

Article



<https://doi.org/10.52696/RIFY4483>

Reprints and permission:
The Malaysian English Language Teaching Association

✉ Cihat Atar cihat.atar@yildiz.edu.tr
<https://orcid.org/0000-0002-5879-3432>

Enhancing Pedagogical Dyslexia Knowledge and Awareness of EFL Teacher Candidates: A Quasi-Experimental Intervention via DYSTEFL

Rukiye Çınar

ELT Department,
Sakarya University
Sakarya, Türkiye

Cihat Atar

ELT Department,
Yıldız Technical University
İstanbul, Türkiye

ABSTRACT

Similar to how it affects literacy skills in the first language, dyslexia affects foreign language learning. Hence, English as a foreign language (EFL) teachers should be aware of dyslexia and teach English accordingly. This study tested whether participation in Dyslexia for Teachers of English as a Foreign Language (DysTEFL), developed by a Comenius Project, improved knowledge and awareness of dyslexia. Based on a one-group pretest-posttest research design, the data were collected from 30 senior EFL Turkish teacher candidates via the Scale of Knowledge and Beliefs about Dyslexia (KBDDS). They were analyzed using SPSS. The participants' knowledge and awareness were low initially. However, after the intervention, a significant increase was observed at .05 ($p = .000$). This study filled in a significant gap in the literature by responding to previous studies, which urged for intervention studies testing whether EFL teacher candidates' dyslexia awareness could be improved by additional training. The results were positive, potentially enabling the candidates to achieve a more inclusive learning environment. The study also uncovered some persistent misconceptions about dyslexia and offered implications for teacher education programs.

KEYWORDS: Dyslexia, EFL teacher education, dyslexia awareness, inclusive education, DysTEFL

INTRODUCTION

Dyslexia refers to difficulties mainly in literacy skills that lead to difficulty in reading and comprehending words. The International Dyslexia Association defines the term dyslexia as a neurobiological and developmental learning disorder (International Dyslexia Association, 2002). From a pedagogical perspective, it is defined as a specific language-based learning disability that affects the individuals' ability to learn reading and writing skills accurately and fluently (Payne & Turner, 1999; Roitsch et al., 2019). According to the International Dyslexia Association (2002), dyslexia is a specific learning disability, and it is neurological in origin. The difficulty comes from a trouble in phonological processing, and it is typically regardless of other cognitive skills.

Dyslexia is the most frequent language-learning disability (Balçı, 2017; Echegaray-Bengoa et al., 2017). Studies show that although 2-4% of the world's population is seriously affected, approximately 9-12% of the total population is affected to some extent (International Dyslexia Association, 2002). This indicates a quite significant prevalence in human societies since it means that there will be at least 1-2 students in a classroom suffering from this issue. It affects not only an individual's native language but also foreign language learning (Anguita-Acero et al., 2024; Nijakowska et al., 2013), and individuals with dyslexia may be subjected to negative stereotyping by their teachers (Schell et al., 2024). Dyslexia manifests itself with problems in automaticity, phonological processing, syntax-related problems, faulty auditory sequencing, poor auditory discrimination, and difficulties with motor skills (Balçı, 2017; Rack et al., 1992).

Previous literature and authorities in the field (e.g., International Dyslexia Association, 2002) indicate that dyslexia is a learning disorder of neurobiological origin that affects the individual's accurate and fluent reading and writing skills and varies in severity from individual to individual. Just as it affects literacy skills in the first language, it also affects second/foreign language learning (Kormos & Cziser, 2010; Sparks & Ganschow, 1991). Accordingly, when this is combined with the fact that around 9-12% of individuals suffer from dyslexia to some extent (International Dyslexia Association, 2002), it is essential that English as a foreign language (EFL) teachers are trained and educated to become aware of dyslexia and teach English considering the needs of learners with dyslexia to avoid excluding these learners (Schell et al., 2024). Teacher training is especially significant as teachers often lack professional learning opportunities (Kiss & Lin, 2016; Woulfin & Jones, 2021), and their participation in these activities depends on several factors such as teacher agency and identity commitment (Tao & Gao, 2017). This means that if teachers are aware of their weaknesses, they may feel the need to improve themselves and help students with special education needs.

REVIEW OF RELATED LITERATURE

The study of dyslexia in EFL settings is a very recent phenomenon, and most of the studies were undertaken in the last decade. Although dyslexia is a frequent language learning disability, the literature review suggests that there are few studies internationally, and these studies are usually descriptive ones focusing on identifying teachers' awareness and competence levels, as presented in the following paragraphs. These studies indicated that internationally EFL teachers were not aware of dyslexia at a satisfactory level, and they did not know how to teach accordingly. Moreover, students with dyslexia tend to suffer from psychological issues and be at risk of losing interest in learning a foreign language (Kormos & Cziser, 2010). They may develop foreign language learning anxiety (Sparks & Ganschow, 1991) and face problems such as low self-esteem and self-confidence due to the

feeling of failure they frequently experience (Stevani & Tarigan, 2022). Hence, acquiring dyslexia awareness and knowledge may significantly affect their chances of acquiring a foreign language.

To exemplify previous literature on dyslexia and EFL, Washburn et al. (2014) developed the Dyslexia Belief Scale to be used with pre-service teachers. They also prepared a survey for English language teacher candidates in both the United States and the United Kingdom. The research, which was conducted with 171 teacher candidates, found that the teacher candidates had insufficient knowledge to teach students with dyslexia appropriately. The study concluded with recommendations for pre-service teachers' education and in-service teachers' professional development, such as organizing extra seminars on the topic of dyslexia. In another study in the European context, Soriano-Ferrer and Echegaray-Bengoa (2016) investigated the knowledge and beliefs of pre-service and in-service teachers about dyslexia in Spain. The study found that the pre-service teachers lacked adequate knowledge and awareness and needed professional development through extra lessons or activities.

Kormos and Nijakowska (2017) conducted one of the rare intervention studies regarding dyslexia and English language teaching. In their study, they implemented a massive open online course (MOOC) based on DysTEFL to check whether it influenced EFL teachers' attitudes, self-efficacy beliefs, and concerns. The study suggested that the intervention had a positive effect in all respects. In the study conducted by Indrarathne (2019) in Sri Lanka on students with dyslexia in the EFL context, teachers' knowledge and behaviors regarding dyslexia were investigated. The results revealed that EFL teachers' awareness level for teaching students with dyslexia was not satisfactory. Similarly, Müller (2020) investigated teaching EFL to students with dyslexia. The research concluded that teachers needed to gain knowledge about dyslexia and the challenges it brings, as very few teachers had sufficient knowledge about them. Also, it was argued that it was necessary to incorporate additional training about dyslexia in the curriculum of departments in the faculties of education (Kiss & Lin, 2016; Shen & Yin, 2024). Turek (2020) also investigated how dyslexia affects the EFL learning process of students with dyslexia. Like the studies above, it was concluded that EFL teachers did not provide appropriate education considering the needs of students with dyslexia. In another study on the dyslexia knowledge of EFL teachers in Croatia, Fišer and Každonek-Crnjaković (2022) concluded that teachers' awareness and knowledge of dyslexia were limited.

Atar and Amir (2023) investigated the knowledge and beliefs of pre-service EFL teachers on dyslexia in Türkiye through the scale of Soriano Ferrer and Echegaray-Bengoa (2014), which was used in the current study as well. The findings showed that the rate of pre-service EFL teachers correctly understanding the items in the "General Information" sub-dimension of the scale was 49.5%, while the rate for accurate "Diagnosis" was 56.9%. It was concluded that the knowledge and beliefs of pre-service EFL teachers were insufficient, and it was observed that the faculties of education in Türkiye do not give enough importance to dyslexia in their curriculum although dyslexia is a rather frequent phenomenon, which is also valid internationally (e.g., in the Chinese context: Shen & Yin, 2024). In another study in the Turkish context, Ekoç Özçelik and Elverici (2024) researched EFL teachers' awareness levels and their competence level in teaching students with dyslexia. It was concluded that EFL teachers were not adequately prepared to teach students with dyslexia and that the courses given in education faculties were insufficient. Additionally, it was suggested that it would be beneficial to provide training for pre-service and in-service teachers via seminars or webinars. Hence, the studies on pre- and in-service EFL teachers in Türkiye demonstrated that they both lacked knowledge and awareness of dyslexia indicating issues in EFL teacher education and training. In the same vein, Yüksel and Özcan (2025) found that Turkish EFL teachers had a moderate level of dyslexia knowledge, with notable strengths in understanding the need for individualized instruction and rejecting common myths

(e.g., dyslexia is linked to laziness or low intelligence).

In addition to these studies, when examining the English Language Teaching undergraduate programs internationally, it was observed that only a few courses were provided for special education and inclusive education, which with a closer look revealed that these courses were broad and theoretical in focus and that they did not specifically focus on what to do pedagogically in the classroom (e.g., Anguita-Acero et al., 2024; Atar et al., 2021; Kormos & Nijakowska, 2017; Shen & Yin, 2024). In another study on dyslexia and foreign language teaching in Türkiye, a systematic review of documents published between 2011 and 2021, it was found that studies on dyslexia in language education programs in Türkiye did not provide adequate practices regarding the competencies of students with dyslexia (Dönüş, 2022). Considering the significance of the fact that early diagnosis of students with dyslexia plays a crucial role, the insufficient knowledge levels of teacher candidates and teachers and the lack of courses in education faculties, and in-service teacher training programs pose a significant threat to the inclusion of learners with special needs and contexts with diverse learning needs (Woulfin & Jones, 2021; Zainal, 2025).

Moreover, the literature shows that many existing studies measuring the proficiency levels of teachers' dyslexia knowledge in the literature are on primary school teachers (e.g., Sümer Dodur & Altındağ Kumaş, 2021) suggesting that there is a need for research in the EFL context. There are some studies on EFL teachers' dyslexia awareness as mentioned above; however, these were usually descriptive and correlational studies, and they did not aim to change the current situation (i.e., they did not include experiments or interventions) (Atar & Amir, 2023). This indicates that there is a gap in the study of education and training of EFL pre/in service teachers via interventions. Consequently, as suggested by research (Atar & Amir, 2023; Bos et al., 2001; Ekoç Özçelik & Elverici, 2024; Soriano-Ferrer & Echegaray-Bengoa, 2016; Müller, 2020; Washburn et al., 2014; Yüksel & Özcan, 2025), it is high time intervention studies were undertaken, and the focus was shifted to improving teachers' knowledge and awareness.

To reiterate the justification and significance of the current study, the literature review demonstrates that both EFL teacher candidates' and teachers' level of knowledge of dyslexia is insufficient, and the education provided in faculties of education for teaching students with dyslexia seems to be inadequate according to the previous literature (Atar & Amir, 2023; Ekoç Özçelik & Elverici, 2024; Fišer & Každonek-Crnjaković, 2022; Indrarathne, 2019; Müller, 2020; Turek, 2020; Washburn et al., 2014). However, to facilitate effective learning for students with dyslexia, teachers need both theoretical and practical knowledge, which may increase their self-efficacy beliefs leading to more supportive teaching (Moè & Katz, 2020). Accordingly, this current study undertakes an intervention study by applying the DysTEFL training module (Nijakowska et al., 2013; 2016) and investigates whether it has a significant contribution to EFL teachers' knowledge and awareness of dyslexia. Considering the justification and literature gap above, "Dyslexia for Teachers of English as a Foreign Language-Trainer's Booklet" (DysTEFL), prepared within the scope of a Comenius Project (Nijakowska et al., 2013), was used for intervention. Studies showed that students with dyslexia should be supported with phonological and orthographic tasks along with a multisensory approach (Moats & Foorman, 2003; Oaklandová & Hanáčková, 2022), and since these exact tasks are included in the DysTEFL training, it was deemed appropriate to use the DysTEFL. For these reasons, the purpose is to increase EFL teacher candidates' knowledge and awareness of dyslexia, emphasizing its importance in pre- and in-

service teacher training. Accordingly, the research questions of this study are:

1. What is the knowledge and awareness level of EFL teacher candidates?
2. Does the dyslexia intervention enhance EFL teacher candidates' knowledge and awareness levels?

METHODOLOGY

This study was designed as quasi-experimental research without a control group, specifically using a one-group pretest-posttest design. One-group pretest-posttest design is a research design in which the same dependent variables are analyzed in a single group of participants both before (pretest) and after (posttest) the training (Creswell, 2012; Privitera & Delzell, 2019). Quasi-experimental research may be implemented instead of experimental research with a control group in educational contexts since it is difficult to form two groups objectively in educational contexts (e.g., it is not possible to assign students to two different classes randomly since the classes are usually pre-arranged). This study aims to firstly investigate the knowledge and awareness levels of EFL pre-service teachers about dyslexia and then to contribute to pre- and in-service teacher training based on the findings by analyzing the individual items of the data collection in detail.

Study Group and Context

To enter a faculty of education in the Turkish higher education system, students need to pass a centralized university entrance exam, and depending on their specialization (e.g., social sciences or science), they choose a department. The initial years include mostly theoretical courses, and in the latter part, they take mostly field courses, and all the final-year teacher candidates attend a teaching practicum (Kazaz & Alagözlü, 2020). They observe classes, write reflection reports, and teach under the guidance of their mentor teachers and academic supervisors. The participants consisted of these teacher candidates, and the data were collected at the end of the semester after the final exams. Hence, they were about to graduate when they took part in the study, which means they had completed all the courses needed in the undergraduate degree program.

The Scale of Knowledge and Beliefs about Dyslexia (KBDDS), developed by Soriano-Ferrer and Echegaray-Bengoa (2014), was distributed to 30 fourth-year students in English Language Teaching programs at universities in the Blinded region of Türkiye via convenience and snowball sampling. Convenience and snowball sampling are types of non-probability sampling that recruit participants via contacting potential participants based on their willingness to take part in the study and ease of access. Twenty (66.66%) of the participants were females, and 10 (33%) of them were males. The participants did not have any formal teaching experience, as they were all undergraduate students.

Data Collection Tools, Procedures, and Data Analysis

Data collection was conducted with the necessary permissions obtained from the Ethics Committee of Blinded University under decision number Blinded in 2024. The research data (both pre- and posttests) were collected using KBDDS that was designed, developed, and evaluated by Soriano Ferrer and Echegaray-Bengoa (2014) for teachers and instructors. There are some other similar scales in the literature (e.g., Nijakowska et al., 2018); however, they focused on participants' self-efficacy reports of their competence and awareness, i.e., they ask the participants whether, for example, they feel competent in identifying learners with dyslexia. However, the one used in this scale specifically tested participants' dyslexia knowledge and awareness by asking questions about the nature of developmental

dyslexia and its diagnosis. Accordingly, considering the purposes of the current study, it was more appropriate. The scale consists of thirty-six (36) items categorized into three subscales: General Knowledge (17 items), Diagnosis (10 items), and Treatment (9 items). The General Knowledge sub-dimension includes items that test participants’ knowledge about basic characteristics of dyslexia while Diagnosis focuses on whether the participants can detect and identify individuals with dyslexia. The data collection tool provides three options for each item: Correct, False, and Do Not Know. The internal consistency coefficients for the General Knowledge, Diagnosis, and Treatment factors were calculated as .87, .85, and .78, respectively, which meant that the scale is reliable and acceptable for future research (Atar & Amir, 2023).

In this study, after consulting experts in the field of Special Education, the Treatment factor was not included in the research, as it does not pertain to the professional characteristics of in-service and pre-service EFL teachers, namely, teachers do not have the ability and legal right to treat dyslexia. This was not included in the DysTEFL, either, confirming that treating dyslexia is beyond the scope of teacher training. The intervention was undertaken at the end of the spring semester in June 2024, and the data were collected before and after the intervention on a voluntary basis. The students were informed about the study, and confidentiality and adherence to ethical guidelines were ensured. The intervention was undertaken online on the Zoom platform. The data were collected online as well via Google Forms.

The collected data were analyzed using Statistical Package for the Social Sciences (SPSS 27.0). As suggested in social sciences (Field, 2009), firstly, normality analysis was conducted. For General Information and Diagnosis, the skewness value was found to be 0,142 and -0,206, whereas the Kurtosis value was -1,049 and -1,006. The skewness values between -1 and +1, and the kurtosis values between -2 and +2 are acceptable and indicate that the distribution is normal (Field, 2009). Also, the Shapiro-Wilk test was considered for use with 30 or fewer participants (Field, 2009). The significance value was higher than .05 with a value of .279 and .161 for General Information and Diagnosis respectively. These results indicated that the data held a normal distribution as shown below in Table 1, and they were appropriate for further analysis.

Table 1
Normality Test for General Information and Diagnosis

	Shapiro-Wilk		
	statistic	df	significance
General Information	.958	30	.279
Symptoms/Diagnosis	.949	30	.161

Since the same scale was used at different times (before and after the training) by a single group, a Paired Sample Test was conducted to compare the mean scores of “Pre-General Information and Post-General Information” and “Pre-Diagnosis and Post-Diagnosis” (Field, 2009).

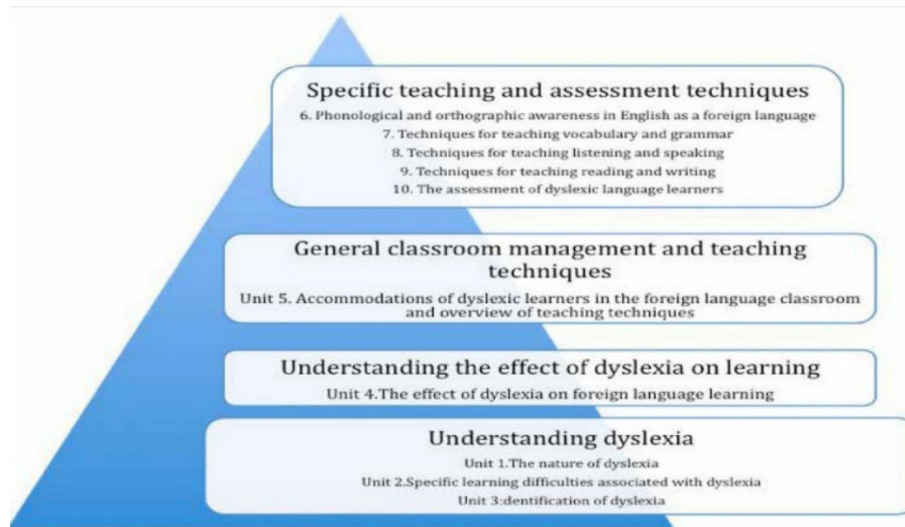
Intervention

In this research, the intervention was provided using the “Dyslexia for Teachers of English as a Foreign Language: Trainer’s Booklet”, prepared within the scope of the European Union Project by Nijakowska et al. (2013; 2016). The booklet is divided into three main modules: Foundations Module, General Teaching Principles Module, and Specific Teaching and Assessment Techniques Module. These three modules consist of four main topics: Understanding Dyslexia, Understanding the Effect of Dyslexia

on Learning, General Classroom Management and Teaching Techniques, and Specific Teaching and Assessment Techniques. The details of the booklet were presented in Figure 1.

Figure 1

An overview of the content of the training module (DysTEFL, Nijakowska et al., 2013, p. 7)



The training lasted for 15 days in June 2024, with lessons held around every other day for the initial 4 units. It consisted of six lessons, each lasting 40 minutes. Two lecturers specialized in Foreign Language Education and Special Education undertook the training online. The lessons were recorded, and the recordings were shared with the participants in case they missed a course, or they would like to watch it again.

RESULTS

The data were analyzed according to the research questions. First, the participants' level of knowledge and awareness of dyslexia was researched. Then, whether the intervention led to a significant change was tested.

Research Question 1

The first research question identified the participants' knowledge and awareness levels. EFL teacher candidates' level of knowledge and awareness about dyslexia before the intervention was low. In total, only 48.84% of the responses were correct. 17.01% of the participants chose incorrect answers, and 34.15% of them chose the "Do Not Know" option.

Table 2

Pretest Descriptive results of the KBDDS

	% of Correct Responses	% of False Responses	% of Do Not Know
General Information	42.35	19.02	38.63
Symptoms/Diagnosis	55.33	15	29.67
Total	48.84	17.01	34.15

To explain each subscale, 42.35% of the General Information items were answered correctly. On the other hand, the items in the diagnosis sub-dimension were answered correctly 55.33% on average. Since the results indicated that nearly half of the responses were correct although there were only three options (i.e., even if they had chosen an option randomly, their chances of guessing the correct answer would have been 33.3%), it may be argued that the participants were mostly unaware of dyslexia.

Table 3 provided the participant responses within the General Information subscale. The analysis of the individual items revealed that only a few items were answered correctly more than 80% of the time (i.e., items 2, 3, and 21), indicating a limited understanding of dyslexia. Furthermore, the data highlight significant misconceptions among participants about dyslexia.

Table 3
Subscale 1: General Information (Pretest)

No	Item	True		False		Do Not Know		Answer
		N	%	N	%	N	%	
1	Dyslexia is the result of a neurologically based disorder.	21	70	1	3.3	8	26.6	True
2	Dyslexia is caused by visual perception deficits, producing the reversal of letters and words.	3	10	24	80	3	10	False
3	A child can be dyslexic and gifted.	25	83.3	0	0	5	16.7	True
4	Dyslexic children often have emotional and social disabilities.	6	20	11	36.7	13	43.3	True
5	The brains of individuals with dyslexia are different from those of people without dyslexia.	16	53.3	2	6.7	12	40	True
6	Dyslexia is hereditary.	6	20	6	20	18	60	True
7	Most studies indicate that about 5% of school-age students have dyslexia.	7	23.3	0	0	23	76.7	True
8	Dyslexia has a greater occurrence in males than in females.	5	16.7	4	13.3	21	70	True
16	All poor readers have dyslexia.	0	0	27	90	3	10	False
20	Students who have reading disabilities without an apparent cause are called dyslexic.	7	23.3	17	56.7	6	20	True
21	People with dyslexia are not stupid or lazy. Knowing about the term helps children.	29	96.7	0	0	1	3.3	True
25	I think dyslexia is a myth, a problem that does not exist.	4	13.3	25	83.3	1	3.3	False
27	Problems in establishing laterality (body schema) are the cause of dyslexia.	5	16.7	1	3.3	24	80	False
29	Dyslexia refers to a relatively chronic condition that is often not completely overcome.	10	33.3	5	16.7	15	50	True
30	Many students with dyslexia continue to have reading problems as adults.	13	43.3	1	3.3	16	53.3	True
31	Many students with dyslexia have low self-esteem.	3	10	15	50	12	40	True
35	Dyslexia usually lasts for a long time.	12	40	2	6.7	16	53.3	True
Mean Score								1.05

When the items with the most correct answers were analyzed, item 21 was the most correctly answered item by the EFL teacher candidates in this subscale. 96.67% of the participants (n=29) knew that people with dyslexia were not stupid or lazy, while 3.33% (n=1) were unsure. Accordingly, almost all the EFL teacher candidates recognized that dyslexia is not due to intelligence problems or laziness. Item 16 was the second most correctly answered item with a ratio of 90%. This indicated that the participants knew that being a poor reader does not necessarily mean being dyslexic. Items 3 and 25 were the third most correctly answered items. 83.34% of the participants (n=25) understood that a child could be both dyslexic and gifted, and that dyslexia is a genuine developmental problem, not a myth. Therefore, more than three-quarters of the participants knew that dyslexia is a real problem and that a child can be both dyslexic and gifted at the same time.

As for the items in which the participants were unsure the most, in item 27, 80% of the participants (n=24) could not tell whether dyslexia is caused by issues in establishing laterality (body schemata). Only 3.34% (n=1) answered it correctly, while 16.66% of the participants (n=5) considered the statement true. Accordingly, it can be stated that most of the participants lacked the awareness that dyslexia is not caused by difficulties in establishing laterality. Likewise, item 7 showed that 76.67% of the participants (n=23) did not know whether 5% of school-age students have dyslexia. The remaining 23.33% (n=7) correctly identified the statement as true, and no participants considered it false. Accordingly, it can be concluded that most participants were unaware of the fact that dyslexia is a common problem in students. Finally, item 8 revealed that the participants were usually (70%) not sure about whether gender plays a role in dyslexia. They did not know that males are more likely to suffer from dyslexia.

As for the items with the most incorrect items, which were very significant as they revealed the participants' misconceptions about dyslexia, item 20 received the highest rate of incorrect responses. 56.67% of the participants (n=17) thought that students who have reading disabilities without an apparent cause are not called dyslexic although the statement was true. Therefore, a misconception exists among the participants since they seemed to think that there must be some accountable factors or symptoms for being dyslexic. The second item with the most incorrect answers was Item 31. The statement was false for 50% of the participants (n=15), and the remaining 40% of the participants were unsure whether many students with dyslexia have low self-esteem. Only 10% of the participants (n=3) answered the item correctly. Thus, almost all the participants were unaware or did not know that students with dyslexia often have low self-esteem. Similarly, only 36.67% (n=11) of the participants thought that individuals with dyslexia often had emotional and social disabilities as revealed in item 4. 43.33% (n=13) of them were unsure about this situation. These findings indicate that the participants did not know or were unsure about the fact that people with dyslexia tend to suffer from emotional and social problems, which is closely linked to the findings of item 31.

Table 4 provided a detailed analysis of pretest responses within the Symptoms/Diagnosis subscale. Item 36 was the most well-known statement with 90% (n=27) indicating their awareness of dyslexia as characterized by a difficulty with learning to read fluently. Accordingly, almost all participants understood that dyslexia is associated with difficulty in learning to read fluently. When item 15 was examined, it was seen that 66.67% of the participants (n=20) were not sure whether intelligence tests are useful in identifying dyslexia or not. Only 10% (n=3) of the participants answered it correctly showing a lack of awareness of the use of intelligence tests in identifying dyslexia. Item 13 received

the most incorrect responses in the 'Symptoms/Diagnosis' sub-dimension indicating a serious misconception. 86.67% of the participants (n=26) thought that seeing letters and words backward is a basic characteristic of dyslexia whereas only 3.33% of the participants (n=1) answered it correctly. Accordingly, it could be pointed out that most participants associate seeing letters and words backward with dyslexia, which was reported under visual processing issues in other studies (e.g., in teachers: Yüksel & Özcan, 2025).

Table 4

Subscale 2: Symptoms/Diagnosis (Pretest)

No	Item	True		False		Do Not Know		Answer
		N	%	N	%	N	%	
9	Children with dyslexia are more consistently impaired in phonemic awareness (i.e., ability to hear and manipulate sounds in language) than any other ability.	6	20	5	16.7	19	63.3	True
11	People with dyslexia have below average intelligence.	1	3.3	25	83.3	4	13.3	False
12	The reading of students with dyslexia is often characterized by inaccuracy and lack of fluency.	25	83.3	2	6.7	3	10	True
13	Seeing letters and words backwards is a basic characteristic of dyslexia.	26	86.7	1	3.3	3	10	False
14	Difficulty with the phonological processing of information is one of the most important deficits in dyslexia.	18	60	0	0	12	40	True
15	Intelligence tests are useful in identifying dyslexia.	3	10	7	23.3	20	66.7	True
32	Children with dyslexia have problems with decoding and spelling but not with listening comprehension.	15	50	3	10	12	40	True
33	Applying an individual reading test is essential to diagnosing dyslexia.	20	66.7	0	0	10	33.3	True
34	Dyslexics tend to spell words wrong.	26	86.7	1	3.3	3	10	True
36	Dyslexia is characterized by difficulty with learning to read fluently.	27	90	0	0	3	10	True
Mean Score								1.25

Research Question 2

The second research question tested whether the intervention led to a significant change in dyslexia knowledge and awareness levels. The analysis showed that the intervention of dyslexia training significantly improved participants' General Knowledge and Diagnosis levels of dyslexia (Tables 5, 6, and 7). Table 5 presents findings regarding the statistical significance and reliability of the training provided specifically.

Table 5

Paired Sample Test Significance Results for “General Information” and “Diagnosis” Factors

		Paired Differences					t	df	Sig. (2-Tailed)
		Mean	Std. Dev.	Std. Error	95% Confidence Interval of the Difference				
					Lower	Upper			
General Information	Pre-/Post-General Information	.707	.353	.064	.575	.839	10.96	29	.000
Symptom/Diagnosis	Pre-/Post-Diagnosis	.463	.399	.072	.314	.612	6.352	29	.000

As the significance value for both General Information and Diagnosis was lower than .05 (p= .000), the increase in participants’ levels was statistically significant. The p-value of .000 indicated a highly significant difference, which suggests that the effects of the training provided are unlikely to occur by chance (Field, 2009). It is reliable because zero is not included in the 95% Confidence Interval of the Difference for General Information (.575 - .839) and Diagnosis (.314 - .612). Such statistically significant enhancements in pretest–posttest designs are considered as evidence of intervention effectiveness in educational research (Creswell, 2012).

The mean score for correct answers for General Information in the pretest was 1.05, which increased to 1.76 in Post-General Information (Table 6), which indicates an increase in knowledge level. This finding is in line with prior intervention studies that demonstrated structured training could improve domain-specific knowledge (e.g., Nijakowska, 2022).

Table 6

General Information (Posttest)

No	Item	True		False		Do Not Know		Correct Answer
		N	%	N	%	N	%	
1	Dyslexia is the result of a neurologically based disorder.	30	100	0	0	0	0	True
2	Dyslexia is caused by visual-perception deficits, producing the reversal of letters and words.	12	40	18	60	0	0	False
3	A child can be dyslexic and gifted.	29	96.7	1	3.3	0	0	True
4	Dyslexic children often have emotional and social disabilities.	22	73.3	7	23.3	1	3.3	True
5	The brains of individuals with dyslexia are different from those of people without dyslexia.	26	86.7	4	13.3	0	0	True
6	Dyslexia is hereditary.	25	83.3	4	13.3	1	3.3	True

7	Most studies indicate that about 5% of school-age students have dyslexia.	23	76.7	3	10	4	13.3	True
8	Dyslexia has a greater occurrence in males than in females.	27	90	2	6.7	1	3.3	True
16	All poor readers have dyslexia.	0	0	30	100	0	0	False
20	Students who have reading disabilities without an apparent cause are called dyslexic.	8	26.7	20	66.7	2	6.7	True
21	People with dyslexia are not stupid or lazy. Knowing about the term helps children.	30	100	0	0	0	0	True
25	I think dyslexia is a myth, a problem that does not exist.	0	0	30	100	0	0	False
27	Problems in establishing laterality (body schema) are the cause of dyslexia.	16	53.3	5	16.7	9	30	False
29	Dyslexia refers to a relatively chronic condition that is often not completely overcome.	25	83.3	5	16.7	0	0	True
30	Many students with dyslexia continue to have reading problems as adults.	28	93.3	2	6.7	0	0	True
31	Many students with dyslexia have low self-esteem.	26	86.7	1	3.3	3	10	True
35	Dyslexia usually lasts for a long time.	30	100	0	0	0	0	True
Mean Score								1.76

Similarly, the mean score for pre-diagnosis was 1.25, which increased to 1.72 for Post-Diagnosis (Table 7) indicating that the participants' ability to diagnose dyslexia also increased after the intervention. Moreover, the decrease in the standard deviation for both variables, general information (0.59 to 0.19) and diagnosis (0.65 to 0.23), from the pre-test to posttest indicated a more consistent general knowledge and diagnostic ability among English language teacher candidates after the training.

Table 7

Symptoms/Diagnosis (Posttest)

No	Item	True		False		Do Not Know		Correct Answer
		N	%	N	%	N	%	
9	Children with dyslexia are more consistently impaired in phonemic awareness (i.e., ability to hear and manipulate sounds in language) than any other ability.	21	70	5	16.7	4	13.3	True
11	People with dyslexia have below average intelligence.	0	0	3	100	0	0	False

12	The reading of students with dyslexia is often characterized by inaccuracy and lack of fluency.	30	100	0	0	0	0	True
13	Seeing letters and words backwards is a basic characteristic of dyslexia.	17	56.7	1 2	40	1	3.3	False
14	Difficulty with the phonological processing of information is one of the most important deficits in dyslexia.	30	100	0	0	0	0	True
15	Intelligence tests are useful in identifying dyslexia.	2	6.7	2 4	80	4	13.3	True
32	Children with dyslexia have problems with decoding and spelling but not with listening comprehension.	13	43.3	1 4	16.7	3	10	True
33	Applying an individual reading test is essential to diagnosing dyslexia.	30	100	0	0	0	0	True
34	Dyslexics tend to spell words wrong.	30	100	0	0	0	0	True
36	Dyslexia is characterized by difficulty with learning to read fluently.	30	100	0	0	0	0	True
Mean Score								1.72

DISCUSSION

In the pretest, the study highlighted significant gaps in EFL teacher candidates' knowledge and beliefs about dyslexia, which were congruent with other studies (e.g., Kiss & Lin, 2016; Yüksel & Özcan, 2025). More than half of the participants either answered the questions incorrectly or selected the "Do Not Know" option. Additionally, as shown in Table 2 by the high ratio of "Do Not Know" answers, EFL teacher candidates were indeed aware of their lack of knowledge of dyslexia, which supported previous studies (e.g., Atar & Amir, 2023; Echegaray-Bengoa et al., 2016; Indrarathne, 2019; Hornstra et al., 2010; Müller, 2020; Ekoç Özçelik & Elverici, 2024; Turek, 2020; Washburn et al., 2014; Žero & Karmen Pižorn, 2022) in that there is a significant gap in EFL teachers and teacher candidates' knowledge and awareness of dyslexia.

The second research question examined whether the intervention contributed to General Knowledge and Diagnosis levels. The findings (Table 5) revealed that the intervention had a statistically significant effect, and it increased the participants' General Knowledge and Diagnosis levels of dyslexia. A closer look at Table 6 showed that 10 out of 17 questions (Items 1, 3, 5, 8, 16, 21, 25, 29, 30, 31, and 35) were answered correctly by most participants, with only a few participants providing incorrect answers. Conversely, two of the items (Items 20 and 27) were still answered incorrectly by more than half of the participants. After the provided training, EFL teacher candidates did not gain sufficient knowledge about the fact that students with reading disabilities without an apparent cause are called dyslexic. Only 26.67% of the participants answered it correctly. This is probably because the participants assumed that anyone with reading disabilities cannot be called a person with dyslexia. This is indeed supported by their response to item 16, which all of them answered correctly. Accordingly, it may be argued that clearer information should be provided to the participants about the fact that dyslexia is a developmental problem in reading that has no obvious reasons, such as physical disability, and that, of course, not all poor readers are dyslexic. This is indeed in line with the definition provided by the Dyslexia Association (2002), which underlines the fact that dyslexia is often unexpected in relation to other cognitive abilities. Hence, this distinction should be made clearer as

the results indicate. Also, after the intervention, the participants did not know that laterality could be established in dyslexia (item 27). Still, in the posttest, there were more accurate answers compared to the pretest, which indicates that there is a quantitative improvement.

In the posttest, the most common correct answers came from Diagnosis. As shown in Table 7, all the participants answered 6 out of the 10 questions (items 11, 12, 14, 33, 34, and 36) correctly. This implied that they improved their skills in recognizing learners with dyslexia. This is a significant output of the current study since recognizing students with dyslexia is the primary step in helping them (Atar & Amir, 2023; Kiss & Lin, 2016). However, the participants still had insufficient knowledge about whether seeing letters and words backwards is a basic characteristic of dyslexia. Only 40% of the participants answered it correctly. This misconception was indeed reported in other studies as well (e.g., Atar & Amir, 2023; Washburn et al., 2014; Žero & Pižorn, 2022). Furthermore, almost all participants (80%, n= 24) lacked sufficient knowledge on whether intelligence tests are useful for identifying dyslexia, which was supported by previous research as well (e.g., Atar & Amir, 2023). These two issues may then be points to be improved in the DysTEFL training module, or the trainers utilizing this module may spend extra time on these issues.

In addition, the analysis suggests a potential link between training interventions and broader constructs such as teacher agency and professional development. Although not directly measured in the current study, the observed improvements in knowledge and awareness levels point toward the possibility that enhanced levels may influence teachers' willingness to engage in inclusive practices and professional development. This opens a new avenue for theoretical exploration, which suggests that future models of teacher development should consider how cognitive gains from interventions interact with agency and identity-related factors (Tao & Gao, 2017).

One striking improvement in the post-test was in item 31. In the pretest, only 10% of the participants knew that students with dyslexia tend to have low self-esteem, and 40% reported having no idea. However, in the posttest, 86,67% of the participants knew that students with dyslexia suffer from low self-esteem. In a closely linked item that focused on emotional and social disabilities faced by individuals with dyslexia, the participants' accurate responses increased from 20% to 73,33%, indicating a substantial increase. These findings are significant, especially considering the recent studies in positive psychology, mindfulness, and growth mindsets that underlined the significance of psychological factors in foreign language learning (e.g., Mercer, 2021). Hence, via the intervention, the positive contribution (i.e., from 10 and 20% to 86,67 and 73,33%, and an overall statistically significant increase) to the participants' awareness regarding this issue may be critical for helping students suffering from emotional, social, and psychological problems.

Overall, the current study filled in a significant gap in the literature by responding to the suggestions of other studies which urged for intervention studies to test whether EFL teachers' and teacher candidates' knowledge can be improved by additional training (e.g., Atar et al., 2023; Echegaray-Bengoa et al., 2016; Ekoç Özçelik & Elverici, 2024; Hornstra et al., 2010; Indrarathne, 2019; Kormos & Nijakowska, 2017; Müller, 2020; Nijakowska, 2022; Turek, 2020; Washburn et al., 2014). While prior research has tended to focus on teachers' attitudes and self-efficacy and descriptive analysis, the current study provided a fine-grained analysis by delving into the individual items in the scale in addition to doing implementation.

CONCLUSION

This study contributed to the literature on dyslexia in the field of foreign language education by undertaking a quasi-experimental study. It extended the existing understanding of inclusive pedagogy through the intervention-based DysTEFL training module. The results provided preliminary evidence that DysTEFL might be a valid and reliable tool for training EFL pre- and in-service teachers as evidenced by the statistically significant increase in the participants' knowledge and awareness levels of dyslexia. This showed that DysTEFL is a valuable learning tool for pre- and in-service EFL teachers. This is in line with rare intervention studies such as Kormos and Nijakowska (2017) that found that interventions can increase the participants' positive attitudes and self-efficacy beliefs. Our study, on the other hand, uniquely demonstrated an increase in knowledge levels regarding dyslexia knowledge and awareness. Hence, the results suggested that these kinds of interventions need to be integrated into teacher training and education curricula. The findings also suggested that dyslexia awareness is very significant since it has effects on students' well-being. Hence, it may be argued that teachers' awareness of dyslexia not only has pedagogic benefits, but it also has positive effects on students' psychological state.

Overall, this study offered a more nuanced theoretical understanding of how targeted interventions may function within pre-service teacher education highlighting their role not only as practical tools but also as mechanisms that reshape future teachers' knowledge and awareness, and inclusive education theory. This study more specifically demonstrated that an intervention by the DysTEFL training module had a significant effect on improving EFL candidate teachers' knowledge and awareness of dyslexia in General Knowledge and Diagnosis. The DysTEFL training module was found to be a reliable and valid tool for training EFL teachers in the specific context of the current study. Hence, it may be used by institutions, organizations, and researchers to research and improve EFL teachers' awareness. Considering the critical need for inclusive education and helping students/individuals with learning difficulties, it is essential to increase individuals' awareness regarding issues like dyslexia, and in this sense, it is essential that teachers have sufficient knowledge and awareness as they are in contact with many individuals.

As for the limitations of the study, due to the limitations in resources (i.e., lack of any economic support), the training in this study was undertaken in a shorter time span, and further discussion sessions could not be undertaken. Hence, extending the duration of the training would allow for a more comprehensive exploration of the topic, helping participants minimize the knowledge gaps, probably yielding better improvements in the participants' levels. Also, the study had a small sample size without a control group, and the participants were recruited through convenience and snowball sampling. Hence, there is a limited generalizability of the findings beyond the participants. Finally, the possibility of a testing effect should be mentioned as well since the same instrument was used before and after the intervention.

In future studies, considering EFL pre- and in-service teachers' lack of knowledge as supported by various studies including the current study, it is suggested that teacher training programs and in-service teacher training programs may integrate this dyslexia training module into their program, which can enhance EFL teacher candidates' general knowledge and awareness as shown in this study (Bos et al., 2001; Hornstra et al., 2010). Regarding teachers' low level in the pretest, and the significant effect the intervention in this study had, it is essential that EFL teacher training programs include courses on special education and foreign language teaching (Bos et al., 2001; Müller, 2020; Woulfin & Jones, 2021). However, the literature suggests that these programs usually do not offer such courses except for a few general and broader theoretical courses, and interventions such as the one undertaken in the current study are rare. For further research, the DysTEFL can be conducted with a larger and more

diverse group of EFL teacher candidates, and in different contexts and countries to test its reliability and validity further. Moreover, the effects of other factors, such as teacher agency and identity commitment, on teachers' willingness for professional development need to be investigated further to understand how teachers' participation in professional development can be supported. Studies in this area can help researchers improve English language teaching education programs and minimize the gap between teacher preparedness and students with dyslexia, contributing to inclusive education.

ACKNOWLEDGEMENT

This study was sponsored by the Scientific and Technological Research Council of Türkiye (TÜBİTAK) as part of 2209A funding under the grant number 1919B012320393.

REFERENCES

- Anguita-Acero, J. M., Navarro-Martinez, O., & Jordan, L. R. (2024). Learning difficulties of students with dyslexia in Spanish and UK schools. *European Journal of Education*, 59(4), e12789. <https://doi.org/10.1111/ejed.12789>
- Atar, C., & Amir, A. (2023). Pre-service EFL teachers' knowledge and beliefs about developmental dyslexia: Implications for EFL teacher training. *Language Teaching and Educational Research*, 6(2), 160-175. <https://doi.org/10.35207/late.1296792>
- Atar, C., Aslan Bağcı, Ö., & Bağcı, H. (2021). Deaf individuals and English language teaching. *The Turkish Online Journal of Educational Technology*, 20(4), 23-28.
- Balcı, E. (2017). Dyslexia: definition, classification and symptoms. *SDU International Journal of Educational Studies*, 4(2), 166-180. <https://doi.org/10.33710/sduijes.336369>
- Bos, C., Mather, N., Dickson, S., Podhajski, B., & Chard, D. (2001). Perceptions and knowledge of preservice and inservice educators about early reading instruction. *Annals of Dyslexia*, 51(1), 97-120. <https://doi.org/10.1007/s11881-001-0007-0>
- Creswell, J. W. (2012). *Educational research: Planning, conducting, and evaluating quantitative and qualitative research* (4th ed.). Pearson.
- Dönüş, E., (2022). *A critical review of dyslexia in foreign language teaching: A guide for ELT classrooms in Turkey* [Unpublished master's thesis]. Akdeniz University.
- Echegaray-Bengoa, J., Soriano-Ferrer, M., & Joshi, R. M. (2017). Knowledge and beliefs about developmental dyslexia: A comparison between pre-service and in-service Peruvian teachers. *Journal of Hispanic Higher Education*, 16(4), 375–389. <https://doi.org/10.1177/1538192717697591>
- Ekoç Özçelik, A., & Elverici, S. E. (2024). Dyslexia awareness among English language teachers in Türkiye. *European Journal of Education*, e12647. <https://doi.org/10.1111/ejed.12647>
- Field, A. (2009). *Discovering statistics using SPSS*. SAGE Publications.
- Fišer, Z., & Kaldonek-Crnjaković, A. (2022). Croatian English as a foreign language teachers' knowledge about dyslexia and teaching students with dyslexia: Is their practice inclusive and dyslexia-friendly? *Lenguas Modernas*, 59, 31–49.
- Hornstra, L., Denessen, E., Bakker, J., Van Den Bergh, L., & Voeten, M. (2010). Teacher attitudes toward dyslexia: Effects on teacher expectations and the academic achievement of students with dyslexia. *Journal of Learning Disabilities*, 43(6), 515-529.

- Indrarathne, B. (2019). Accommodating learners with dyslexia in English language teaching in Sri Lanka: Teachers' knowledge, attitudes, and challenges. *TESOL Quarterly*, 53, 630-654. <https://doi.org/10.1002/tesq.500>
- International Dyslexia Association (2002). Definition of dyslexia. Retrieved from <https://dyslexiaida.org/definition-of-dyslexia/>
- Kazaz, I., & Alagözlü, N. (2020). Evaluation of teaching practicum for pre-service English language teachers: a scale development study. *Journal of Language and Linguistic Studies*, 16(3), 1562–1593. <https://doi.org/10.17263/jlls.803902>
- Kiss, T., & Lin, C. (2016). Beliefs, knowledge and practices of grammar pedagogy: Teaching dyslexic learners. *Malaysian Journal of ELT Research*, 12(1), 37-59.
- Kormos, J., & Cziser, K. (2010). A comparison of the foreign language learning motivation of Hungarian dyslexic and non-dyslexic students. *International Journal of Applied Linguistics*, 20(2), 232–250.
- Kormos J., & Nijakowska, J. (2017). Inclusive practices in teaching students with dyslexia: Second language teachers' concerns, attitudes and self-efficacy beliefs on a Massive Open Online Learning Course. *Teaching and Teacher Education*, 68, 30–41. <http://doi.org/10.1016/j.tate.2017.08.005>
- Mercer, S. (2021). An agenda for well-being in ELT: an ecological perspective. *ELT Journal*, 75(1), 14–21. <https://doi.org/10.1093/elt/ccaa062>
- Moats, L. C., & Foorman, B. R. (2003). Measuring teachers' content knowledge of language and reading. *Annals of Dyslexia*, 53, 23-45. <https://doi.org/10.1007/s11881-003-0003-7>
- Moè, A., & Katz, I. (2020). Self-compassionate teachers are more autonomy supportive and structuring whereas self-derogating teachers are more controlling and chaotic: The mediating role of need satisfaction and burnout. *Teaching and Teacher Education*, 96, 103173. <https://doi.org/10.1016/j.tate.2020.103173>
- Müller, M. (2020). *Supporting learners with dyslexia in the EFL classroom. Proposals for adapting classroom materials*. Universität Bielefeld. <https://doi.org/10.4119/unibi/2955227>
- Nijakowska, J. (2022). Inclusive teaching practices with learners with dyslexia: face-to-face training-induced changes in foreign language teachers' self-efficacy beliefs, concerns and attitudes. *Center for Educational Policy Studies Journal*, 12(4), 129-154. <https://doi.org/10.26529/cepsj.1424>
- Nijakowska, J., Kormos, J., Hanusova, S., Jaroszewicz, B., Kálmos, B., Imrene Sarkadi, A., & Smith, A. M., Szymanska-Czaplak, E., & Vojtkova, N. (2013). *Dyslexia for teachers of English as a foreign language*. DysTEFL.
- Nijakowska, J., Kormos, J., Hanusova, S., Jaroszewicz, B., Kálmos, B., Imrene Sarkadi, A., Smith, A. M., Szymańska-Czaplak, E., Vojtkova, N., Alexiou, T., Košak Babuder, M., Mattheoudakis, M., & Pižorn, K. (2016). *DysTEFL2 – Dyslexia for teachers of English as a foreign language*. University of Łódź.
- Nijakowska, J., Tsagari, D., & Spanoudis, G. (2018). English as a foreign language teacher training needs and perceived preparedness to include dyslexic learners: The case of Greece, Cyprus and Poland. *Dyslexia*, 24(4), 357–379. <https://doi.org/10.1002/dys.1598>
- Oaklandová, M. G., & Hanáčková, B. A. (2022). *The approach to learners diagnosed with dyslexia in ELT*. [Unpublished Bc. Thesis]. Masaryk University.
- Payne, T., & Turner, E. (1999). *Dyslexia: A parents' and teachers' guide*. Multilingual Matters.
- Privitera, G. J., & Delzell, L. A. (2019). Quasi-experimental and single-case experimental designs. In G. J. Privitera & L. A. Delzell (Eds.). *Research methods for education* (pp. 333-370). Sage Publications.

- Rack, J. P., Snowling, M. J., & Olson, R. K. (1992). The nonword reading deficit in developmental dyslexia: a review. *Reading Research Quarterly*, 27, 29–53.
- Roitsch, J., & Watson, S. (2019). An overview of dyslexia: Definition, characteristics, assessment, identification, and intervention. *Science Journal of Education*, 7(4), 81-86. <https://doi.org/10.11648/j.sjedu.20190704.11>
- Schell, C. S., Dignath, C., Kleen, H., John, N., & Kunter, M. (2024). Judging a book by its cover? Investigating pre-service teacher's stereotypes towards pupils with special educational needs. *Teaching and Teacher Education*, 142, 104526. <https://doi.org/10.1016/j.tate.2024.104526>
- Shen, G., & Yin, H. (2024). Appropriate inclusion: A novel framework for the development of China's special education. *ECNU Review of Education*, 8(4), 1050–1064. <https://doi.org/10.1177/20965311241240478>
- Soriano-Ferrer, M., & Echegaray-Bengoa, J. A. (2014). A scale of knowledge and beliefs about developmental dyslexia: Scale development and validation. *Procedia - Social and Behavioral Sciences*, 132, 203-208.
- Soriano-Ferrer, M., Echegaray-Bengoa, J., & Joshi, R. M. (2016). Knowledge and beliefs about developmental dyslexia in pre-service and in-service Spanish-speaking teachers. *Annals of Dyslexia*, 66, 91-110. <https://doi.org/10.1007/s11881-015-0111-1>
- Sparks, R., & Ganschow, L. (1991). Foreign language learning difficulties: Affective or native language aptitude differences? *Modern Language Journal*, 75, 3–16.
- Stevani, M., & Tarigan, K. E. (2022). Need analysis of dyslexia students in English reading comprehension instructions. *Journal of English Education and Linguistics Studies*, 9(2), 327–352. <https://doi.org/10.30762/jeels.v9i2.520>
- Sümer Dodur, H. M., & Altındağ, K. O. (2021). Knowledge and beliefs of classroom teachers about dyslexia: The case of teachers in Turkey. *European Journal of Special Needs Education*, 36(4), 593-609. <https://doi.org/10.1080/08856257.2020.1779980>
- Tao, J., & Gao, X. (2017). Teacher agency and identity commitment in curricular reform. *Teaching and teacher education*, 63, 346-355. <https://doi.org/10.1016/j.tate.2017.01.010>
- Turek, B. G. (2020). Foreign language teaching method relevant to dyslexic students - a mixed methods study. *International Journal of Educational Spectrum*, 2(2), 96-110. <https://doi.org/10.47806/ijesacademic.722604>
- Washburn, E. K., Binks-Cantrell, E.S., & Joshi, R. M. (2014). What do preservice teachers from the USA and the UK know about dyslexia?. *Dyslexia*, 20, 1-18. <https://doi.org/10.1002/dys.1459>
- Woulfin, S. L., & Jones, B. (2021). Special development: The nature, content, and structure of special education teachers' professional learning opportunities. *Teaching and Teacher Education*, 100, 103277. <https://doi.org/10.1016/j.tate.2021.103277>
- Yüksel, H. G., & Özcan, E. (2025). Second language teachers' knowledge and beliefs about dyslexia: Turkish context. *Dyslexia*, 31, e70005. <https://doi.org/10.1002/dys.70005>
- Zainal, A. Z. (2025). Teacher competence and practical strategies for ELT in an AI-driven era. *Malaysian Journal of ELT Research*, 22(2), i-iii. <https://doi.org/10.52696/FMUE3365>
- Žero, A., & Pižorn, K. (2022). Undergraduate and graduate students' beliefs about dyslexia: Implications for initial foreign language teacher education. *Center for Educational Policy Studies Journal*, 12(4), 101-128. <https://doi.org/10.26529/cepsj.1432>