



## **FORMATTING TO AID TRILINGUAL DYSLEXIC STUDENTS IN COMPREHENSION**

**Izabela Olszak<sup>1i</sup>,  
Zofia Patyra<sup>2</sup>**

<sup>1</sup>Humanities, Applied Linguistics Department,  
The John Paul II Catholic University of Lublin,  
Poland

<sup>2</sup>BA,  
Humanities, Applied Linguistics Department  
Maria Curie-Skłodowska University of Lublin,  
Poland

### **Abstract:**

This study investigates the efficacy of text formatting adaptations as a supportive pedagogical strategy for trilingual students with dyslexia. Recognizing the unique challenges encountered by this subgroup, the research aims to identify specific formatting modifications that enhance their reading comprehension and text perception across multiple languages. Employing a mixed-methods approach, the study integrates quantitative data derived from task-based assessments and qualitative insights gathered through questionnaires and semi-structured interviews with educators. The participant cohort comprises thirty high school students, aged 15 to 17, from a comprehensive high school in Lublin, Poland, who are proficient in Polish, English, and Spanish and have formally diagnosed dyslexia. Results demonstrate that targeted formatting interventions—such as increased font size, sans-serif typefaces, and augmented line spacing—significantly improve reading performance and subjective perceptions of text clarity. The findings underscore the importance of adaptable instructional materials in supporting dyslexic learners within a trilingual context, offering evidence-based recommendations for educational practice.

**Keywords:** trilingual students, dyslexia, inclusive education, teaching methods

### **1. Introduction**

The evolution of inclusive educational paradigms necessitates the development and systematic implementation of pedagogical strategies tailored to students with special

---

<sup>i</sup> Correspondence: email [izabela.olszak@kul.pl](mailto:izabela.olszak@kul.pl), [zofia.patyra@gmail.com](mailto:zofia.patyra@gmail.com)

educational needs, notably those with dyslexia. As the global landscape becomes increasingly multilingual, it is imperative to explore how these students navigate linguistic diversity while contending with visual-orthographic difficulties. Although extensive scholarship has addressed dyslexia and effective teaching methodologies individually, the confluence of dyslexia with trilingual educational settings remains underexplored. This lacuna underscores the need for empirically validated approaches that adapt instructional materials to support functional text perception across diverse linguistic environments.

The present study is motivated by an urgent pedagogical question: to what extent do specific text formatting adjustments facilitate reading comprehension and perceptual processing among trilingual dyslexic students? To this end, the research has three primary aims: firstly, to evaluate the impact of various formatting modifications on reading performance; secondly, to explore students' subjective perceptions of text clarity and difficulty; and thirdly, to develop evidence-based guidelines for educators on effective text adapting. The study employs a convergent mixed-methods design comprising quantitative assessments of reading accuracy and comprehension, complemented by qualitative data from questionnaires and interviews with teachers experienced in working with dyslexic learners. Participants include thirty high school students with diagnosed dyslexia, aged 15 to 17, fluent in Polish, English, and Spanish. These methodological choices are intended to yield a comprehensive understanding of how textual adaptations influence learning outcomes within a trilingual context, thus contributing to pedagogical theory and practice in inclusive education.

## 2. Literature review

### 2.1 Dyslexia in foreign language learning: definitions, prevalence, and pedagogical implications

According to the British Dyslexia Association (2025), dyslexia is a specific learning difficulty that primarily affects reading and writing abilities. However, its impact extends beyond these skills, as dyslexia fundamentally involves challenges with information processing. Individuals with dyslexia may struggle to process and retain auditory and visual information, which can impede overall learning and the development of literacy. In addition to language-related difficulties, dyslexia can influence other areas such as organisational and time-management skills.

The International Dyslexia Association (2017) further characterises dyslexia as a "language-based learning disability," comprising a constellation of indications that lead to difficulties with specific language competencies, particularly reading, but also spelling, writing, and oral language. The association underscores that dyslexia persists across the lifespan, although its manifestations may vary at different stages of development. It is classified as a learning disability due to its potential to significantly hinder academic performance in conventional educational settings.

In more severe cases, dyslexia qualifies individuals for special education services, accommodations, or additional support. In the Polish context, it is estimated that between

9% and 10% of students in primary and secondary schools exhibit signs of dyslexia (Gunia, 2012). International prevalence rates vary depending on the methodology and institutions conducting the research. Notably, recent findings from the Polish Institute of Education, as reported in *Dysleksja 2023*, suggest that the prevalence may be substantially higher. Based on a survey of 3,915 students, 50.3% exhibited dyslexic tendencies, and 5% displayed severe dyslexia-related manifestations (Polski Instytut Edukacji, 2023).

Given the high proportion of students with special educational needs due to dyslexia, it is imperative to provide equitable learning conditions and resources, especially in foreign language instruction implemented in schools. Teachers play a pivotal role in addressing these disparities by adapting their pedagogical approaches to meet the specific needs of dyslexic learners. As dyslexia is a spectrum disorder, such adaptations must be highly individualised. It is crucial to recognise that not all dyslexic students present with the same signs; not every dyslexic will be dysgraphic, not every dysgraphic is dysorthographic, and not every dyslexic will also have symptoms of dyscalculia. Therefore, modifying teaching strategies for learners with dyslexia is a complex and demanding process. Teachers may encounter difficulties or make errors in implementing effective adjustments. Recommendations provided by psychological and educational counselling centres often culminate in a mere reduction of academic expectations or the provision of formal accommodations (e.g., extended exam time or differentiated grading criteria), without fostering a shared commitment between teachers and students to actively address learning challenges. (Jaworska, 2018)

Nonetheless, numerous evidence-based strategies can be employed to support dyslexic students in the foreign language classroom. These interventions can be integrated at various stages of the instructional process—from the design of learning materials, through in-class activities, to the assessment of student performance. A comprehensive and reflective approach to pedagogical adaptation is essential to ensure that students with dyslexia are not only accommodated but genuinely supported in their language learning journey.

## **2.2 Pedagogical strategies for supporting dyslexic learners in the foreign language classroom**

Although it is not feasible for foreign language teachers to dedicate their full attention exclusively to students with special educational needs (SEN), certain pedagogical techniques can be implemented that offer meaningful support to dyslexic learners without disrupting the overall flow of instruction. In fact, these inclusive methods can benefit all students, regardless of learning profiles.

In the primary school context, commonly recommended strategies include multisensory teaching and the use of minimal pairs for vocabulary instruction. 'Multisensory learning involves the use of visual, auditory, and kinesthetic-tactile pathways simultaneously to enhance memory and learning of written language. Links are consistently made between the visual (language we see), auditory (language we hear), and kinesthetic-tactile (language symbols we feel) pathways in learning to read and spell' (Hatch, 2020).

For secondary school students, more abstract cognitive tools are generally more effective. These include the use of diagrams, mind maps, and other forms of visual representation to organise information, alongside providing precise and detailed instructions for classroom tasks. When addressing grammar instruction, several visually oriented strategies are recommended for dyslexic learners (Engage Education, 2025). These include colour-coding grammatical structures, the use of symbols to represent rules or functions, and the presentation of grammar in visually structured formats such as posters, diagrams, or rhyming mnemonics. These methods cater to the cognitive strengths of many dyslexic students, particularly their propensity for visual-spatial thinking. As developmental psychologist Jeffrey Gilger (as cited in Cowen, 2014), a former board member of the International Dyslexia Association, suggests, dyslexia is often accompanied by unique cognitive strengths, including visual reasoning and creativity, which can be harnessed through carefully selected teaching methods.

Another critical component of effective language instruction for dyslexic students is the integration of formative assessment practices. Experts widely agree that formative feedback plays a vital role in supporting learner development. It not only highlights both strengths and areas for improvement but also fosters metacognitive awareness, helping learners to reflect on their errors and avoid them in the future.

In addition to instructional methods and feedback, the presentation of teaching materials plays a crucial role in supporting dyslexic learners. Materials should be designed to minimise confusion, enhance clarity, and improve the overall readability of content. Research by Rello and Baeza-Yates (2013) has demonstrated that font type significantly influences reading performance among dyslexic individuals. According to their findings, fonts such as Helvetica, Courier, Arial, Verdana, and CMU—especially those that are sans serif, monospaced, or Roman—enhance readability, whereas italic fonts tend to impair it. The British Dyslexia Association (2023), in its *Dyslexia Friendly Style Guide*, echoes these findings and further recommends fonts including Comic Sans, Tahoma, Century Gothic, Trebuchet, Calibri, and Open Sans. Recently, the Aptos font has also been identified as effective in supporting dyslexic readers (Solomon, 2024).

In sum, supporting dyslexic students in the foreign language classroom requires a multi-faceted approach that spans instruction, assessment, and material design. When thoughtfully applied, these strategies not only address the unique challenges faced by dyslexic learners but also contribute to a more inclusive and effective learning environment for all students.

### 3. Research design and methodology

#### 3.1 The aim of the research

The primary aim of this research was to address the specific educational needs of students with diagnosed learning difficulties, particularly dyslexia, within a trilingual language acquisition context. The study seeks to contribute to an under-researched area by exploring the challenges and strategies relevant to dyslexic learners operating in three languages. A further objective is to identify and propose effective pedagogical forms,

methods, and techniques for supporting trilingual dyslexic students in their language learning processes.

### 3.2 Participants of the study

The study involved a sample of 30 high school students enrolled in a comprehensive secondary school in Lublin, Poland. Participants were aged between 15 and 17 and were classified as trilingual learners: their first language (L1) was Polish, their first foreign language (L2) was English, and their second foreign language (L3) was Spanish. All participants had an officially diagnosed form of dyslexia, confirmed by relevant educational and psychological assessments.

### 3.3 Design, procedure and implementation

A mixed-methods approach was employed, combining quantitative and qualitative techniques to enhance the reliability and depth of the findings. Data were collected using three complementary research instruments: worksheets, student questionnaires, and semi-structured interviews with teachers. All ethical principles were implemented during the data collection process.

#### Phase 1: Reading comprehension tasks

Participants completed two worksheets, each consisting of five tasks based on four assigned reading passages. The texts were selected to represent culturally significant figures from English- and Spanish-speaking countries.

- Worksheet 1 featured: (1) An English-language biography of Amelia Earhart and (2) Spanish-language text on Che Guevara. These texts were formatted in *Times New Roman*, font size 12, with 1.15 line spacing. Proper nouns were italicised.
- Worksheet 2 included: (1) An English-language text on Diana Spencer and (2) a Spanish-language text on Federico García Lorca.

In this worksheet, the formatting was dyslexia-friendly: the *Apotos* font was used in size 16, with 1.5 line spacing. Proper nouns appeared in quotation marks to test an alternative visual cue.

All four texts were uniform in length (238 words) and followed consistent content parameters. They contained references to: (1) the protagonists' full names and pseudonyms; (2) their travels (including cities and countries); (3) key encounters with other figures; (4) dates and circumstances of death.

To accommodate varying proficiency levels among students, three differentiated versions of each English-language text and two of the Spanish-language texts were prepared. To avoid a situation in which the students' language proficiency level would determine whether they performed better or worse on the tasks, the authors of the study decided to adjust the texts in such a way that each student would face a text representing an equivalent level of difficulty. Certainly, if fourth-grade students specializing in Spanish were given the same text as first-grade students specializing in English, this would result in a situation where either the first graders would have to work with a text far above their level, or the fourth graders with one far below theirs. In both cases, the

presence or absence of text adaptations would lose all relevance, since first-grade students reading a B2-level text would not understand it – not because of its formatting, but because of their lack of comprehension of complex grammatical structures or overly sophisticated vocabulary. Conversely, if students preparing for the bilingual high school graduation exam in Spanish were to work on tasks based on an A1-level [passages](#), the texts would be far too easy for them, making the aspect of formatting entirely irrelevant. The same relationship naturally applies to the English language. For this reason, after consulting the teachers about the proficiency level of each class and group, the authors of the study prepared three versions of each text, ensuring that differences in language proficiency would not interfere with the analysis of text formatting. The performance of students on the comprehension exercises was analysed to assess whether the dyslexia-friendly formatting had a measurable effect on reading comprehension outcomes.

### **Phase 2: Student questionnaires**

Following the worksheets, participants completed a self-reflective questionnaire assessing their perception of the texts, including readability, visual clarity, and ease of comprehension. The aim was to gather subjective feedback regarding their preferences and difficulties in processing differently formatted texts.

### **Phase 3: Teacher interviews**

The final component of the study consisted of semi-structured interviews with two foreign language (Spanish and English) teachers working with the participating students. The interviews explored teacher attitudes toward implementing inclusive teaching strategies for dyslexic learners and identified perceived challenges and areas for professional development in this domain.

## **4. Discussion of the results**

### **4.1 Analysis of the survey sheets' results**

A comparative analysis of student performance across the two worksheets—one with standard formatting and the other with dyslexia-friendly adaptations—reveals a consistent advantage in favour of the adapted materials. Even when the individual differences between tasks may appear modest, the cumulative data indicate a meaningful improvement in performance when adaptations were implemented. In the initial task on each worksheet, students demonstrated a marked improvement in performance when using the adapted version. Out of a maximum of 180 points (30 participants  $\times$  6 correct responses), students scored 99 correct answers on the unadapted worksheet. In contrast, 120 correct answers were recorded on the adapted worksheet—a notable increase of 21 correct responses, equating to a 21.2% improvement.

In the second task, the performance gap was smaller yet still evident. Students achieved 103 correct answers on the standard worksheet and 104 on the adapted version. Though the margin was narrow, the adapted sheet again yielded slightly better results. In the next task, the first open-ended question in both worksheets, the students also

achieved a better result on the adapted version. Participants provided 103 correct responses on the unadapted worksheet and 107 on the adapted one. The gain of 4 additional correct answers reinforces the trend, albeit less dramatically. Interestingly, Task 4 diverged from the general pattern. Students scored 74 correct answers on the unadapted worksheet and 65 on the adapted one, a difference of 9 responses in favour of the standard formatting. However, this discrepancy can be attributed to a specific and anomalous issue: 12 students answered “Paris” to the question “*Name two countries mentioned in the text about Diana Spencer.*” While the students were likely aware that Paris is a city within France, their overgeneralisation suggests that they associated “Paris” metonymically with “France.” If these responses were interpreted leniently, acknowledging the symbolic use of city names to represent countries, the adapted worksheet would likely have regained its advantage in this task as well. Task 5 exhibited the most substantial disparity between the two versions of the worksheet. It was the only task in which participants provided more incorrect than correct responses across both formats. Nonetheless, the adapted worksheet yielded 80 correct answers, compared to only 39 on the standard version—more than double the number of correct responses.

When examining the aggregated results across all tasks, the contrast becomes even more pronounced:

- Unadapted Worksheet: 418 correct responses out of 840 possible answers (49.8% accuracy).
- Adapted Worksheet: 476 correct responses out of 840 possible answers (56.7% accuracy).

This 6.9% increase in correct responses indicates that the implementation of dyslexia-friendly formatting can have a statistically and pedagogically significant impact on student comprehension. While individual task improvements may vary, the overall data support the hypothesis that thoughtful textual adaptations enhance reading performance for students with dyslexia.

#### 4.2 Descriptive analysis of the differences in the results of individual language sections

The relationship between the number of correct answers on the level of the languages themselves is also noteworthy. A summary of the percentage of correctly answered data can be found in Table 1.

**Table 1:** Analysis of the differences in individual language sections

	Exercise 1	Exercise 2	Exercise 3	Exercise 4	Exercise 5
English without adaptations	60%	60%	87,80%	91,70%	35,60%
Spanish without adaptations	51,10%	54,40%	26,70%	31,70%	8,90%
English with adaptations	78,90%	87,80%	76,70%	81,70%	66,70%
Spanish with adaptations	54,40%	27,80%	42,20%	26,70%	23,30%

Interestingly, for each exercise on each of the worksheets, students performed significantly better on the English text questions. In the sheet containing no adaptations, there appeared both a case of the largest and smallest difference between the number of

correctly answered questions on the Spanish text part of the task and the English text part. These differences are respectively: 5.6 percentage points for task two and 61.1 percentage points for task three. Another interesting observation is how the different parts of the tasks rank in terms of difficulty for both worksheets. Considering only the English text parts of the exercises, in the case of the sheet without adaptations, students performed best on exercise 4, with a total of 91.7% correct answers. In contrast, on the adapted worksheet, exercise 2 caused the least difficulty for participants, with 87.7% of correct answers. For the texts in Spanish, on both worksheets, the highest percentage of correct answers was 54.4%. On the unadapted sheet, this result was obtained in task 2, and on the adapted sheet, in task 1. This shows that, of all the tasks faced by the students, there was not one objectively easiest task for all. However, the situation is reversed when ranking the difficulty of the tasks and their individual parts. Regardless of language and the presence or absence of adaptations, the fewest correct answers appear each time in task five. Curiously, the most extreme values reflecting the best and the weakest total score that learners obtained from a given part of the task, both appear on the worksheet without adaptations. Students solved the English part of Exercise Four best, with 91.7%. In contrast, the weakest score was for the Spanish part of exercise five.

#### 4.3 Survey analysis

Following the completion of the worksheets, participants were asked to fill out two parallel questionnaires, each consisting of four questions: three focused on the perception of the specific texts they had just read and one addressing their general experience of text comprehension. The first question in each survey asked students to evaluate the difficulty level of the texts. In the case of the unadapted English text, 56.7% of participants described it as "very easy," with an additional 13.3% rating it as "easy." This means that nearly three-quarters of the students regarded the text as not particularly challenging. Another 16.7% rated the text as "medium" in difficulty, while 6.7% chose "difficult" and another 6.7% selected "very difficult." The adapted English text received slightly different evaluations. No participants marked it as either "difficult" or "very difficult." For 20% of the respondents, the difficulty was "medium," while 46.7% found it "very easy" and 33.3% rated it as "easy." These results indicate that the adapted version of the text was generally perceived as more accessible, with the entirety of responses falling within the lower three levels of difficulty. The trend was somewhat different for the Spanish texts, which, overall, were perceived as more difficult than their English counterparts. The unadapted Spanish text was not described as "very easy" by any respondent, and only 10% of students found it "easy." Meanwhile, 16.7% rated it as "medium," 43.3% as "difficult," and 30% as "very difficult." In comparison, the adapted Spanish text still presented challenges but fared slightly better. Although 36.7% of respondents rated it as "very difficult," a reduced 23.3% found it "difficult," and the same percentage chose "medium." The number of participants who described the text as "easy" remained constant at 10%, but 6.7% rated it as "very easy," a category that had received no responses for the unadapted text. The second task in each questionnaire asked participants to select three out of sixteen given factors that they believed most

influenced their perception of the texts. The results are summarised in Tables 2 and 3. In survey 1 (relating to the unadapted texts), the most frequently selected factor was “vocabulary,” which received 21 votes. In survey 2 (relating to the adapted texts), “font size” became the most cited factor, with 19 votes. Notably, “font colour” did not receive a single vote in either questionnaire. A comparative analysis of the two surveys reveals that although certain adaptation-related factors were not the most frequently selected overall, each of them received more responses in survey 2 than in survey 1, suggesting that formatting and visual features played a more prominent role in students’ perception of the adapted materials. A noteworthy irregularity emerged in the execution of this task. Despite clear instructions to select three factors, many participants deviated from this directive. In survey 1, only sixteen participants followed the instructions precisely. Five students selected eight options each, three chose two options, and another three marked only one. Additionally, individual participants selected ten, six, and four options, respectively. In survey 2, compliance was higher, with twenty-one participants selecting exactly three options. However, three students still marked eight factors, two selected nine, two chose two options, and one participant each marked seven and six. The final two questions of the survey invited students to explain the reasons behind their difficulty ratings for the texts. In survey 1, sixteen participants provided justifications. Eleven of these cited the duration of their language study, noting that they found the English text easier due to greater familiarity with the language, while the Spanish text was harder, partly because they had studied it for a shorter time or, in some cases, simply because they did not enjoy Spanish. Two respondents pointed to the time constraints of the task as a complicating factor, and three more highlighted personal circumstances such as fatigue, stress, and disruptive behaviour from a peer as affecting their performance. In survey 2, the same number of participants—sixteen—offered explanations, but the content of their responses differed somewhat. The issue of language familiarity was mentioned in only nine responses. Other comments referenced the physical attributes of the texts, particularly the font size and perceived length. Interestingly, while some students found the adapted texts too long, others felt they were too short. One respondent even stated that the English text seemed short and the Spanish text long, despite both texts containing the exact same number of words. This perceptual inconsistency underscores the subjective nature of text difficulty. Other factors influencing students’ assessments included room temperature and individual difficulties with concentration, adding further complexity to the interpretation of perceived text accessibility.

**Table 2:** Students' answers to the unadapted text

<b>Unadapted Text Survey</b>	
<b>Category</b>	<b>Number of answers</b>
Vocabulary	21
Length of the Text	12
Font Size	15
Line Spacing	5
Font Type	5
Presence of Images	3
Font Colour	0
Language of the Text	14
Sentence Length	8
Number of Punctuation Marks	4
Time Limit	12
Sheet Colour	2
Margins Spacing	6
Temperature of the Room	7

**Table 3:** Students' answers to the adapted text

<b>Adapted Text Survey</b>	
<b>Category</b>	<b>Number of answers</b>
Vocabulary	17
Length of the Text	13
Font Size	19
Line Spacing	6
Font Type	6
Presence of Images	0
Font Colour	0
Language of the Text	13
Sentence Length	10
Number of Punctuation Marks	5
Time Limit	9
Sheet Colour	8
Margins Spacing	8
Temperature of the Room	7

### 3.4. Analysis of the interviews

To gain insight into the perspectives of educators involved in the language development of students with learning difficulties, interviews were conducted with two teachers: one of English and one of Spanish. Both teachers had direct experience teaching the students who participated in the study. They were invited to respond to a set of questions regarding their role in accommodating the special educational needs of dyslexic learners. Both teachers emphasised that they take care to read the individual dyslexia diagnosis reports of their students, paying close attention to the tailored recommendations included in each case. They unanimously acknowledged the importance of making specific pedagogical adjustments in order to support these students effectively. In discussing their teaching practices, both teachers highlighted several strategies they

employ, such as extending time limits for tasks and assessments, adjusting the classification of errors—particularly spelling—and integrating elements of formative assessment into their instruction and evaluation processes.

Although formatting changes were not initially mentioned in their responses to the general questions, both teachers later affirmed, in response to a targeted five-part question, that they consciously apply specific typographic adjustments in their teaching materials. These adaptations include the use of sans serif fonts, increased font size, greater line spacing, and the avoidance of italics, which are either used minimally or excluded entirely. These formatting strategies align with best practices for improving the readability of texts for students with dyslexia.

A point of divergence emerged in how the two teachers apply these adaptations. One teacher reported using them universally for all students diagnosed with dyslexia, regardless of the specific content of their counselling reports. In contrast, the other teacher indicated that they implement such adaptations only when explicitly recommended in the student's official documentation. Despite this difference in approach, both educators demonstrated an informed and intentional commitment to addressing the learning challenges faced by students with dyslexia in multilingual education contexts.

## 5. Discussion

The findings of this study underscore a critical aspect of the teacher's responsibility in supporting students with special educational needs, particularly those with dyslexia. The investigation focused on the efficacy of formatting adaptations in instructional materials, revealing that such modifications substantially enhance students' performance. Quantitative data gathered through worksheet tasks demonstrated a consistent improvement in the number of correct responses when students engaged with adapted texts. These outcomes were further corroborated by qualitative data collected via student questionnaires, which indicated that learners perceived adapted texts as more accessible and easier to comprehend. In alignment with earlier research (Rello & Baeza-Yates, 2013; British Dyslexia Association, 2023), the results suggest that formatting features—such as font type, size, and line spacing—play a pivotal role in facilitating reading comprehension for dyslexic students. Notably, students responded more favourably to texts formatted with sans-serif fonts, increased line spacing, and larger font sizes. These preferences align with the typographic recommendations outlined in dyslexia-focused guidelines, which discourage the use of italicised text and endorse the use of legible fonts such as Aptos, Arial, and Comic Sans (British Dyslexia Association, 2023; Solomon, 2024). Teacher interviews further reinforced the importance of material adaptation. Both the English and Spanish teachers involved in the study acknowledged the necessity of aligning instructional practices with the specific needs of students with diagnosed learning difficulties. While one educator applied formatting adaptations universally to all dyslexic students, the other tailored adjustments based on individual psychological assessments. Nevertheless, both teachers affirmed the relevance of these practices, particularly in the context of modified assessment strategies and formative feedback,

echoing contemporary pedagogical perspectives (Cambridge University Press & Assessment, 2024). An additional contribution of the present study is its focus on trilingual learners. The research provides evidence that the benefits of formatting adaptations are not confined to a single language but extend across multiple language contexts. Both the English and Spanish sections of the worksheets reflected improved outcomes, thereby affirming the cross-linguistic effectiveness of visual and typographic modifications. Similarly, the patterns observed in students' difficulty ratings across the adapted and unadapted texts lend further support to the utility of these interventions. In conclusion, this study highlights the necessity of applying accessible formatting in instructional texts for dyslexic students, especially in multilingual learning environments. Educators are encouraged to adopt the following strategies in their classroom materials: the use of sans-serif fonts, increased font size and line spacing, and the elimination of italicised text. These adaptations, while modest in form, have demonstrated a measurable and positive impact on student engagement and academic performance.

## 6. Conclusion

The present study highlighted an extremely important aspect of the teacher's duty of supporting the students with special educational needs and examined the effectiveness of the use of formatting adaptation in the materials prepared for the students with dyslexia. Both the results obtained when solving the worksheets and students' feelings on the subject expressed in the questionnaires clearly indicate that the use of such adaptations has a positive impact on their performance. Another significant element included in this study is the theme of trilingualism of the study participants. The claim that the use of adaptation is an effective method of supporting dyslexic students was confirmed by the results from both the worksheet section on English and Spanish texts. The trends in the assessment of the difficulty level of the texts expressed in the questionnaire also supports this assumption, and teachers of both languages also agree in their approach to the use of adaptation. Therefore, the present study has clearly demonstrated the importance of formatting in the perception of texts in a trilingual context, and teachers should not underestimate its impact on dyslexic students' performance. The author of this study recommends that teachers use sans-serif fonts, increase the font size and line spacing and avoid italicised material for dyslexic students.

## 7. Limitations

For obvious reasons, the survey conducted was exposed to some limiting factors. One of these was the attitude of the participants toward solving the worksheet and the survey. Students may not have taken their participation seriously and may have specifically given answers that seemed funny to them and their classmates. Some of the participants may also simply not have been interested in taking part in the survey and may have given answers carelessly, which may have negatively influenced their results. The author of the

study cannot be unreservedly sure of the sincerity of the responses given by the interviewed teachers.

### **Creative Commons License Statement**

This research work is licensed under a Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License. To view a copy of this license, visit <https://creativecommons.org/licenses/by-nc-nd/4.0>. To view the complete legal code, visit <https://creativecommons.org/licenses/by-nc-nd/4.0/legalcode.en>. Under the terms of this license, members of the community may copy, distribute, and transmit the article, provided that proper, prominent, and unambiguous attribution is given to the authors, and the material is not used for commercial purposes or modified in any way. Reuse is only allowed under the terms of the Creative Commons Attribution-NonCommercial-NoDerivatives 4.0 International License.

### **Conflict of Interest Statement**

The authors declare no conflicts of interest.

### **References**

British Dyslexia Association. (2023). *Dyslexia friendly style guide*. <https://www.bdadyslexia.org.uk/advice/employers/creating-a-dyslexia-friendly-workplace/dyslexia-friendly-style-guide> [Accessed: 15.06.2025]

British Dyslexia Association. (2025). *What is dyslexia?* <https://www.bdadyslexia.org.uk/dyslexia/about-dyslexia/what-is-dyslexia> [Accessed: 15.06.2025]

Cowen, C. D. (2014). Why study dynamic visual-spatial thinking in dyslexia? Q&A with Jeffrey Gilger. *International Dyslexia Association*. <https://dyslexiaida.org/why-study-dynamic-visual-spatial-thinking-in-dyslexia-qa-with-jeffrey-gilger/> [Accessed: 15.06.2025]

Engage Education. (2025, październik 3). Supporting dyslexia in schools. *Engage Education*. <https://engage-education.com/blog/supporting-dyslexia-in-schools-10-teaching-strategies-engage/>

Gunia, G. (2011). Specyficzne trudności w czytaniu i pisaniu. W G. Gunia & V. Lechta, *Wprowadzenie do logopedii*. Oficyna Wydawnicza „Impuls”.

Engage Education. (2025, październik 3). Supporting dyslexia in schools. *Engage Education*. <https://engage-education.com/blog/supporting-dyslexia-in-schools-10-teaching-strategies-engage/>

Hatch, S. (2020). Multisensory Teaching For Dyslexia. Learning Disabilities Association of Utah. <https://www.ldau.org/multisensory-teaching-for-dyslexia>

Jaworska, M. (2018). *Nauczanie i uczenie się języków obcych młodzieży z dyslekcją*. Oficyna Wydawnicza „Impuls”.

Polski Instytut Edukacji. (2024). *Raport: Dysleksja w Polsce w 2023 r.* <https://cloud2.edupage.org/cloud/DysleksjaRaport2023.pdf?z%3AbZW3%2BZe7Slkoiv6srokV%2F360y6LG9fRDc5MEbgcWxCPKX0sOM0eQY%2Fgn8zWYMEqs>

Reid, G. (1998). *Dyslexia: A practitioner's handbook* (2nd ed., rev. and updated ed. of *Specific learning difficulties (dyslexia)*). Wiley.

Rello, L., & Baeza-Yates, R. (2013). Good fonts for dyslexia. In *Proceedings of the 15th International ACM SIGACCESS Conference on Computers and Accessibility* (pp. 1–8). <https://doi.org/10.1145/2513383.2513447> [Accessed: 14.06.2025]

Shaywitz, S., & Shaywitz, J. (2008). *Overcoming dyslexia* (2nd ed.). Knopf Doubleday Publishing Group.

Solomon, J. D. (2024). Does Microsoft's new Aptos font improve accessibility? *Communicate FINESSE*. <https://www.communicatingwithfinesse.com/post/does-microsoft-s-new-aptos-font-improve-accessibility> [Accessed: 15.06.2025]

The International Dyslexia Association. (2017). *Dyslexia basics fact sheet*. <https://app.box.com/s/3f36hzaedlnzq96v2xsz6a4uqxc7fkwt> [Accessed: 15.06.2025]