results, and so forth.

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Paula Maliňáková
Catholic University, Faculty of Education
Department of Pedagogy and Special Education
Hrabovská cesta 1A
Ružomberok
Slovakia
e-mail: paula.malinakova@ku.sk

Combination therapy for patients with a history of ischemic stroke: selected approaches based on special education and psychology in a systematic case study

(overview essay)

Michal Vostrý, Ilona Pešatová, Barbora Lanková, Otakar Fleischmann, Jaroslava Jelínková

Abstract: *The content of the article encompasses the results of a research survey of a patient with a history of ischemic stroke (hereinafter referred to as ICMP, according to ICD-10; I63 cerebral infarction and I69.3 – consequences of cerebral infarction). The aim of the research was to find out the effect of combination therapy using long-term special educational (speech therapy and music therapy), occupational therapy, and psychological interventions on the development of cognitive and fatal functions of patients after ICMP (cognitive rehabilitation). The paper deals with the possibilities of development and support of individuals after the disease with a possible correction of deficits from a multidisciplinary point of view. The person was selected by random, stratified selection and corresponded to relevant characteristics in advance (age over 45 years, acute ICMP, cognitive and fatal disorder, hospitalization). The selected person participated in the research (female, 47 years old, acute ischemic stroke – March 12, 2021). For our needs, the therapy was focused on special educational care (speech therapy, cognitive rehabilitation, music therapy) and psychological intervention (psychic intervention and psychotherapy). A physiotherapist and an occupational therapist were present during hospitalization and post-hospitalization care. In the implemented research process, we point out the selected case study of the person, which corresponded to the relevant features, and the design of therapy with a focus on special education and psychology. The results of the research point to the fact that when working with patients with a history of ICMP, there is a need for regular multidisciplinary cooperation of an occupational therapist, a physiotherapist, a special educator (speech therapist, music therapist), and a psychologist. The given professions focus on specific areas of support with a focus on cognitive, fatal, and motor functions with the support of social adaptability.*

1 Introduction

Stroke (CVA) is one of the most common causes of mortality, morbidity, and disability in the population worldwide (Feifin et al., 2003; Rosamong et al., 2008). According to Škoulodík et al., (2012; Truelsen et al., 2006), ischemic stroke (ICMP) accounts for 85% of all CVAs in Europe and North America. The incidence varies in European countries; however, it is the highest in the Czech Republic, Lithuania, and Greece. CVA is a common disease, especially in the elderly population. The complex issue is multidisciplinary thus, to prevent frequent disabling relapses, it is more than desirable to correctly implement effective secondary prevention (by secondary prevention we mean the approaches of helping professions), (Škorňa, 2021). Ischemic stroke is defined as an episode of neurological dysfunction caused by a local cerebral, spinal, or retinal infarction. Such an infarction is necrosis of the brain, spinal cord, or retina caused by ischemia. Ischemia is detected by a pathological finding (Sacco et al., 2013). ICMP is manifested by a sudden onset of focal neurological deficits. The deficit corresponds to the territory of the affected cerebral artery. In practice, we often encounter a movement or sensitivity disorder of half the face, limbs, the whole body, a speech disorder (aphasia or dysarthria), or other symbolic functions (apraxia), a vision disorder, ataxia, etc. (Škoda et al., 2016). According to Kovářová et al., (2018; Béjot et al., 2016), despite improvements in primary prevention and acute treatment in recent decades, ICMP is still a serious and common cause of mortality. Therapy for patients with a history of ischemic stroke is an interdisciplinary (multidisciplinary) problem that involves the cooperation of a neurosurgeon, a radiologist, a neurologist, a rehabilitation physician, a physiotherapist, an occupational therapist, a speech therapist, a psychologist, and other professionals.

Thus, the rehabilitation process itself includes the cooperation of not only experts but also family members (especially after being discharged from the hospital). The number of professionals affects the patient's condition and the consequences of ICMP. The team management and coordination support the rehabilitation process and increase its benefits. Furthermore, it strengthens the positive rehabilitation effect (Fegin et al., 2007; Kalita 2006; Röthlisberger et al., 2018; Štětkářová et al., 2012). The rehabilitation process should take place as soon as possible after the patient has been stabilized. Also, the process should continue as long as the patient improves in his/her functional abilities. At the same time, it should be followed by and, if necessary, extended by social, educational, and work rehabilitation. The patient improves the most in the first half of the year after the stroke. However, its improvement even after several years might not be excluded. At present, there is a predominant

effort to shorten hospital stays and return patients to their home environment since such discharge might have a positive effect on the patient's recovery. Subsequently, the rehabilitation should be targeted at the home environment (Škoda et al., 2016; Clemson et al., 2016). Patients' reintegration into society and their quality of life i.e., their health condition, being physically active, and their self-realization are crucial for them. As a result of ICMP, up to 50% of patient's experience apathy, fatigue, low physical activity, and depressive symptoms. The goal of coordinated rehabilitation is to ensure patients' self-sufficiency and enable them to return to their home environment (Švestková et al., 2017; Winstein et al., 2018).

Psychic intervention and psychotherapy

When working with a patient after ICMP, it is always necessary to consider the extent and intensity of the central nervous system (CNS) impairment. This affects whether and to what extent the patient is aware of his illness and how he experiences it. The treatment of the disease and the subjective experience of the disease by the patient subsequently determine the process of the intervention and possible subsequent psychotherapeutic care, which, in contrast to the intervention, is long-term and, if possible, regular. When processing the disease by the patient, it is necessary to consider the basic stages of this process i.e., a shock or a denial, the phase of gradual admission of the traumatizing fact, and afterwards the phase of reconciliation with the disease and its consequences. Psychological intervention is especially important in the first and second stages of disease processing. In the third phase, psychotherapy is convenient, not only for the patient's gain, but it is also beneficial to include the patient's social network (if possible) in the psychotherapeutic process. Disease and situations associated with it always cause a disbalance of the body and the psyche. In other words, the patient is dealing with a crisis, and he/she is looking for an effective solution with the help of a psychologist and other experts. We begin with the patient's internal picture of the disease, which reflects how the patient experiences his disease. We consider four basic areas of the subjective experience of the disease in patients, namely the area of sensitivity, emotionality, volition, and information (Zacharová, Šrámková, Hermanová, 2007). We, therefore, strengthen effective strategies applied in contact with frustraters (Sawicki, Wedlich, Fleischmann, 2008).

Special educational intervention

Always at the beginning of the therapeutic plan, it is necessary to thoroughly know the client's anamnestic data, the state before the onset of ICMP, and the approximate state of cognitive, language, and speech skills. Cognitive-communication disorders in clients with the history of ICMP are usually manifested simultaneously on all language levels and require a specific diagnostic and therapeutic approach i.e., on the phonetic-phonological language level (pronunciation), on the lexical-semantic

language level (vocabulary, meaning of words), on the morphological-syntactic language level (grammar), in the pragmatic language level (the use of language in real-life situations). Articulation exercises, so-called facial gymnastics are performed during the first phase. We relax facial muscles and lips, we train the tongue, lips, jaw movements, we include selected articulation, phonation, and respiratory exercises, we develop auditory perception and phonemic hearing according to the client's individual needs. We evoke vowels, then syllables and we include writing and reading. The pace of reading and writing is individual and depends on the extent of the disorder. For naming, we use pictures that are further described with other word classes. We compile sentences from several words, we create simple sentences, we invent words for a selected letter, etc.

Aids as communication books or individualized cards for a client's needs, worksheets, computer programs (Brainjogging, Mentio), or dictionaries for people with aphasia are also suitable. It is necessary to develop short-term verbal memory, short-term visual memory, calculation skills, short-term attention, verbal fluency e.g., lexical, semantic. Not to forget the repetition of words, fluency in describing a photograph or an image, writing (text transcription, dictation), naming (object identification, understanding of verbal instructions, and understanding of written instructions). In the care of clients with a history of ICMP, the use of the method of partially impaired performance (PIP) has proved successful. PIP needs to be individually adapted to the client's abilities and the mode and speed of receiving and processing information. An individual training program is compiled according to the extent and depth of the client's problems (Scharingerová, 1999; Scharinger, 1995).

2 Case study

Due to the protection of personal data, we present only basic, essential, and anonymized information without a detailed description of e.g., the relevant place of hospitalization. We drew the necessary information from the progress and discharged report with the patient's consent and we present it in the form of a case study with an overview table (see Table 1 and Table 2 assessing the problem and the patient's strengths and weaknesses).

The patient is a 47-year-old woman with a history of acute ischemic stroke (March 2021). The patient (primary school teacher) came home from work at around 4 p.m. when she reported nausea. She reported having a headache for about three days before that. At around 8 p.m. the same day, she stopped talking and her RUL (right upper limb) was paralyzed. Based on these symptoms, she was transferred to Emergency. Upon arrival, a CT angiography of the brain (i.e., areography of the arteries) was performed on a native CT without acute ischemia. The ACI (internal carotid artery) occlusion on the left is evident from the examination. **Summary:** The patient was received with moderate right-sided hemiparesis, bulbar symptoms,

and fatal lesions. Furthermore, according to medical documentation with paresis of the glossopharyngeal nerve, vagus nerve, accessorius nerve, and hypoglossus nerve (n. IX–XII), Turner syndrome, hypothyroidism, and speech therapy findings (mild dysarthria, Broc's aphasia, dysphagia, oral and verbal apraxia, emotional and ideological apothermia, level II horizontal nystagmus). **Conclusion of the progress report:** ideal and ideomotor apraxia, oral and verbal apraxia, dysphagia within oral apraxia, Broc's aphasia, mild dysarthria. **Conclusion in the discharge report:** symptoms of fluent aphasia with dominant deficits in naming, repetition, understanding, Lexia, and graphics. Oral and verbal apraxia. Mild dysarthria.

Table 1: *The overview of symptoms in the progress report from neurology to the rehabilitation department with a comparison of the discharge report from the rehabilitation department*

	Progress report 2. 4. 2021	Discharge report 27. 4. 2021
Subjectively	It doesn't work but is actively trying	Improvement, but it still doesn't work
Orientation, cooperation	Distorted by a phatic lesion, oriented by place and person, the patient is actively trying – increased fatigue	Distorted by a phatic lesion, oriented by place and person, active cooperation
Verbal manifestation	Non-fluent with low information value, many information empty words, neologisms, agrammatism, phonemic paraphrase (e.g., tuchta instead of buchta), verbal apraxia	Fluent in common conversation, focusing on performance non-fluent with a paraphrase, anomic pauses, agrammatism at the level of words and sentences, spontaneously good gesture support, purposefully gestures fail
Repetition	Severe deficit already at the level of short words	Severe deficit already at the level of short words
Naming	Targeted naming is severely deficient. From 20 words / 0 word	Targeted naming is severely deficient. From 20 words / 1 word
Comprehension	Distorted by limb apraxia, deficient already at the level of simple instructions (e.G., Show your nose)	Distorted by limb apraxia, situational understanding preserved to a relatively good extent, targeted understanding of deficit, phonemic hearing in deficit
Lexis	Not possible	At the level of simple graphemes with a moderate deficit
Grafie	Unexamined	Unexamined
Verbal and oral ability	Targeted movements in the orofacial area with a severe deficit	Still with a severe deficit
Swallowing	Does not know "how" to swallow, impaired oral phase due to severe apraxia	Symptoms of dysphagia in the context of emotional apraxia are no longer noted
Motor realization of speech	Limited by a slight asymmetry of the right corner	Still a slight asymmetry of the right corner

Speech therapy recommendation: progress report 2.4.2021

Dysphagic disorders – thickening fluid, not serving crumbly foods. Food and drink fed by another person in small doses, spoon pressure on the tongue to improve the sensitivity of the oral cavity. The family was provided with information, materials, and leaflets on the issue of aphasia.

Speech therapy recommendation: discharge report 27.4.2021

The family was educated on the issue of aphasia and the possibilities of subsequent outpatient therapy and autotherapy. The development of word production and understanding. Articulation, phonation, and respiratory exercises. The development of auditory perception and phonemic hearing. Practise simple verbal instructions and provide plenty of time to execute them.

Table 2: *Examination of phatic functions*

	Progress report 2. 4. 2021	Discharge report 27. 4. 2021	Max
Verbal production	0	2	20
Oral comprehension	0	2	55
Repetition	0	0	25
Naming	0	1	30
Lexis	0	4	100
Grafie	0	0	70

3 The design and the course of therapy

Special education intervention with the focus on speech therapy and music therapy

It is necessary to know the extent of the brain damage, age, and associated diseases when determining individual therapy and prognosis for a client with ICMP. Moreover, it is vital to begin the therapy in time, choose appropriate re-education procedures, appropriate exercise intensity and consider the motivation and will of the client.

Speech therapy plan

Focused on breathing exercises, mimic muscle exercises, gum massages, oromotoric exercises, etc., because the client was still unable to set the speech organs for the necessary sounds and words when pronouncing (articulation). A partial aim of the breathing exercises was to strengthen the endurance and strength of the breath and to practice the coordination of the breath with speech. Aids for myofunctional

therapy were also used during the exercise of oromotoric skills (motor skills of the lips, tongue, face, swallowing) and the orofacial muscles were warmed up. Speech therapy developed from simple to more complex i.e., from sounds through syllables and words to speeches. Intonation and accent training as well as the intelligibility of speech were included. All exercises were carried out with feedback. At the same time, so-called key isolated words were chosen, such as pronouncing one's name and the names of one's family members. Since the graphic side of the speech was disturbed, the client almost did not understand spoken expressions, nor could she cope with written text. The therapy focused on voice listening practice, naming things, repetition of words, word skills, and speech. Gradually, it was necessary to teach the client to express herself using simple gestures and pointing, because even drawing or writing was not possible to use at the beginning. Following that the therapy was aimed at practising oral comprehension and simultaneously reading, writing and numeracy skills, including graphomotor skills, were renewed. From reading and writing of isolated sounds to simple words and simple retelling of short texts with adapted font size due to a worse left visual acuity. In the area of mathematical skills, it was counting to 10, memorizing numbers, and writing them down. Understanding simple money transactions have not yet been successful.

From the beginning of the intervention, a picture communication book with words, drawings, and photos of the client was created as a means of communication including her choice of topics. They gradually expanded and thus helped to develop the active and passive vocabulary of the client. The picture communication book served her for greater independence in communication and offered a feeling of security in social interactions. Furthermore, individual selected thematic units according to dictionaries for aphasics were discussed. Aids and worksheets depicting frequent expressions were used, followed by the assignment of an auxiliary word to the graph and phoneme. Thus, the therapy focused on cognitive functions, memory, speech functions, speech production, i.e., fluency, intelligibility, and comprehension of speech, and on improving the ability to read, write and count. We started from topics that were motivating for communication therapy. Since the client's cognitive processes were impaired in attention, orientation, perception, memory, recollection, organization, planning, and time sequence, the method of partially impaired performance was used in **a special educational intervention**. Gradually, the program included exercises that focused on optical and acoustic deficits, spatial and temporal orientation, intermodality, and seriality.

The whole therapeutic process was characterised by the active cooperation of the client's partner and their family members, who significantly supported the client and at the same time helped her as a communication partner. In agreement with the client and her family members, the therapy focused on the client's needs and interests and her personal and family life. One family member at least was present during most

therapies so the therapy could take place daily. Family members had to be trained in therapeutic procedures. It was constantly emphasized that the exercise should be short but frequent and that if signs of fatigue were observed, it was necessary to stop and allow the client sufficient time to rest. Family members were also reminded of the principles of communication with the client with ICMP, such as keeping eye contact, slow pace of speech, short sentences with keywords supplemented by written text, the need for feedback on understanding, sufficient time for conversation, the use of the picture communication book, stationery, and paper available for a possible entry of important words in the communication book, asking simple questions, using gestures and facial expressions.

The client worked intensively with her family members during therapy sessions to improve her deficits. A great advantage was the fact that the client and family members started the therapy on time and were significantly motivated and willing to cooperate. The client's condition improved after intensive therapies in a targeted special educational intervention and the client was advised to renew social contacts with friends. The individual therapy was later followed by group therapy in the form of cognitive and conversational training, which made it possible to train the acquired skills, share experiences and establish new relationships with other clients with the history of ICMP.

Music therapy

Sensitive mapping procedures were used as it was necessary to recognize the client's preserved abilities, limitations, and disappearances. **Systemic music therapy** modified for a special educational intervention, which subtly reflected the nature of the preserved and affected cognitive, emotional, and social functions of the client, proved to be effective. Selected exercises from the special educational intervention were connected to movement to purposefully activate and improve memory and speech centres. An emphasis was placed on situational thinking and memories. The development of fine and gross motor skills related to musical activities, first rhythmic-dynamic with acceleration and deceleration followed by melodic-intonation therapy.

As part of music therapy, the client expressed her inner authentic experience for the given role in her musical creations. The client's musical creations monitored and made visible the beginning, the course, and the end of the inner and mental solution of a given task. The desired solution had to be found and anchored. The client's musical creations that were made while dealing with selected tasks and made her internal mental events visible, contributed to the discovery of desired procedures. The client's undesirable practices, which manifested themselves in moments of crisis and uncertainty, were also visible. The music organization itself was used, in cooperation with a music therapist, to guide the client to find a solution that is optimal and emotionally satisfying at the same time. In the client's musical creations and

cooperation with the music therapist, possible solutions to problems in the field of speech, motor skills, social interactions, etc. were found. The selected procedures described above are suitable within a special educational intervention focused on speech therapy and music therapy.

Psychic intervention and psychotherapy

Experiencing fear is a relatively significant complication. Clients experience fear as a significantly unpleasant emotion, thus they tend to fight it, so they draw their attention to it. Paradoxically, this intensifies and fixes it. Subsequently, they experience a feeling of failure and intense fear often turns into anxiety with a negative somatic accompaniment. We consider the use of so-called "paradoxes" to eliminate excessive fear. We based it on the principles of communication therapy of the Palo Alto school. We achieve the desired goal by prescribing the opposite. That implies not fighting the fear but accepting it. It is appropriate to use a formula as "Fear is not your enemy, but a friend who protects and motivates." In addition to the ventilation of the above-mentioned effects, it is appropriate to use *relaxing and imaginative methods* that use muscle relaxation, concentration, autosuggestion, and imagination either in combination or separately. Through regular exercises, the patient learns to regulate some of her vegetative functions and mental processes. This autoregulation is usually activating or calming, sometimes soothing, which is suitable, for example, in dyskoimesia or reactive insomnia. In this case, it is possible to recommend, for example, Schultz's autogenous training (Schultz, 1982). The same principles should be followed when compiling individual hypnotic formulas. They should therefore be clear, brief, and concise. In the case of the patient, various formulas may be recommended: neutralizing formulas (e.g. "I am indifferent to falling asleep, I am just lying and resting.", "I am indifferent to unpleasant thoughts, let my head run calmly.", "I do not mind people around me."), self-directing formulas (e.g. "I am important to myself.", "I deserve to take care of myself.", " the body is my partner", "I help the body, the body helps me.") and strengthening formulas (e.g. "I am brave, calm and patient.", "I can say thank you to the body for every positive progress.", "Every day I feel better and better in every way."). The formulas need to be figured out with clients so that they like them, and they want to identify with them. At the same time, we recommend, especially in patients with aphasia, to use so-called internal speech for training and application of formulas. If the patient can gradually apply the formulas aloud, use internal and external speech.

Another useful exercise for the client may be *controlled imagination*, according to Schultz, the so-called higher degree of autogenous training. It focuses on mental processes and includes six exercises namely: ideas of colours, objects (first concrete, then symbolic), emotionally significant positive experiences, specific people, asking vital questions (e.g. "What do I want?"), formulating life slogans to improve one's

personality (e.g. "I am handy.", "I can be patient.", "I can be strong."). If the exercise progresses well, it is possible to practice topics for the fantasy development of positive symbolic events, which should be combined with the wishes of the client. And especially orientation on wishes we consider very important. We divert the direction of thinking from negative thoughts, which are the source of negative emotions and tension, to positive thinking, which is relaxing and supports the volition component of the autoplastic image of the disease.

As another indicated method, it is appropriate to use *rational psychotherapy*, which can be effective in detecting inappropriate patient opinions. Common misconceptions include, for example, the belief that one is there for others, that the priority is to take care of others, that the views of others and their evaluation is most important to us, that one must not be selfish and think only of oneself. Those misconceptions constitute the source of increased pressure, they contribute to the development of anxiety, tension, and are the source of problems, often including health problems. After uncovering and clarifying misconceptions, we provide adequate information on how to work with ourselves, with our bodies and the environment, how our irrational thoughts, often uncritically accepted in childhood, contribute to a disadvantageous system of opinions, which then leads to mental and health problems or both. We are trying to restructure our thinking to some extent. We explain that if a person gives, he also needs to take, that a person is not selfish when he takes for himself so that he can give. A selfish person takes for himself at the expense of others and gives nothing. The priority is to be able to take care of yourself so that you can take care of others. As a part of the restructuring of thinking, it is necessary to support the patient in taking a new view of the crisis (that the disease certainly is). It is the client's choice whether to conceive the crisis as a catastrophe, which brings helplessness and hopelessness, a future full of fear and anxiety, or will conceive it as a call for a change, to find new tools to solve the crisis. The basic question is what the crisis should teach the client e.g., working on their wishes, goals, learning to be patient, a new approach to the body, to themselves, to others. By applying this approach, we strengthen not only the informative component of the autoplastic image of the disease but also the volition.

4 Final evaluation

Stroke is a debilitating condition that affects more than 15 million new patients each year worldwide. One in three patients then remains with permanent consequences in motor or cognitive areas. It is estimated that up to 42% of stroke survivors need help with daily activities (Teasell et al., 2012). Early rehabilitation in these cases is essential to maximize functional recovery (Horn et al., 2005; Krakauer et al., 2012; Samuel et al., 2017). In addition to the above-mentioned special educational and psychological approaches, motor and cognitive neurorehabilitation, in which physio-

therapists and occupational therapists participate, is also crucial in combination therapy. These approaches are based on intensive task-specific training and learning with the support of neural reorganization and recovery itself (Alia et al., 2017; Galetto and Sacco, 2017). Traditional rehabilitation of individuals with a history of stroke integrates different treatment strategies that correspond to different levels of support. Quite often, repetitive exercises are performed that help build muscle strength (Dundar et al., 2014). The combination therapy in this case is a team effort where health professionals, psychologists, and special educators within the sectors work together. This facilitates a coherent rehabilitation process. The rehabilitation is necessary for patients to retain, develop and restore previous or new functions. It is also recommended that rehabilitation is aimed at a particular client and thus respects his individual needs (Donnan et al., 2008; Kristensen et al., 2016). Research studies show that the involvement of clients and other important people in their treatment, care, and rehabilitation processes helps to increase their autonomy. This reduces the economic costs of rehabilitation. Specialized rehabilitation programs, which include physiotherapy and occupational therapy were proven effective in the rehabilitation of impaired functions (Ranner et al., 2018; Christensen et al., 2019; Brouns et al., 2018). In addition to traditional rehabilitation procedures, technology applications are also used today.

Rehabilitation technologies are designed to provide consistent objective feedback that can help patients. We suggest, for example, commercial game systems, the Internet (e.g. telerehabilitation), various types of virtual reality or robotic systems (Stone, 2014; Antonio et al., 2015; Klein et al., 2014; Fulk et al., 2014). The cooperation of a multidisciplinary team seems to be an effective way of rehabilitation for people with a history of stroke. In this paper, we focused on the cooperation between special education and psychology in a client with a history of an ischemic stroke. However, the therapeutic approaches of physiotherapy and occupational therapy are also an integral part. This offers a compact and comprehensive approach. The presented case study points to the results of the progress and discharge report. The instances of improvement in individual areas are evident in the discharged report, even only after 20 days of intensive multidisciplinary cooperation. It was after this period that the client was discharged from the hospital with a recommendation for outpatient speech therapy and rehabilitation care. The client continued to experience difficulties in speech, cognitive, and motor functions after discharge. During her hospitalization, however, she reached the level that allowed her to be discharged from the hospital, with her spouse currently taking care of her.

Limits of the study

As this is a hospital (and special education) descriptive case study it included only one participant that matched the relevant characters. Therefore, the findings we present

do not necessarily reflect real factors from the general population. Based on this fact, the results may not be generalizable, but rather indicative and procedures rather recommended. Due to the study design, there are limitations to causal conclusions.

Future

We consider it extremely important to point out the effectiveness of multidisciplinary cooperation. It is this cooperation that reflects the comprehensive coverage of the patient's needs, from mental problems to motor, cognitive or speech therapy problems. Based on this submitted case study, where the effectiveness of the cooperation is evident, we consider it important to continue to address this issue. It would be appropriate to increase the research design to a number that will be statistically significant. We would be able to better interpret and generalize the results and thus better formulate the conclusions and recommendations for practice. It is this significance that will allow us to interpret the results with specific recommendations.

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(reviewed twice)

Dr. Michal Vostrý
Jan Evangelista Purkyně University in Ústí nad Labem
Faculty of Education and Faculty of Health Studies
Department of Special and Social Education
Velká Hradební 13
400 13, Ústí nad Labem, The Czech Republic
e-mail: Michal.Vostry@ujep.cz

doc. Dr. Ilona Pešatová
Jan Evangelista Purkyně University in Ústí nad Labem
Faculty of Education
Department of Special and Social Education
Hoření 13
400 01, Ústí nad Labem, The Czech Republic
e-mail: Ilona.Pesatova@ujep.cz

Mgr. Barbora Lanková
Jan Evangelista Purkyně University in Ústí nad Labem
Faculty of Education
Department of Preprimary and Primary Education
Hoření 13
400 01, Ústí nad Labem, The Czech Republic
e-mail: Barbora.Lankova@ujep.cz

Dr. Otakar Fleischmann
Jan Evangelista Purkyně University in Ústí nad Labem
Faculty of Education
Department of Psychology
Hoření 13
400 01, Ústí nad Labem, The Czech Republic
e-mail: Otakar.Fleischmann@ujep.cz

Mgr. Jaroslava Jelínková
Jan Evangelista Purkyně University in Ústí nad Labem
Faculty of Education
Language Department and Department of English language and literature
České mládeže 8
400 01, Ústí nad Labem, The Czech Republic
e-mail: jelinkova.jaroslava@ujep.cz

Quantitative lingustic analysis of Czech sign language

Reviewed by Petr Vysuček

This book has two main goals. The main goal seems to be to give further proof through qualitative analysis that signed languages are natural languages. The secondary goal is to provide more tools to support pedagogical methods for teaching signed languages, specifically, Czech sign language.

The book has 10 chapters that flow fairly well in a step-by-step fashion. From the table of contents, one can easily find the topics without any confusion. Chapter one describes and defines the topic of signed languages. It gives perspectives from hearing society and hearing researchers. Chapter one talks about the deaf community to a lesser degree focusing on their native signed languages and cultural identity. This chapter also discusses created communication systems but does not discuss the debate about whether such systems have worked for their purposes or whether they are actual useful compared to using natural languages only.

Chapter 2, 3 and 4 describe the tools the team used in their study to perform the methods of research. They discuss quantitative linguistics and how it has not been fully applied to signed language studies yet to prove that they are indeed natural languages as many qualitative studies have. Chapter 3 describes Menzerath-Altmann law (MAL) and how they use this in their research. Chapter 4 gives a good review of language fractals and how they believe it can be used for studying signed languages.

Chapter 5 lays out their methodology, and chapter 6 discusses the statistical results and how they verified them. Chapters 7 and 8 show clear examples of two experiments. In the first example, they look at how to do a fractal analysis of Czech Sign Language. The second example shows how the Hurst formula is applied. Chapter 9 gives future possibilities for research, studies, or ideas in this vein. Chapter 10 reveals their conclusions and recommendations.

From a linguistic point of view, the methods and analysis employed are somewhat innovative, but as the authors point out, fail to achieve the desired results. It is now

clear to the authors that just applying the same laws and theories used when analyzing spoken languages to Czech Sign language, is not an automatic solution to this dilemma. The sampling shown in this book seems to allow for good analysis on the surface, but there are pieces of the linguistic puzzle missing. The missing pieces are frequently missed by non-native speakers of Czech Sign language or of any signed language. These missing parts are often dismissed as not part of the language, but rather nonverbal components as listed in the first chapter. However, as many studies have pointed out these elements are indeed part of the language, such as nonmanual movements (mouth morphemes), eyebrow movements, head tilts, torso tilts-turns, eye gaze, spatial location of the sign, hand movement within the space, movement away from another sign shown in the passive hand, etc.

This author notes that many of the shortcomings in the methodology and subsequent lackluster results could have been avoided. This study and many studies have suffered from this problem. The solution is to involve the native speaking community in the study. One of the authors in the team should have been Deaf, not only deaf, but a person whose identity is Deaf. A Deaf whose first language is CZJ and whose first culture is Deaf. Such a person would be able to point out language connections and any discrepancies in the study or analysis.

This book is a good read for those in the field of linguistics or Deaf studies. However, the content may be too technical for the average layperson. This book is a good stepping off point for further studies to learn and improve such research in the field of signed language linguistics.

Mgr. Petr Vysuček, Ph.D.
Pevnost – České centrum znakového jazyka
Bulharské, 734/28
101 00 Praha 10, Vršovice
Czech Republic
e-mail: petr.vysucek@gmail.com

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The periodical is going to be published since the year 2012 by the **Institute of Special – pedagogical Studies at Palacky University in Olomouc**.

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