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Dynamic Assessment as a diagnostic approach for bilingual children[1]

Abstract: The paper focuses on Dynamic Assessment (DA), one of the diagnostic approaches used in the differential diagnosis of bilingual children who may present with communication disorders. The author provides a comprehensive overview of the theoretical foundations of DA, situating them within their historical and methodological context. The paper also presents the main subtypes of Dynamic Assessment, including the test–teach–retest model and gradual prompting and testing limits, along with examples of their practical application. Furthermore, the author relates the concept of DA to research on bilingualism and attempts to link the core assumptions of Dynamic Assessment with the speech-language diagnostic model proposed by Cieszyńska, as well as with conclusions drawn from the author's own clinical practice.

Keywords: dynamic assessment, bilingualism, differential diagnosis, speech-language assessment

Dynamic Assessment jako podejście w diagnozie dzieci dwujęzycznych[2]

Abstract: Praca dotyczy Dynamic Assessment (DA) – jednego z podejść diagnostycznych stosowanych w diagnozie różnicowej dzieci dwujęzycznych, u których mogą występować zaburzenia komunikacji językowej. Autor szczegółowo omawia teoretyczne podstawy DA, osadzając je w kontekście historycznym i metodologicznym. W tekście przedstawiono również główne podtypy Dynamic Assessment, takie jak model test–teach–retest oraz gradual prompting and testing limits, wraz z przykładami ich praktycznego zastosowania. Autor odnosi koncepcję DA do badań nad bilingwizmem, a także podejmuje próbę powiązania kluczowych założeń Dynamic Assessment z modelem diagnozy logopedycznej zaproponowanym przez Cieszyńską. Rozważania teoretyczne uzupełniono refleksjami wynikającymi z własnej praktyki klinicznej autora.

Keywords: ocena dynamiczna, dwujęzyczność, diagnoza różnicowa, diagnoza mowy i języka

The aim of this paper is to present Dynamic Assessment (DA) as a method for diagnosing bilingual children. While DA is widely discussed in international speech and language therapy literature, it remains largely unaddressed by Polish speech-

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[1] Research was conducted as part of my own work.

[2] Badania zostały przeprowadzone w ramach pracy własnej.

language pathology researchers. Considering the fact that bilingual children—for example, those attending Polish kindergartens and schools—should undergo speech and language assessment, there is a clear need for descriptions and practical guidelines on how to apply this approach in the evaluation of bilingual children.

Dynamic Assessment is identified as one of three diagnostic approaches used in speech-language pathology with bilingual children, alongside BID and RIOT. These two approaches have already been described by the author of the present text. The paper on DA constitutes a kind of conclusion to this series of studies and, at the same time, a proposal for strengthening the methodological toolkit of Polish speech-language pathologists.

Historical background of DA

The origins of the Dynamic Assessment (DA) concept can be traced back to the early 1920s. This method is based on Lev Vygotsky's concept of the Zone of Proximal Development (ZPD), introduced in 1934. L. Vygotsky defined the ZPD as the difference between a child's actual level of development and their potential development as it unfolds during problem-solving under the guidance of a more competent individual, such as an adult.

In the 1960s, psychologists continued to develop Vygotsky's ideas. In their research on cognitive development, they introduced the test–teach–retest (TTR) procedure. In Israel, Feuerstein proposed the Learning Potential Assessment Device (1979), which he applied in the diagnosis of low-functioning Moroccan–Jewish children. Feuerstein observed difficulties in the transmission of Moroccan culture within Israel, resulting from diverse experiences related to the process of migration. These children had been relocated from rural areas of Morocco to Casablanca and subsequently to Israel. This process led to disruptions in the acquisition of their ancestral culture; as a consequence, Feuerstein identified resulting difficulties in their understanding of the tasks used in ability tests cognitive. The introduction of mediation into the education of these children revealed their learning potential when appropriate strategies were used (Gutierrez-Clellen, Peña, 2001). The 1970s and 1980s marked a period of flourishing of the approach initiated by Feuerstein in psychology, resulting in the development of numerous tools and procedures (Budoff, 1974; Lidz, 1991; 1996).

Willam Rohwer and Mary Ammon (1971), as well as Jerry Carlson and Karl Wiedl (1980), contributed to the development of Dynamic Assessment in the areas of initial skills testing, mediation between the learner and the instructor, and the provision of feedback. Particularly important was the provision of feed-

back about performance, which became a key element of the DA approach. In the work of Helen Schucman (1960) the importance of using pre-intervention and post-intervention tests was emphasized.

Helen Schucman (1960), G. Ortar (1959), and Else Haeussermann (1958) are considered pioneers in establishing the foundations of Dynamic Assessment. Ortar investigated learning ability, while E. Haeussermann and H. Schucman focused on developing assessment procedures for children with intellectual disabilities and cerebral palsy (Lidz, 1991). Due to the limited scope of the present paper, it is not possible to provide a broad and detailed account of the historical aspects underlying the development of DA; however, an interesting publication in this area is the chapter by Carl Haywood (2012).

Theoretical background of DA

Within the concept of the Zone of Proximal Development (ZPD), L. Vygotsky emphasized its social and interactional nature—the adult enables the child to undertake actions and accomplish tasks that cannot be solved independently. For L. Vygotsky, play constitutes a key domain for overcoming cognitive limitations (Skibska, 2014, s. 309). The ZPD is also described as a "potential," that is, the difference between a child's independent performance and their performance in interaction with a more experienced individual (Lidz, 1991, s. 7–8).
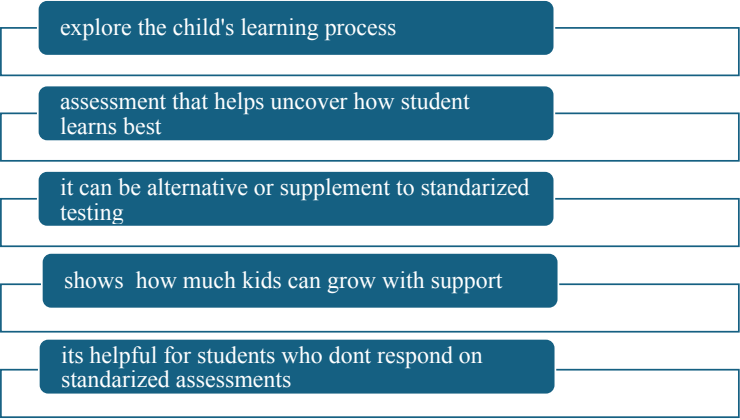
The ZPD is grounded in the belief that it is necessary to reach the "internal causal-dynamic and genetic relations that characterize the learning process" (Vygotsky, 2002, s. 86). Joanna Skibska cites an extension of this definition proposed by E. Rzechowska, who understands the ZPD as "an area of the subject's constructive activity:

a) initiated and continued in situations of social mediation (direct or indirect cooperation),
b) leading to the acquisition or construction, in the course of this activity, of tools (…) and information,
c) with the aim of developing specific competencies (Skibska, 2014, s. 309–310).

Dynamic Assessment also assumes that creating appropriate conditions for the child supports the emergence of behaviors that do not occur spontaneously, activates the child's engagement in acquiring new experiences, and facilitates the construction of an internal mental representation of the world (Rzechowska, 1996, s. 85).

Figure 1 presents a general characterization of Dynamic Assessment with respect to the question of what a speech-language pathologist gains by applying DA to the child being assessed.

FIGURE 1
Understanding Dynamic Assessment

explore the child's learning process

assessment that helps uncover how student learns best

it can be alternative or supplement to standarized testing

shows how much kids can grow with support

its helpful for students who dont respond on standarized assessments

Source: Own work on the basis of https://undivided.io

Dynamic Assessment is also considered in contrast to so-called static testing. The differences between these types of assessment are shown in the table:

TABLE 1
Characteristic of static and dynamic approaches

Standarized (static)	Dynamic
Passive participants	Active participants
Examiners observers	Examiner participates and intervenes
Describes needs, areas of difficulty	Describe modfialibyty
Standarized protocol	Flexible, adaptive protocol

Source: Own work on the basis of https://www.asha.org/siteassets/uploadedfiles/multicultural/dynamic-assessment-module-1-slides.pdf)

Carol Lidz (1991) identified criteria characterizing Dynamic Assessment (DA). The first of these is the TTR format. In the test phase, a static measurement of skills is conducted; this is followed by a specific intervention, and finally a retest is performed, aimed at measuring changes in the child's performance. The term "change" is also often referred to as response to instruction.

The second key criterion in characterizing DA is learner modifiability. Modifiability is defined as the quantitative change in the learner as a result of a specific intervention and the implementation of metacognitive processes in problem solving.

The third element of DA characterization is the possibility of assessing the usefulness of a given form of intervention, including its intensity and scope, for the individual learner.

Dynamic Assessment in the Context of Examining Language Development

Vera Gutierrez-Clellen and Elizabeth Peña identified three forms of evaluating language development using Dynamic Assessment (DA). These are: testing the limits, graduated prompting, and the test–intervention–retest format. According to the authors, the first two forms are more appropriate for determining readiness for progress in intervention, whereas the third is most suitable for differential diagnosis in bilingual children, based on distinguishing which linguistic phenomenon is a symptom of a disorder and which reflects a language difference.

Testing limits

Among the researchers working with the "testing the limits" approach were J. Carlson and K. Wiedl (1978; 1992). In this context, providing feedback to the learner—either in a short or extended form, as well as through verbalization—is crucial. "Short" feedback consists of simply indicating whether the task was performed correctly, whereas "extended" feedback involves explaining why a given response was correct or incorrect as well as what the task requirements were. Verbalization involved the child describing the task and then explaining how they arrived at a particular response. Research by J. Carlson and K. Wiedl indicated that testing the limits is an effective approach for children aged 5–10 from diverse ethnic backgrounds when using „extended" feedback and verbalization. This type of feedback, combined with verbalization, resulted in a more accurate assessment of children's abilities than traditional testing or short feedback alone.

Gradual prompting

This element of Dynamic Assessment is related to the identification of the ZPD by providing the child with prompts arranged in an appropriate hierarchy. By using minimal and maximal prompts, it is possible to assess the child's potential to learn specific concepts. J. Campione and A. Brown (1987) also defined the individual components of graduated prompting for children, including their modifiability, measured by the number of prompts required to elicit the desired response and the level of knowledge transfer to performing new tasks.

The prompting procedure developed by J. Campione and A. Brown has been applied in various studies, for example: children's progression from using single

words to forming two-word combinations (Bain, Olswang, Johnson 1992), phonological awareness (Evans, Maschmeyer, & McFarlane, 1996), and reading level (Spector, 1992).

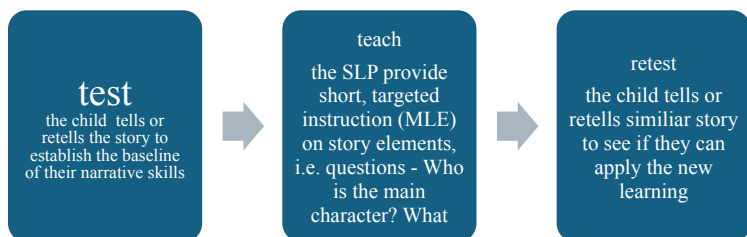## Test – teach – retest (TTR)

The test–teach–retest format is widely used in psychology and education. For example, a teacher uses the initial test to identify deficits or skills that are expected to improve through gradual experience. Observed gaps or developing skills are addressed within the framework of Mediated Learning Experiences (MLE), that is, a specific intervention (teach), such as a speech-language therapy session. The level of the desired skill achieved by the child is then measured through the retest.

The test–teach–retest format has been applied in studies such as those by Milton Budoff (1987), David Tzuriel and Pnina Klein (1987), and Ronald Miller, Lynda Gillam, and E. Peña (2001).

The TTR format can be used to develop narrative competence in children, which shows fig. 2.

Figure 2
TTR format illustrated with an intervention in narrative development

test
the child tells or retells the story to establish the baseline of their narrative skills

teach
the SLP provide short, targeted instruction (MLE) on story elements, i.e. questions - Who is the main character? What

retest
the child tells or retells similiar story to see if they can apply the new learning

Source: own work.

The ability to create narratives is one of the elements of speech-language therapy practice in the Polish standard (Grabias, 2015). One form of qualitative measurement can be the TTR formula. In the first phase, the speech-language pathologist identifies skills in this area—for example, in Polish in the case of a bilingual child. Narrative analysis should include both the macrostructure and microstructure of the child's utterances.

The next phase involves training in areas where potential deficits were identified, such as the use of introduction, goal, attempt, and outcome of story characters, or lexical, syntactic, and morphological errors. In the final phase,

the speech-language pathologist conducts a retest of the child's ability to use macrostructural elements and correct language forms during telling or retelling a story.

A useful tool for this type of assessment in bilingual children may be the Multilingual Assessment Instrument for Narratives (MAIN; Gagarina et al., 2019).

Dynamic Assessment as a Method for research in Bilingualism

Elizabeth Peña (n.d.) used testing the limits to assess vocabulary acquisition in children from culturally and linguistically diverse (CLD) backgrounds. She observed that the use of extended feedback improved children's performance compared to those who did not receive such feedback from an adult. Herbert Ginsburg (1997) demonstrated that applying a clinical interview with CLD children allows them to demonstrate their knowledge.

As mentioned earlier, the test–teach–retest format is widely used in speech-language diagnosis of bilingual children, where it is necessary to identify and interpret linguistic behaviors as either related to language contact (e.g., interference) or resulting from a communication disorder (e.g., letter reversals in children with dyslexia). A series of studies in this area was presented by E. Peña and colleagues (2001). They examined, for example, preschool children in the context of learning new vocabulary. Retests conducted after the teaching and modifiability phase clearly differentiated bilingual children with vocabulary acquisition deficits from those who experienced difficulties despite short-term training.

Bernard Camilleri and James Law (2007) used DA to assess receptive vocabulary in children learning English as an additional language (EAL). The researchers showed that by applying graduated prompting, they were able to identify children requiring speech-language intervention. Peña et al. (2006) applied DA (TTR format) to assess narrative competence in early school-aged children. The tests and mediated intervention enabled them to identify bilingual children with potential communication difficulties that did not result from cross-linguistic differences.

Natalie Hasson et al. (2012) applied their original method, Dynamic Assessment of Preschoolers' Proficiency in Learning English (DAPPLE), to bilingual preschool children learning English as an additional language. The study included children receiving speech-language therapy as well as neurotypical children and assessed vocabulary, syntax, and phonology. The authors found that children in the therapy group showed lower performance in lexical tasks (reception and expression) and required more graduated prompting. Regarding syntax, children receiving therapy also had difficulties producing sentences with three or four

clauses, despite a higher number of prompts from the adult. In the area of phonology, children with communication deficits produced fewer words and sounds than the control group, but after the teach phase, their speech sound production showed significant improvement.

From a qualitative perspective, N. Hasson, et al. observed different error patterns in the two groups, which they suggested could form the basis for further differential diagnosis. Olivia Hadjajd, Margaret Kehoe, and Helene Delage (2024), using the TTR format, successfully distinguished children into typically developing (TD) and DLD groups (both monolingual and bilingual) through narrative-building training.

Dynamic Assessment in the Perspective of Polish Speech-Language Pathology

The DA procedure, in the form described above, has so far not attracted significant attention among Polish speech-language pathologists in terms of scientific elaboration (cf. Knapek & Młyński, 2025). However, this does not mean that Polish SLPs do not use similar strategies in their diagnostic and therapeutic work. A similar approach to the DA described above was proposed 20 years ago by Jadwiga Cieszyńska. In her monograph *Nauka czytania krok po kroku. Jak przeciwdziałać dysleksji* (2005), she formulated guidelines for speech-language assessment that are oriented not quantitatively, but qualitatively.

According to J. Cieszyńska, diagnosis should be continuous, multimodal, and conducted with the aim of planning therapy. Continuity refers to periodic repetition for verification and application purposes. Multimodality relates to a holistic understanding of the child, while the therapeutic process should be periodically modified according to the child's current needs and acquired skills (Cieszyńska, 2005, s. 32–33).

Cieszyńska explicitly emphasizes the positive aspect of speech-language diagnosis, namely identifying what the child can already do. She directly refers to Vygotsky's concept of the ZPD, writing:

"The zone of proximal development is the first real goal toward which therapy for the assessed child is directed. This approach takes into account the developmental aspect in shaping all mental and physical functions, as well as the mutual correlations between individual skills and abilities. Diagnosis should consider two aspects of functioning: the instrumental aspect, covering intellectual and performance abilities, and the motivational aspect, influencing the degree to which these abilities are realized" (2005, s. 33).

J. Cieszyńska's reflections remain relevant today, especially in the context of bilingual children who also use Polish. Based on her own speech-language practice, the author of this text concludes that foreign children in the initial stages of learning Polish can be provided with speech-language support oriented toward language stimulation (Korendo, Błasiak, 2019; Gębal, Miodunka, 2020; cf. Młyński, 2023). The scope of such interventions should also include reemigrant children returning to Poland with their families.

When working with children who are becoming or are already bilingual over a defined period, Polish speech-language pathologists may attempt to apply a DA approach. In this context, participatory observation of the child and the continuous and multimodal nature of diagnostic interventions become key. According to J. Cieszyńska, such observation should include the following elements, for example:

- whether the child willingly participates in activities or needs to be encouraged,
- whether the child understands verbal and nonverbal instructions,
- whether the child can follow rules,
- how quickly the child learns (how many repetitions are required for them to remember how to perform the task),
- whether the child can make use of the examiner's assistance (Cieszyńska, 2005, s. 33–34).

Application of Dynamic Assessment (DA) in Clinical Practice with Bilingual Children

The diagnosis of a bilingual child should begin with a detailed interview and an assessment of the child's linguistic situation (Knapek, Młyński, 2025). When there are general indications of a possible language communication disorder, the child should be qualified for speech and language therapy with the overarching goal of supporting and equalizing communicative competence in Polish. During these sessions (e.g., over the course of several or a dozen meetings), the speech-language therapist should introduce new linguistic material (e.g., vocabulary), which may be implemented using MLE strategies.

By applying procedures such as testing the limits or graduated prompting, the therapist can obtain a preliminary indication of whether the child is able to acquire the presented linguistic material and, if so, to what extent. Another possible approach is the use of the TTR format. In this model, the therapist first assesses, for example, the child's lexical repertoire and identifies semantic domains that require therapeutic support. The next step involves speech-language exer-

cises focused on the presentation and acquisition of new material (e.g., through the use of glottodidactic techniques), followed by a final re-assessment to determine whether the newly introduced material is being used by the child in communication.

The careful and deliberate application of the TTR format may constitute an important stage in differential diagnosis. It allows the therapist to address the following questions: does the child acquire new linguistic material, and if so, to what extent and in what form? If the therapist observes significant difficulties in acquiring new material in Polish, it becomes necessary to conduct an assessment in the child's other language(s). The observation of comparable deficits across both languages may serve as a basis for identifying language communication disorders.

Summary

The Dynamic Assessment approach is one of three methods recommended, among others, by ASHA. The two approaches not discussed in this text are BID and RIOT (Młyński, 2021; 2021a). DA is a relatively flexible approach to speech-language diagnosis, giving the clinician considerable room for methodological maneuvering, such as selecting specific tests to use within the TTR format.

DA also does not require specialized training, making it widely accessible to speech-language pathologists in Poland. However, it requires knowledge of bilingual language development, both simultaneous and sequential. A lack of such knowledge may lead to diagnostic errors, resulting in false-positive or false-negative assessments of a bilingual child (Frost, 2000; see also Mikłasz-Sendecka, Przybyla, 2019).

Important implications for speech-language therapists (practitioners):

- develop a set of linguistic material (e.g., in Polish) that you intend to introduce to the child over the course of several sessions;
- assess the child with regard to the planned instructional material—determine to what extent the child already knows it and is able to use it;
- introduce new material using speech-language therapy techniques and/or glottodidactic methods, and consolidate it through repeated and varied practice;
- conduct a re-assessment to determine whether the child has acquired the linguistic material; if so, at what level; if not, to what extent; and identify the symptoms accompanying both outcomes.

References

Bain B., Olswang, L., Johnson, G. (1992) Language sampling for repeated measures with language-impaired preschoolers: Comparison of two procedures. *Topics in Language Disorders* *12*(2), 13–27.

Budoff, M. (1974). Learning potential and educability among the educable mentally retarded. (Final Report Project No. 312312). Cambridge: Research Institute for Educational Problems, Cambridge Mental Health Association.

Budoff, M. (1987). Measures for assessing learning potential. In: C. S. Lidz (ed.), Dynamic assessment: An interactional approach to evaluating learning potential (pp. 173–195). Guilford.

Camilleri, B. Law, J. (2007). Assessing children referred to speech and language therapy: Static and dynamic assessment of receptive vocabulary. *Advances in Speech Language Pathology*, *9*(4), 312–322

Campione, J., Brown, A. (1987). Linking dynamic assessment with school achievement. In: C. S. Lidz (ed.), Dynamic assessment: An interactional approach to evaluating learning potential (pp. 82–115). New York: Guilford.

Carlson, J. S.,Wiedl, K. H. (1980). Applications of a dynamic testing approach in intelligence assessment: Empirical results and theoretical formulations. Zeitschrift für Differentielle und Diagnostische Psychologie, 1(4), 303–318.

Carlson, J., Wiedl, K. H. (1992). The dynamic assessment of intelligence. In: H. C. Haywood, D. Tzuriel (eds.), Interactive assessment (s. 167–186). Springer-Verlag.

Cieszyńska J. (2005). *Nauka czytania krok po kroku. Jak przeciwdziałać dysleksji*. Wydawnictwo Naukowe AP.

Evans, L., Maschmeyer, J., McFarlane, L. (1996). Relationship between awareness and severity of phonological disorders. Paper presented at the Annual Meeting of the American Speech-Language-Hearing Association.

Feuerstein, R. (1979). *The Dynamic Assessment of Retarded Performers: The Learning Potential Assessment Device, Theory, Instruments, and Techniques.* University Park Press.

Frost E.D. (2000). Bilingualism or dyslexia – language difference or language disorder?, In: G. Reid, L. Peer (eds.), *Multilingualism, literacy and dyslexia. A challenge for educators* (pp. 129–137). Routledge.

Gagarina, N., Klop, D., Kunnari, S., Tantele, K., Välimaa, T., Bohnacker, U., Walters, J. (2019). MAIN: Multilingual Assessment Instrument for Narratives – Revised. Materials for use. *ZAS Papers in Linguistics*, *63*.

Gębal P., Miodunka W. (2020). *Dydaktyka i metodyka nauczania języka polskiego jako obcego i drugiego.* PWN.

Ginsburg, H. P. (1997). Entering the child's mind: The clinical interview in psychological research and practice. Cambridge University Press.

Grabias S. (2015). Postępowanie logopedyczne. Standardy terapii In: S. Grabias, J. Panasiuk, T. Woźniak (eds.) *Logopedia. Standardy postępowania logopedycznego* (pp. 13-35) Lublin: Wydawnictwo UMCS.

Gutierrez-Clellen V., F., Pena E. (2001). Dynamic Assessment of Diverse Children: A Tutorial. *Language, Speech, Hearing Services in Schools*, *32*(4), 212–224.

Hadjadj, O., Kehoe M., Delage. H. (2024). Dynamic Assessment of Narrative Skills for Identifying Developmental Language Disorder in Monolingual and Bilingual French-Speaking Children. *Language Speech Hearing Services in Schools*, *55*(1), 130–151.

Haeussermann E. (1958). *Developmental potential of preschool children*. Grune – Stratton.

Hasson, N., Camilleri, B,. Jones, C., Smith, J., Dodd, B. (2013). Discriminating disorder from difference using dynamic assessment with bilingual children. *Child Language Teaching and Therapy*, *29*, 57–75.

Haywood C. (2012). Dynamic Assessment: a history of fundamental ideas. *Journal of Cognitive Education and Psychology*, *11*, 3, 217–229.

Korendo, M., Błasiak-Tytuła, M. (2021). Potrzeba programowania języka polskiego dzieci dwujęzycznych w świetle badań włoskich. *Logopedia*, *48*(2), 335–345.

Lidz C. (1991). *Practitioner's Guide to Dynamic Assessment.* New York: The Guilford Press.

Lidz, C. (1996). Dynamic assessment and the legacy of L. S. Vygotsky. School Psychology International, *16*(2), 143–154.

Lidz, C. S. (1991). Practitioner's guide to dynamic assessment. Guilford.

Mikłasz-Sendecka, B., Przybyla, O. (2019). Dwujęzyczność wczesnodziecięca. Studium przypadku. *Logopedia Silesiana*, *8*, 461–486.

Miller, L., Gillam, R., Peña, E. (2001). Dynamic assessment and intervention: Improving children's narrative abilities. PRO-ED.

Młyński R., Knapek M. (2025). Ryzyko dysleksji w warunkach dwujęzyczności polsko-obcej. *W stronę lingwistyki humanistycznej.* Księgarnia Akademicka.

Młyński, R. (2021). Ocena dwujęzyczności dziecięcej przy zastosowaniu formuły RIOT. *Logopaedica Lodziensia*, *5*, 159–170

Młyński, R. (2021). The BID procedure as a tool for assessing phonological processes in bilingual children. *Logopedia Silesiana*, *10*(2), 1–26.

Młyński, R. (2023). Świadomość logopedów w zakresie glottodydaktycznej perspektywy kształcenia językowego dzieci z doświadczeniem migracji. *Acta Universitatis Lodziensis. Kształcenie Polonistyczne Cudzoziemców*, *30*, 337–351.

Ortar G. R. (1959). Improving test validity witch coaching, *Educational Research*, *2*, 137–142.

Peña E., Gillam RB., Malek M., Ruiz-Felter R., Resendiz M., Fiestas C., Sabel T. (2006). Dynamic assessment of school-age children's narrative ability: an experimental investigation of classification accuracy. *Journal of Speech, Language and Hearing Research*., *49*(5), 1037–1057.

Peña, E. (n.d.). Performance of African American and Puerto Rican preschoolers on the EOWPVT in feedback vs. no-feedback conditions. Unpublished raw data.

Peña, E., Iglesias, A., Lidz, C. (2001). Reducing test bias through dynamic assessment of children's word learning ability. American Journal of Speech-Language Pathology, *10*, 138–154.

Rohwer, W. D., Ammon, M. S. (1971). Elaboration training and paired-associate learning efficiency in children. Journal of Educational Psychology, *62*(5), 376–383.

Rzechowska E. (1996). Współczesne kierunki badań nad strefą najbliższego rozwoju poznawczego. In: A. Januszewski, R Oleś, W. Otrębski (eds.), *Studia z psychologii w KUL*, t. 8. RW KUL.

Schucman H. (1960). Evaluaiting the educability of the severely metantally retarde child. *Psychological Monographs, General and Applied*, *74*(14), 1–32.

Skibska, J. (2014). Myśl Lwa S. Wygotskiego we współczesnej edukacji małego dziecka. In: A. Kamińska, K. Denek, P. Oleśniewicz (eds.), *Edukacja jutra. Od tradycji do nowoczesności. Aksjologia w edukacji jutra* (pp. 307–316). Wydawnictwo Wyższa Szkoła Humanitas.

Spector, J. (1992). Predicting progress in beginning reading: Dynamic assessment of phonemic awareness. Journal of Educational Psychology, *84*, 353–363.

Tzuriel, D., Klein, P. (1985). Analogical thinking modifiability in disadvantaged, regular, special education, and mentally retarded children. Journal of Abnormal Child Psychology, *13*, 539–552.

Vygotsky, L.S. (2002d). Problem wieku rozwojowego. In: L.S. Wygotski. *Wybrane prace psychologiczne II: Dzieciństwo i dorastanie* (pp. 61–90). Wydawnictwo Zysk i S-ka.

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