



Design and Implementation of Web Applications for the Well-Being of Children Suffering From Dyslexia

Nida Santuri Fishekqiu ¹, Mentor Hamiti ²

Abstract: Dyslexia is a specific disability that is difficult to diagnose, even for professionals who deal with health issues. Therefore, it is derived indirectly from the Greek words "dis" and "lexi" [δυσ + λέξις], meaning "difficult word". Dyslexia is a learning disability that impairs a child's reading, writing, and spelling abilities. It is one of the most widespread learning problems, affecting up to 15% of the population, according to estimates. Symptoms of well-being can manifest in various ways, such as difficulty in writing, reading, learning, space orientation, reading aloud, or continuity in speaking. Based on medical sources, dyslexia is very likely inherited, but it is most often identified when the child begins the first stage of education. Primary school children are typically treated using quantitative and qualitative methods that seek early identification of symptoms and support parents and teaching staff in the service of children with dyslexia. In this context, a case study was conducted in the municipality of Prizren, involving students' well-being, parents, teaching staff, administrative staff, and school management. Additionally, a web application was specifically designed for the well-being of this category of students and evaluated by experienced IT experts. The web application is designed to help children with dyslexia improve their phonological awareness, reading speed, and comprehension. It also provides resources and different materials for parents and educators, such as lesson plans and instructional videos. Overall, web applications for dyslexic children's well-being have the potential to enhance their reading and writing abilities, build their self-esteem, and advance their general mental health. We can assist children with dyslexia in overcoming their obstacles and realizing their full potential by creating accessible, interesting, and useful web applications. The research results will show the Republic of Kosovo better and will allow you to have more interest in continuing the research in this field!

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Introduction

Reading and writing difficulties are frequently described in generic terms. Regardless of conventional training, cognitive ability, and social and cultural opportunities, dyslexia presents as a disease that makes it difficult to learn the technique or skill of reading. This phrase is used to characterize a student's particular reading and writing challenges (Bajrami V. , 2008). It can be claimed that neither our society nor educational institutions are well-versed in this issue. Most of the time, it goes unrecognised because of ignorance, but that does not imply that it is not there.

¹ AAB College, Faculty of Computer Sciences, Kosova, Prishtinë, NMK. E-mail: nida.santuri@universitetiaab.com , ORCID: 0009-0009-3389-3849

² AAB College, Faculty of Computer Sciences, North Macedonia, NMK. E-mail: mentor.hamiti@universitetiaab.com, ORCID: 0000-0002-5622-1182

Individuals with dyslexia will be able to attain literacy norms that are acceptable to their culture with the help of appropriate and timely interventions. While this study shows that dyslexic kids might be difficult, they can also be rewarding. Given that we live in a technological age, it begs the question of why we shouldn't take advantage of the Internet's advantages to obtain the information we require. Due to this exact reason, I have developed a website for teacher's and parent's awareness and well-being in this research, where they can get information from experts in the area and where the concept for the website was first conceived to meet the requirements in a specific location. In this webpage, we make reference to data gathered by experts in the field of speech therapy through the integration of their knowledge, i.e., each expert in his field providing pertinent data that teachers and parents need in the education of the child. My task was to make it easier to obtain this information by developing a website specifically for dyslexia.

Definition, Symptoms, and Information About Dyslexia

The Greek terms "dyslexia" (meaning "weak, unmatched language") and "lexis" (meaning "language, words") are the source of the word (Bajrami M. V.). Dyslexia is a specific learning problem with a neurological basis, according to the official definition. It is characterized by difficulties with spelling and decoding, as well as difficulties with accurately and/or fluently recognizing words. Students with dyslexia typically struggle with other language abilities like spelling, writing, and word pronunciation (Snowling, Hulme, & Nation, 2020). Although dyslexia has an impact on people throughout their lives, that impact might change depending on where they are in life.

The child has severe issues with both writing and reading; he reads numerals and characters backward, such as 15 for 51 and 16 for 61; he also reads letters incorrectly, such as b for d, p for q, m for n, etc. (Perry, Zorzi, & Ziegler, 2019) The child has trouble memorizing the alphabet, the multiplication table, and the order of the days of the week. Dyslexia is not a sickness, and those who have it can achieve it in school and as adults if they work hard, receive the right teaching at the right time, and have support from their family, teachers, friends, and others. (Baschenis, et al., June 29, 2021) A child can receive the right teaching and accommodations to succeed in school as soon as he or she is assessed.

The Social and Emotional Interaction Between Children

One of the first researchers to discuss the emotional elements of dyslexia was Samuel T. Orton, M.D. (Orton, 2023). His research shows that most children who subsequently receive a dyslexia diagnosis are content. Emotional difficulties arise when early reading teaching does not meet their learning needs (Nicholson, 2013): As classmates outpace dyslexic pupils in reading abilities over time, dissatisfaction grows. When we find ourselves in circumstances, we have little or no control over, stress and worry rise. Despite spending numerous hours in specialized programs or working with professionals, many dyslexic people have endured years of frustration and minor achievement. People with dyslexia might have discovered that being around other people increases their chances of making embarrassing blunders and the consequent adverse reactions that may follow. (Bajrami M. V.) Therefore, it makes it natural that many dyslexics are withdrawn, and prefer to hang out with kids or separate themselves from other people. Another common complication of dyslexia is depression. (Bowman & Ed.D. & Vincent Culotta, 2023). Symptoms of depression in children and adolescents may differ from those in depressed adults. It is uncommon for a depressed youngster to appear lethargic or express sadness (Fragel-Madeira, et al., 2015). Instead, in order to mask uncomfortable feelings, he or she may become more busy or mischievous. Case Study: Dyslexia in the Elementary Schools of the Municipality of Prizren.

Method

Case study, one of the qualitative research methods, was used as a method in the study.

Sample of the study is shown in Table 1. In this study all rules were followed stated in the directive of Scientific Research and Publication Ethics of Higher Education Institutions. All participants took part anonymously and voluntary in the survey.

Case Study: Dyslexia in the elementary schools of the Municipality of Prizren

The case study is restricted to the Municipality of Prizren due to the difficulties of conducting research over the full region of the Republic of Kosovo. The study also included elementary schools. The study includes information gathered from teachers at elementary schools.

Results

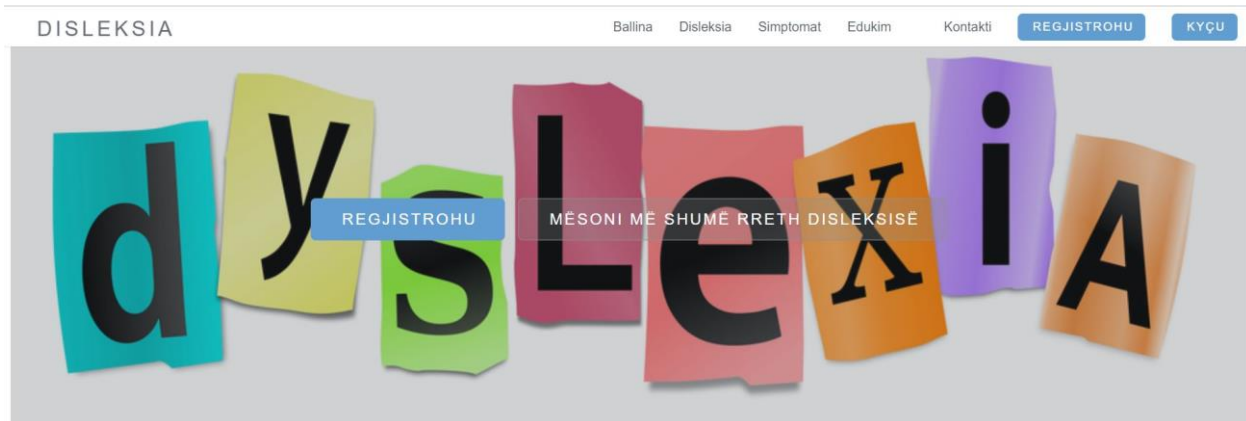
Results are described in this section. Table 1 summarizes information on participants' gender, age, work experience and their answers to the questions as a percentage.

Table 1: Statistical analysis of data collected by teachers

		Number of participants	Percent
Gender	Male	19	17.1%
	Female	92	82.9%
Age	20-29	14	12.6%
	30-39	28	25.2%
	40-49	39	35.1%
	Over 50	30	27.0%
		6	19
Work experience	6-19	39	35.1%
	Over 20	53	47.7%
		I	25
Which grades do you teach?	II	25	22.5%
	III	27	24.3%
	IV	21	18.9%
	V	13	11.7%
		Yes	54
Have you had the opportunity to work with students suffering from dyslexia during your experience?	No	57	51.4%
	Very little	31	27.9%
How would you describe your experience working with students with dyslexia?	Less	58	52.3%
	Very good	22	19.8%
	Yes	72	64.9%
Does it seem to you that the student often does not concentrate on the lesson, and you do not know the reason?	No	39	35.1%
	Yes	80	72.1%
Do you have difficulty remembering certain tasks?	No	31	27.9%
	Yes	77	69.4%
Do they make "strange" mistakes in reading and writing?	No	34	30.6%
	Yes	61	55.0%
Are there difficulties in the subject of mathematics and do they choose the tasks in a "strange" way?	No	50	45.0%

A dyslexia website's appearance is crucial to its ability to enlighten and support its audience. The website has an eye-catching design that is both polished and interesting. It also has an eye-pleasing color scheme that does not detract from the information. The website also has a clean, well-organized style with readable information and excellent graphics. It has simple navigation, obvious calls to action, and is user-friendly and accessible. This is crucial for dyslexic people who can have trouble with intricate layouts or perplexing user interfaces.

This is what the website looks like, designed for the well-being of children suffering from dyslexia.



KËTU MUND TI GJENI TË DHËNAT

Rreth Disleksisë

Regjistrohu ne faqen tone per me shume info dhe per testin e Disleksise

Figure 1: UI of the web application

Discussion and Conclusions

Comparing the pertinent works that deal with the well-being of dyslexic children (Wilmot, Pizzey et al. 2022) we observe that their primary goal is to explore the socio-emotional experience of growing up with dyslexia from the perspective of the child and the parents (Wilmot, Hasking et al. 2022) the breadth and nature of the literature that investigates the factors that may influence the association between childhood dyslexia and internalizing and externalizing mental health concerns, and other issues (Wilmot, Pizzey et al. 2022). By doing this, a better awareness of self-esteem and mental health in the context of dyslexia is desired, as is a better understanding of parents' own mental health and the need for parent-informed support (Wilmot, Pizzey et al. 2022).

This study aims to highlight the significance of using the Internet and how it may improve people's lives when they use the right web page to find the right information. Based on the aforementioned data, we can see that parents and instructors found the website design to be helpful. In my opinion, the website compiles all of the requests and queries that were not able to receive answered. Therefore, who among the people did not have the chance to confer with experts? They already have a free, open-access website that is available to users around the clock. According to the survey of teachers, we can see that the level of knowledge in the Municipality of Prizren is not adequate, and the instructors' lack of knowledge regarding dyslexia is also reflected in the preliminary figures. In conclusion, web applications have the potential to significantly improve the well-being and quality of life of children suffering from dyslexia. Through the use of specialized web applications, these children can access a range of tools and resources that are specifically designed to help them overcome the challenges associated with dyslexia. From reading and writing aids to speech recognition software and interactive learning tools, web applications can provide children with the support they need to thrive academically and socially, ultimately enhancing their well-being. Moreover, web applications offer a convenient and cost-effective solution for families and educators looking to support children with dyslexia. With many web applications now available for free or at a low cost, they can be easily integrated into existing educational programs, helping to ensure that children with dyslexia receive the support they need to succeed. Overall, the benefits of web applications for the well-being of children with dyslexia are clear. By providing personalized and accessible support, web applications can help these children to develop the skills and confidence they need to succeed both in and out of the classroom, ultimately improving their well-being. As such, the continued development and implementation of web applications for dyslexia represents an important step forward in providing effective

support for children with this common learning difficulty. Finally, we can state that this website will undoubtedly infuse Kosovo with a fresh attitude that will encourage parents and educators to grow personally and learn new information from experts in their industry, ultimately contributing to their well-being.

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