

ENGaGE project: English and German Task Bank for dyslexic learners and their inclusive classes

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1. Introduction

The ENGaGE project ³⁷ (2017-1-HU01-KA201-035955) was launched with four participating countries, Hungary (University of Miskolc, University of Szeged, Lingua-Met, Navigates), the Czech Republic (Masaryk University, Brno), Poland (University of Warsaw) and England (Lancaster University) in 2017 supported by the European Commission in the framework of Erasmus+ ³⁸. The main aim of the project was to design digital language learning materials in English and German for dyslexic learners and their inclusive classes which are in line with the concepts of inclusion and differentiation. Inclusive classes consist of pupils with mixed abilities, and offer conditions and tailor-made assistance to facilitate learners' development. The ENGaGE Task Bank contains a wide variety of tasks, among others phonics exercises and tasks strengthening orthographic and morphological awareness,

³⁷ The homepage of the project: <http://engage.uni-miskolc.hu>

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which can effectively support the foreign language learning processes of learners with special educational needs, focusing specifically on dyslexic learners. The thematically organized Task Bank, created on the Screenager educational platform, was designed for 4th to 8th graders, at language levels A1- to A2+ in accordance with CEFR. Supporting the key methodological principles of the project, a Teacher Training Programme accompanies the Task Bank to provide information on teaching dyslexic learners, the role of digital pedagogy and project work in differentiated foreign language teaching, as well as the structure and potential of the Task Bank.

The ENGAGE project relies on and further develops the findings and outcomes of earlier projects exploring the possibilities of teaching foreign languages to dyslexic learners (DysTEFL 1-2, CalDys2). By designing a complex, thematically organised Task Bank both in English and German, it fills a gap in learning materials available for dyslexic learners and their inclusive groups, and also fosters language choice and self-study for all language learners.



Figure 1. Homepage of ENGAGE project (<http://engage.uni-miskolc.hu>)

In the following, we shall define dyslexia and discuss its effects on literacy in general, and foreign language learning in particular, and show how the ENGAGE Task Bank offers techniques to cater for the special language learning needs of dyslexic learners within the framework of inclusive classes.

2. Definition of dyslexia

Dyslexia is one of the most studied and widely recognised learning disorders in the world, which is generally diagnosed in the first years of schooling and have a lifelong impact on dyslexic people's life. The definition of dyslexia has changed a lot over the past two centuries as research has slowly revealed the cluster of symptoms of this atypical neurological development. Therefore, defining the characteristics of dyslexia is still quite a challenge³⁹ as new technical devices and methodology in neurobiology and psycholinguistics allowing deeper insights into the human organization and the functioning of it result in novel comprehensions of dyslexia. The following definitions of dyslexia reflect different approaches to conceptualising this specific learning disorder.

The definition offered by the International Dyslexia Association (IDA) in 2002 is based on congruent research results, and is widely accepted and used by experts in the field:

“Dyslexia is a specific *learning disability* that is *neurological* in origin. It is characterised by difficulties with *accurate and/or fluent word recognition* and by poor spelling and decoding abilities. These difficulties typically result from a *deficit in the phonological component* of language that is often *unexpected* in relation to *other cognitive abilities* and the provision of effective classroom instruction. *Secondary consequences* may include *problems in reading comprehension* and reduced reading experience that can impede the growth of vocabulary and background knowledge.”⁴⁰

This definition presents dyslexia as a learning disability, emphasizing its atypical neurodevelopmental origins, which cause difficulties in literacy acquisition, basically, in accurate and fluent decoding, rooted in phonological deficit. The problems in decoding might cause difficulties in comprehension because the attention is focused on the technical part of reading, so there is not enough attention span left for comprehension. Highlighting the unexpected nature of learning difficulties in view of the other cognitive abilities of the learner is a crucial aspect of this approach.

The British Dyslexia Association has adopted Rose's (2009) definition of dyslexia: „Dyslexia is a *learning difficulty* that primarily affects the skills involved in *accurate and fluent word reading and*

³⁹ See a collection about the variety of definitions of dyslexia:

<https://www.idaontario.com/use-the-term-dyslexia/>

⁴⁰ <https://dyslexiaida.org/definition-of-dyslexia/>

spelling. Characteristic features of dyslexia are *difficulties in phonological awareness, verbal memory and verbal processing speed*. Dyslexia occurs across the *range of intellectual abilities*. It is best thought of as a continuum, *not a distinct category*, and there are no clear cut-off points. *Co-occurring difficulties* may be seen in aspects of language, motor co-ordination, mental calculation, concentration and personal organisation, but these are not, by themselves, markers of dyslexia. A good indication of the severity and persistence of dyslexic difficulties can be gained by examining *how the individual responds* or has responded to well-founded intervention.”

The British Dyslexia Association (BDA) acknowledges the visual and auditory processing difficulties that some individuals with dyslexia can experience, and points out that dyslexic readers can show a combination of abilities and difficulties that affect the learning process. Some also have strengths in other areas, such as design, problem solving, creative skills, interactive skills and oral skills.⁴¹

This definition defines dyslexia as a learning difficulty, which is a more tolerant approach than the one represented in the IDA definition. Both definitions emphasize the technical part of the reading problem in fluency and accuracy, but the BDA definition specifies phonological deficit as an impairment related to phonological awareness (which is a skill that includes identifying and manipulating units of syllables and sounds/phonemes), highlighting memory problems, processing speed, and other cognitive abilities and motor skills that can also be affected. Another key point is the RTI factor, i.e. response to intervention or teaching, which is significantly slower and more uneven than in the case of typical pupils.

In 2013, the American Psychological Association published a new definition of dyslexia in the Diagnostic and Statistical Manual Disorders (DSM) 5 based on new research evidence. (Basically DSM does not separate and name the specific learning disorders such as dyslexia, dysgraphia or dyscalculia, but at the reading difficulties it characterizes dyslexia.)

Representing a clinical approach, this definition addresses dyslexia among *specific learning disorders* under the code 315 as follows:

”Dyslexia is an alternative term used to refer to a *pattern of learning difficulties* characterized by problems with *accurate or fluent word recognition, poor decoding, and poor spelling abilities*. If dyslexia is used to specify this particular pattern of difficulties, it is important also

⁴¹ <https://www.bdadyslexia.org.uk/dyslexia/about-dyslexia/what-is-dyslexia>

to specify any additional difficulties that are present, such as difficulties with reading comprehension or math reasoning.”

Thus, DSM 5 enlists dyslexia among the specific learning disorders, narrowing the definition for the technical part of reading (separated from reading comprehension) on the one hand, and widening the co-occurrences to comprehension and mathematical reasoning on the other hand.

Snowling (2019) using the *model of simple view of reading* (Gough–Tunmer 1986, Hoover–Gough 1990), where *reading = decoding and comprehension*, separates the technical part of reading and comprehension, which develops earlier than reading, as language comprehension. It is the deficits in the technical part of reading, i.e. decoding that result in dyslexia. Comprehension results from language experience, patterns and vocabulary the children have been exposed to before reading and of course after reading acquisition.

Related to the above mentioned definition is Wolf–Bowers’s Double-Deficit Theory (1999), which posits that rapid automatized naming (RAN) is an independent deficit that can cause reading difficulties, in addition to or in the absence of phonological processing deficits or phonological awareness (PA). RAN is the speed with which one can name visually-presented familiar stimuli such as letters, numbers, colours and objects out loud (Denckla–Rudel, 1976), and reflects the automaticity of processes which are also important for reading (Norton–Wolf, 2012, Norton et al. 2014). According to this theory, impairments in either RAN or PA can cause reading difficulties, and individuals with a “double-deficit” have more severe deficits in reading than those with single deficits (Wolf–Bowers, 1999, Norton et al. 2014).

Although dyslexia can have different manifestations in different phases of life, it has some general features and typically co-occurring symptom clusters⁴². Some of these difficulties surface in the early years of life in common, daily tasks, including confusing the difference between left and right, poor motor skills, difficulty in dressing, e.g. finding shoelaces and buttons difficult to handle or difficulty in catching, kicking or throwing a ball. Other problems become evident at school,

⁴² Examples from International Dyslexia Association: *Dyslexia in the Classroom. What Every Teachers Need to Know*. <https://dyslexiaida.org/wp-content/uploads/2015/01/DITC-Handbook.pdf> pp. 4-5. and <https://www.bdadyslexia.org.uk/advice/children/is-my-child-dyslexic/signs-of-dyslexia-early-years>. (Downloaded: 2020. 02. 20.)

and manifest themselves in limited concentration, troubles with rhythm perception, difficulties with following (complex) instructions, easily “losing the thread”, slow speed of processing, difficulties with learning to tell the time, and time concepts, as well as seeming dreamy and forgetful. As a result, mental arithmetic processes are a great challenge for dyslexic learners, as they find it very difficult to keep numbers, sums in mind while making arithmetic operations, and confuse place value e.g. units, tens, hundreds, and symbols such as + and x signs in maths.

The co-occurring symptoms of dyslexia have a grave influence on literacy learning and learning foreign languages as well. Dyslexic learners often experience a delay in starting to speak, followed by slow speech development. They tend to experience difficulties finding words in the mental lexicon, pronunciation, long lasting situational speech (difficulties in changing to contextual speech), and organizing spoken and written language. Typical phonological and orthographic challenges include poor auditory discrimination, difficulty in understanding the rhyming of words, learning letters and their sounds, spelling, as well as troubles with recognizing words that begin with the same sound (for example, bird, ball, and big). The most distinctive indicators of dyslexia are unquestionably the deficits of reading: dyslexic learners are slower in learning to read, and have problems with reading quickly enough to comprehend as their reading is hesitant and laboured, especially when reading aloud. They often miss out words, syllables, letters when reading, or add superfluous items. Related problems also surface in writing in the form of poor written work and handwriting, confusing similar or similar sounding letters, refusing anagrams, spelling the same word differently in different pieces of work, or having difficulty with punctuation and/or grammar.

Based on this concept, the ENGaGE project prioritises

- 1) practicing decoding by applying the methodology of phonics and morphophonetics (i.e., teaching the relationship between phonemes and graphemes and practising RAN),
- 2) increasing morphological awareness (developing analytical thinking and teaching the relationship between the forms and meaning of the smallest meaningful parts of the word),
- 3) widening the vocabulary in context and using the language (inter)actively to facilitate involvement and communication.

3. The Screenager platform

Screenager hosting the ENGaGE Task Bank is a new Hungarian, user-friendly educational, teacher-operated platform offering a shortcut between course developers and IT staff in materials design. The editing surface, combined with an effective navigation system, allows for breaking the material into smaller, colour-coded sections, directing attention and facilitating free movement between the tasks. It offers an inspiring, multisensory mind-map-like surface with more than 20 task options. Matching, multiple choice questions (MCQ), ordering, true-or-false, gap-filling etc. tasks offer alternatives for writing, and integrating audiovisual materials to accompany written texts help dyslexic learners in text processing. Authentic materials, built-in gaming modules and external links involving reality in an inspiring format increase learner engagement, while the self-check functions and open-ended project tasks facilitate learner autonomy. Screenager also offers an optional drop-down support function, which is exploited in the ENGaGE Task Bank to provide mother tongue support in Czech, Hungarian and Polish for instructions and key vocabulary as well as presenting background materials (e.g. tape scripts).

The optional classroom function of Screenager includes access for teacher to learner use statistics, enabling them to follow the individual progress of learners and make tailor-made adjustments in the learning path, which is an effective solution for differentiated teaching.

4. The structure and content of the Task Bank

The project offers eight different thematic modules at four levels (CEFR A1-, A1+, A2-, A2+). The topics recycled across the four levels reflect common exam requirements and include the following: All about me, Family, Friends, School, Places, Clothes/Services, Holidays and Food/Health ⁴³ (<http://engage.uni-miskolc.hu/index.php/self-study-course/>). The CEFR level compatibility of texts and vocabulary has been determined with the help of Textinspector (<https://textinspector.com/>), and Englishprofile (<http://englishprofile.org/index.php/wordlists>).

The modules have a uniform lesson structure to help orientation in the Task Bank. The first lesson contains warm-up activities, such as spelling and phonics exercises with some memory games. The tasks

⁴³ See more details here: http://screenager.hu/html5/page.php?kid1=t_d9926f6b91ad2c_02cb84dcddbc54&kid2=t_d9926f6b91ad2c. (Downloaded: 2020. 02. 21.)

include matching and memorizing the orthography of simple words, matching well known abbreviations with their full or spelt forms (e.g. CU, IT, LOL), finding simple words in a word chart (e. g. night, friend, big) or spelling exercises with short words and their pronunciation (side, ride, wide for discovering analogies) with gap-filling as well. Learners have the opportunity to practice matching the written form with the pronounced form, focusing attention on silent letters, letters or letter combinations with corresponding similar sounding phonemes (s/th, l/r, a/e), short letter combinations and their corresponding phonemes (e.g. -tion, -ough). The supporting videos help to understand basic phonics, often in a funny form. At higher levels, the first lessons focus on morphological awareness providing examples for using the smallest meaningful parts of the words (suffixes, prefixes, root forms), and tasks to manipulate them creatively in word formation.

Lessons 2 and 3 develop all four skills using a differentiating approach, and have an identical structure containing two task blocks/lesson. A task block is introduced with a contextualising statement or questions, to be followed by the demonstration of key vocabulary on flashcards using the multimodal possibilities of the software. Each flashcard focuses on a single expression, presenting its written form and its use in a sentence, the pronunciation of the key expression and the sentence, and an illustrative “anchor” image, which is recycled at different points of the module when this language item has to be recalled. The central content of the task block is presented after the flashcards in the form of a reading/listening text, a video or animation. This content is processed in three increasingly complex graded tasks (A, B, C), which offer the opportunity for teachers and learners to match tasks to learners’ competence. In this way, all learners work on the same content and contribute to the final outcome, completing differentiated assignments. As a general principle, tasks A are the least demanding, suitable for dyslexic learners in general, as instead of reading and writing, they rely on listening, visual memory, matching, ordering or choosing different items. Tasks B are somewhat more complex: they require simple (maximum sentence level) reading and/or writing accompanied by audio/visual support and alternatives to writing, suitable for most dyslexic learners as well, while tasks C are usually open-ended, and offer the greatest challenge suitable for all learners.

Lesson 4 in each module contains individual and group project activities related to the central topic of the module. They include drawing a poster, creating a piece of artwork, a brochure, a mind map, make a PPT or a quiz, recording audio description to introduce a wild

animal for example, or a vlog about cooking something. The project lessons also have a unified structure providing a detailed description of the task (aim, necessary equipment, suggested steps, potential outcome(s)) as well as tips and links, which can be useful for completing it. On the one hand, the projects offer an opportunity for students to recycle the language of the module and use it in a creative way; on the other hand, they support cooperation in mixed ability groups, increasing empathy and tolerance through joint work as well as topics involving intercultural differences and living a full life with learning differences or physical disabilities.

Lessons 5 and 6 present tasks for revision and further practice. Lesson 5 contains exercises and games focusing on the vocabulary, language functions and content of the lesson. The exercises apply the learnt materials in new, but familiar contexts, which helps learners recall and automatize previous knowledge. Lesson 6 offers a series of flashcard tasks recycling the flashcard packs of the module using four of the nine task options provided by Screenager.

Throughout the Task Bank, task instructions are accompanied by function icons matching specific function verbs in the instructions to help learners understand what type of linguistic task they have to perform (the “icon bank” is available at http://screenager.hu/html5/page.php?kid1=t_d9926f6b91ad2c_19a73248327e4f&kid2=t_d9926f6b91ad2c). There are icons for all tasks occurring in the modules (e.g., listening, looking, watching, reading, writing, matching, ordering, choosing, etc.), and also to indicate if a task is to be performed individually or in a group. Navigation between the lessons and modules is also supported by icons.

At the end of every task, learners can find a built-in self-check option, and there is also a final result summary at the end of lessons 1, 2, 3 and 5. Learners are encouraged to repeat tasks until perfection as feedback only includes reference to correct and incorrect answers, but not the final solution. Every time the tasks is reloaded, Screenager presents answer options (e.g. items to be matched, ordered, chosen, judged as true or false, etc.) in a random order, giving learners multiple practice opportunities.

The ENGaGE Task Bank has a strong multilingual and multicultural character offering learners L1 support in three languages, and using videos, animations, games to build intercultural knowledge in the language experience. Learners are introduced to the cultures of the target countries (Great Britain, USA, Germany, Austria, etc.), the customs, traditions, and everyday life of children in the Czech Republic, Hungary

and Poland, as well as other countries of the world. Learners are also asked to introduce their own cultures and ways of life. The multicultural orientation of the Task Bank rests on the principles that

- 1) a foreign language is not only a tool for getting to know other cultures, but also a medium for showing ourselves to the world,
- 2) tasks addressing the representation of L1 culture help learners rely on their first-hand experiences,
- 3) communicative competences acquired in L1 are supportive in foreign language learning as well,
- 4) the available multiple L1 support options and project tasks for multicultural sensitisation might raise learners' interest in other languages and cultures.

The modules also exploit the digital platform to teach about new media and facilitate online communication. There are materials about the advantages and dangers of the online media to make pupils more conscious, careful and critical when using them. On the other hand, several tasks focus on typical forms of online communication (SMS, email, social media posts, etc.), encouraging learners to engage in real interaction with their classmates on the class platform as well, for example by sending a selfie with a short description, or post a message about a school programme while others can write comments on it. Overall, these content elements contribute to the key ambition of the Task Bank to increase learners' awareness of and tolerance for differences, and foster cooperation in inclusive classes.

5. Teacher Training programme for using ENGaGE

The ENGaGE homepage contains a Teacher Training Programme as well (<http://engage.uni-miskolc.hu/index.php/teacher-training-programme>) to provide information about dyslexia and ways of helping dyslexic learners during the lessons, inclusive education, and the potential of digital technology and project work in differentiated instruction. The materials are designed in an interactive knowledge building format to enable teachers to experience the learning methods the ENGaGE Task Banks offers to learners. Teachers can check their existing knowledge by doing quizzes, they can organize the new information for themselves by using graphic organizers, and arrange their knowledge and thoughts in mind maps. They can also try the task types and game formats that reoccur in the Task Bank thus learning about them through experience.

The first two modules provides teachers with information about dyslexia and foreign language learning, as well as clues for helping learners with special educational needs. (It is important to note here that these techniques are not only effective for learners with SEN but also for supporting learners without visible learning differences.) The first module demonstrates with exercises what phonological, orthographic, morphological and syntactic or textual awareness means, and why and how teachers should apply multisensory and multimodal methods to teach vocabulary, grammar and syntax.

The third module encourages teachers to consider how and why digital technologies could be used in- and outside their classrooms. Using online resources provides the opportunity to process authentic materials and use language in a less stressful environment: when playing games, watching films or interacting with others online, learners focus on transmitting and comprehending the message, instead of focusing on accuracy or worrying about the feedback of the teacher or peers. Using gamification or gamified elements are also useful in creating and maintaining motivation.

Teaching in inclusive classes faces teachers with a range of challenges, which are addressed in module 4. “Successful inclusive education happens primarily through accepting, understanding, and attending to student differences, which can include physical, cognitive, academic, social, and emotional diversity.”⁴⁴ Inclusive instruction is an educational approach that attempts to cater for this diversity through systematically scaffolding learners to help them develop to their full potential. The methodological techniques of inclusive education address different areas, e.g. increasing academic achievement, fostering cooperation, or handling status problems. In inclusive instruction, one of the major questions is what to differentiate and how. The module sheds light on the areas of differentiation including the content of the material, the learning process, learning outcomes and the learning environment.

Modules 5 and 6 focus on project-based learning, and how to integrate intercultural awareness raising into it. Teachers can learn about the types of projects (based on the circle of participants and topics involved or the open or closed nature of the expected outcome), and about ways to structure project work and evaluate project outcomes.

⁴⁴ http://screenager.hu/html5/page.php?kid1=t_d9926f6b91ad2c_2a2c6e4e15c716&kid2=t_d9926f6b91ad2c&d1=classroom.engage.teachertraining&d2=agnesgodo&d3= (Downloaded: 2020. 03. 15.)

Ideas are also provided for involving in project work different facets of multicultural competence building such as understanding and evaluating learners' L1 culture, making comparisons between elements of L1, L2 and other cultures, developing communication techniques to negotiate meaning and handle potentially problematic situations in intercultural encounters.

6. Summary

Dyslexic foreign language learners have so far largely escaped the attention of course developers. According to field research in relevant previous EU projects (DysTEFL 1, DysTEFL 2, CalDys 2), the differentiated foreign language instruction of learners with SEN in general, and dyslexic learners in particular in mixed-ability classes presents a great challenge for teachers. They often lack awareness of the nature of learning difficulties, training and resources, and they find it difficult to adapt the speed, content and methods of FLT calibrated for “regular” learners for the specific needs of dyslexic learners. The result is often exemption or inadequate instruction, both of which infringe upon the learners' right for equal opportunities in education. Providing adequate training and materials for teachers might not only decrease foreign language use anxiety, and enhance communication skills as well as numerous cognitive functions (e.g. focusing and dividing attention), but may also create interest in other languages and cultures.

The main ambition of the ENGaGE project is to cater for this educational need and produce a thematically organised, flexibly adaptable Task Bank for dyslexic learners and their inclusive classes.

The innovative character of the project rests on 3 principles.

- 1) The Task Bank is tailored for the needs of dyslexic primary school learners, integrating differentiated skills development, and individual and group tasks enabling DLs to participate in collaborative classroom work.
- 2) The learning materials foster cooperation and increasing empathy and tolerance of difference through the differentiated and interactive nature of tasks as well their multicultural orientation.
- 3) The Screenger digital surface hosting the Task Bank provides suitable tools to cater for the special needs of the target group and facilitates learner autonomy.

We hope, and initial piloting results suggest, that the Task Bank will increase learner motivation and engagement, and thus lead to more

productive and effective use of the target languages inside and outside the classroom, and ultimately higher level foreign language competence. At the same time, the Task Bank is meant for dyslexic learners educated in mixed-ability classes, and its important ambition is to offer group projects to foster their inclusion in their learning groups, decreasing negative affective impacts of learning difficulties, improving social skills, educational outcomes and employability prospects in the long run.

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