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## Inclusive Teaching Practices with Learners with Dyslexia: Face-To-Face Training-Induced Changes in Foreign Language Teachers' Self-Efficacy Beliefs, Concerns and Attitudes

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∞ The survey research reported in this paper aimed to show how foreign language teachers' (N = 69) self-efficacy beliefs and concerns related to implementing inclusive instructional practices with learners with dyslexia, as well as their attitudes to inclusion in foreign language education, change as a result of the teachers' participation in an intensive face-to-face course on dyslexia and foreign language teaching. The pre-post comparisons identified a statistically significant improvement in self-efficacy beliefs and attitudes, with large and medium effect sizes, respectively, as well as a decrease in concerns, with a small effect size. Moreover, the perceived level of knowledge of dyslexia reported by course participants after the course increased significantly compared to pre-course knowledge, with a large effect size. The perceptions of knowledge were crucially related to pre-course self-efficacy beliefs and concerns, as well as to post-course self-efficacy beliefs. The impact of several background variables on self-efficacy beliefs, concerns and attitudes was investigated. We found no significant effects of general teaching experience, experience in teaching learners with dyslexia, teaching context (country), full-time employment and level of education on self-efficacy beliefs and attitudes both before and after the course. The initial effect of previous training on self-efficacy beliefs disappeared in the post-course questionnaire. No significant effects of previous training were observed for pre-course and post-course concerns and attitudes. The initial effect of level of education and experience in teaching a foreign language to learners with dyslexia on concerns disappeared in the post-course questionnaire. Teaching context (country) and full-time employment differentiated participants with regard to how concerned they were about implementing inclusive teaching before the course, and these differences persisted after the course. Age differentiated participants in the attitudes to inclusion they held before the course, but

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this difference disappeared after the course. Finally, teacher trainers differed significantly from other course participants regarding pre-course self-efficacy and post-course concerns, with a small to medium effect size.

**Keywords:** foreign language teacher training, dyslexia, inclusive teaching practices, teacher self-efficacy beliefs, teacher attitudes, teacher concerns

## Prakse inkluzivnega poučevanja učencev z disleksijo: spremembe, spodbujene z izobraževanjem v živo, glede samoučinkovitosti v prepričanjih, skrbeh in v stališčih učiteljev tujih jezikov

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☞ Namen anketne raziskave je bil pokazati, kako se prepričanja o samoučinkovitosti učiteljev tujih jezikov ( $N = 69$ ) in njihove skrbi v povezavi z izvajanjem inkluzivnih učnih praks z učenci z disleksijo ter njihov odnos do inkluzije v tujejezikovnem izobraževanju spremenijo zaradi udeležbe učiteljev na intenzivnem usposabljanju v živo o disleksiji in poučevanju tujih jezikov. Primerjave pred začetkom in po koncu usposabljanja so pokazale statistično pomembno izboljšanje prepričanj o lastni učinkovitosti in stališč z veliko do srednje velikostjo učinka ter zmanjšanje zaskrbljenosti z majhno velikostjo učinka. Poleg tega se je zaznana raven znanja o disleksiji, o kateri so poročali udeleženci usposabljanja po njegovem zaključku, v primerjavi z znanjem pred usposabljanjem pomembno povečala, pri čemer je bila velikost učinka velika. Zaznavanje znanja je bilo ključno povezano s prepričanji o lastni učinkovitosti pred usposabljanjem in skrbeh ter s prepričanji o lastni učinkovitosti po usposabljanju. Raziskan je bil vpliv več osnovnih spremenljivk na prepričanja o lastni učinkovitosti, skrbi in stališča. Ugotovili smo, da splošne pedagoške izkušnje, izkušnje pri poučevanju učencev z disleksijo, okoliščine poučevanja (država), zaposlitev za polni delovni čas in stopnja izobrazbe ne vplivajo pomembno na prepričanja o lastni učinkovitosti ter stališča pred usposabljanjem in po njem. Začetni učinek predhodnega usposabljanja na prepričanja o lastni učinkovitosti je v vprašalniku po usposabljanju izzvenel. Pri skrbeh in stališčih pred usposabljanjem in po njem ni bilo opaziti pomembnih učinkov predhodnega usposabljanja. Začetni učinek stopnje izobrazbe in izkušenj pri poučevanju tujega jezika učencev z disleksijo na zaskrbljenost je izzvenel v vprašalniku po usposabljanju. Kontekst poučevanja (država) in zaposlitev za polni delovni čas sta udeležence razlikovala glede tega, kako zaskrbljeni so bili pred usposabljanjem glede izvajanja inkluzivnega poučevanja, te razlike pa so se ohranile tudi po usposabljanju. Starost je razlikovala med udeleženci glede odnosa do inkluzivnega poučevanja,

ki so ga imeli pred usposabljanjem, vendar so te razlike po usposabljanju izzvenele. In končno, učiteljice in učitelji usposabljanja so se pomembno razlikovali od drugih udeležencev usposabljanja glede samoučinkovitosti pred usposabljanjem in zaskrbljenosti po njem, pri čemer je bila velikost učinka majhna do srednja.

**Ključne besede:** usposabljanje učiteljev tujih jezikov, disleksija, inkluzivne prakse poučevanja, prepričanja učiteljev o samoučinkovitosti, stališča učiteljev, skrbi učiteljev

## Introduction

Inclusive instructional practices constitute a prerequisite for high-quality education and an equitable, supportive learning environment. Successful inclusion helps to remove barriers to learning by minimising inequalities related to presence, accessibility, participation and achievement in education (OECD, 2020; UNESCO, 2017). In education, we strive for valuing diversity in the classroom, welcoming unique student characteristics and abilities, responding to varied learning needs and engaging all learners effectively, and this is also the case in foreign language (FL) teaching (Coady et al., 2016; European Agency for Development in Special Needs Education, 2012; Loreman et al., 2011; Nijkawska & Kormos, 2016).

Research findings confirm that inclusive instructional practices are most effectively implemented in the classroom by self-efficacious teachers, that is, teachers who believe they have the competence (skills and knowledge) to implement such practices successfully, who have favourable attitudes towards inclusion, and who have few concerns and worries. High self-efficacy beliefs give teachers greater confidence in exploiting instructional strategies that are inclusive and thus create the basis for successful inclusive teaching (De Neve et al., 2015; Forlin & Sharma et al., 2014; Sharma & Sokal, 2016). Tschannen-Moran and Woolfolk Hoy (2001, 2007) define teachers' self-efficacy beliefs as their self-reported evaluations of how capable they are to induce the expected learning outcomes. This involves teachers' perceived competence to successfully employ inclusive instructional practices with students of diverse abilities and characteristics, including learners who have special educational needs (SEN), such as FL learners with dyslexia (Kormos, 2017a, 2017b, 2020). Research shows that teachers' sense of self-efficacy related to inclusive teaching, the attitudes they hold towards inclusion and their classroom behaviour are interlinked (e.g., Forlin & Sharma et al., 2014). Feeling more self-efficacious about implementing inclusive instructional practices tends to translate into greater effort, commitment and readiness to offer high-quality support to students, as well as perseverance in dealing with difficulties and failure (Forlin & Sharma et al., 2014; Tschannen-Moran & Woolfolk Hoy, 2001).

Many teachers tend to be concerned that implementing inclusive instructional practices may pose additional challenges and demands on them with regard to increased workload and time required for lesson preparation, availability of resources and classroom management in the context where multiple and diverse student needs should be catered for (Forlin & Cooper, 2013; Indrarathne, 2019). A greater sense of self-efficacy and more positive attitudes towards inclusion can alleviate these concerns (Forlin & Sharma et al., 2014).

Several studies have investigated the impact of training on teachers' preparedness, self-efficacy beliefs, attitude and concerns about inclusion and inclusive instructional practices (e.g., Coady et al., 2016; Chao et al., 2016; Forlin & Loreman et al., 2014; Forlin & Sharma et al., 2014; Kormos & Nijakowska, 2017; Lai et al., 2016; Sharma & Nuttal, 2016; Sharma & Sokal, 2015). The findings of these studies show that offering sound (adequate and sufficient) teacher training on inclusion can boost teachers' self-efficacy beliefs, foster positive attitudes and lower concerns about the successful inclusion of students with special educational needs (SEN) (Sharma et al., 2008), as well as enhancing teachers' preparedness to implement inclusive instructional practices (Hettiarachchi & Das, 2014; Robinson, 2017).

However, few studies have focused on these issues in the context of FL teaching. Russak (2016) examined FL teachers' practices and attitudes towards the inclusion of students with SEN and found that teachers felt that students with SEN should be taught in special educational environments rather than in mainstream settings. Coady et al. (2016) investigated how teacher preparation on inclusion translates into classroom instructional practices, observing that teachers who completed such training used some generic accommodation strategies but rarely incorporated FL context-specific practices to facilitate FL development. Nijakowska (2014, 2015) investigated FL teachers' training needs with regard to inclusive teaching practices with learners with dyslexia. Nijakowska et al. (2018, 2020) researched between-country FL teachers' perceptions of their preparedness (self-efficacy, knowledge and attitudes) for the successful inclusion of FL learners with dyslexia, the effect of demographic variables on these beliefs and professional training needs. These studies indicated a pronounced need for FL teacher professional development across countries. They showed that, unlike overall teaching experience and completed level of education (degree), teaching experience with FL learners with dyslexia (involving direct contact and personal involvement) and availability of specialist training (professional development) seem to play a role in shaping FL teachers' self-efficacy beliefs. Studies investigating predictors of self-efficacy beliefs related to inclusive teaching in the general education context also highlight the positive role of direct experience in teaching learners with SEN (Malinen et al., 2013; Peebles & Mondaglio, 2014). Other demographic variables whose effect on teachers' perceptions of self-efficacy have been investigated include years of education, knowledge, training on inclusion, the school at which the teachers taught and the age group they taught (Forlin et al., 2009; Kormos & Nijakowska, 2017; Leyser et al., 2011).

A specialist training programme for FL teachers – DysTEFL – was designed (Nijakowska & Kormos, 2016; Nijakowska et al., 2016) and piloted with

an international audience in different training modes, including face-to-face, on-line interactive (Moodle) and online self-study options. The materials were also used in a massive open online course (MOOC) on dyslexia and foreign language teaching. The study conducted within this framework (Kormos & Nijakowska, 2017) showed that the training was successful in boosting favourable attitudes to inclusion in FL education, increasing participants' self-efficacy beliefs and lowering concerns related to implementing inclusive teaching with learners with dyslexia. The demographic variables investigated in this study, such as the school at which the teachers taught, the age group they taught and teaching experience (in years), did not have significant effect on the participants' post-course self-efficacy beliefs, attitudes and concerns. However, previous training, self-reported knowledge about dyslexia and experience in teaching learners with dyslexia were significantly related to pre-course self-efficacy beliefs.

Against this background, the purpose of the study reported in the present paper was to investigate how attitudes towards inclusive FL education, as well as self-efficacy beliefs and concerns about employing inclusive instructional practices in FL teaching of in-service EFL teachers and teacher trainers, change as a result of their participation in a short, international, face-to-face and extremely intensive course. Moreover, the aim was to verify the effect of several demographic variables on pre-course and post-course self-efficacy beliefs, concerns and attitudes. To this end, the study addressed the following research questions:

RQ1: How do attitudes to inclusion in FL education, self-efficacy beliefs and concerns regarding inclusive FL teaching to students with dyslexia change in the context of an intensive face-to-face course on dyslexia and FL teaching?

RQ2: How are previous training, experience in teaching FL to learners with dyslexia, participants' status (teacher vs teacher trainer) and full-time employment (primary, secondary or higher education) related to pre-course and post-course attitudes to inclusion in FL education, self-efficacy beliefs and concerns about inclusive FL teaching to learners with dyslexia?

RQ3: How are general teaching experience, knowledge about dyslexia, teaching context (country), level of education and participants' age related to pre-course and post-course attitudes to inclusion in FL education, self-efficacy beliefs and concerns about inclusive FL teaching to learners with dyslexia?

## Method

### Participants

The participants in the study were 69 in-service EFL teachers of three nationalities: 15 (21.7%) came from and worked in Greece, 20 (29%) came from and worked in Slovenia and 34 (49.3%) came from and worked in Poland. A total of 68 of the participants were women and 17 (24.6%) were teacher trainers. The full-time employment of most of the participants – 40 (58%) – was in primary education, while 16 (23.2%) worked in secondary education and 15 (21.7%) were employed in higher education institutions. Only one of the teachers worked in early childhood education, while 4 (5.8%) indicated that their full-time employment involved special education. Of the participants, 21 (30.4%) indicated that a bachelor's degree was their highest level of education, while 37 (53.6%) had a master's degree and 11 (15.9%) had a doctorate. Only 4 (5.8%) of the teachers were 25 years old or younger, 18 (26.1%) were between 26 and 35 years old, 20 (29%) were from 36 to 45 years old, while the 27 (39.1%) teachers who were 46 or older constituted the largest group.

The majority of the course participants were experienced teachers: 48 (69.6%) had more than 10 years of teaching experience, 12 (17.4%) had taught EFL for 5 to 10 years, and 9 (13%) reported teaching experience of less than 5 years. As many as 52 (75.4%) of the participants had some experience of teaching EFL to learners with dyslexia and 27 (39.1%) reported that they had had some previous training on teaching learners with dyslexia. As far as their pre-course knowledge of dyslexia was concerned, most of the participants – 37 (63.6%) – assessed it as average, while 22 (31.9%) evaluated it as poor and 8 (11.6%) believed it was good. Only one teacher (1.4%) claimed that she had a very good knowledge of dyslexia, while one teacher claimed she had no knowledge. The participants' perception of their knowledge of dyslexia after the course changed significantly, with 44 (63.8%) believing it was good, while the number of teachers who claimed it was average or very good was identical – 12 (17.4%) – and only one teacher perceived her post-course knowledge as poor.

### Instruments

The questionnaire used to collect data in both the pre-course and the post-course surveys was adapted from the *FLIPD – Perceptions about Inclusive Practices in Teaching Foreign Languages to Dyslexic Language Learners* (Kormos & Nijakowska, 2017, pp. 38–39). It consisted of 24 items, divided into two



parts: A and B. The demographic part of the questionnaire (Part A) included ten questions that asked about the participants' country of origin, whether they were teacher trainers, their full-time employment (early childhood/primary/secondary/special/higher education), gender, age, education, teaching experience, teaching experience with learners with dyslexia, perceived knowledge of dyslexia, and previous training on teaching learners with dyslexia.

Part B of the questionnaire included 14 six-point Likert scale items aimed at assessing the participants' attitudes to inclusion in FL education, their self-efficacy beliefs and their concerns related to the application of inclusive FL instructional practices with learners with dyslexia. The scale was originally used to investigate how language teachers' self-confidence, self-efficacy and concerns about using inclusive educational practices with students with dyslexia, as well as their attitudes to inclusion in language education, differ before and after participation in a massive open online course (MOOC) (Kormos & Nijakowska, 2017) (see Table 1 for the Part B items).

The survey participants were asked to indicate the extent to which they agreed with the statements on a scale from 1 to 6. In the self-efficacy and attitudes subscales, 1 = *strongly disagree* and 6 = *strongly agree*, meaning that the higher the overall score, the greater the teacher's self-efficacy beliefs and the more favourable their attitudes. For the concerns, the scale was reversed, 1 = *strongly agree* and 6 = *strongly disagree*, meaning that the higher the overall score, the lower the teacher's concerns.

## Research design

The study took place within the context of an international short intensive face-to-face training programme on dyslexia and foreign language teaching, designed as part of the EU-funded DysTEFL2 project. Four identical courses were organised within this framework. The training programme was international in terms of location, course participants and trainers. Participating in this training programme involved travelling abroad and engaging in intensive five-day academic study. In-service EFL teachers from Greece, Slovenia and Poland took part in courses organised in these three countries, with each course welcoming 15–20 teachers from the three countries. The trainers were internationally recognised specialists in FL teaching and dyslexia, experienced teacher trainers and materials writers. All of the courses lasted five days, were delivered face-to-face in English, and had the same agenda and content. The participants and trainers stayed on site for the duration of the course. The course was extremely intensive, packed with academic sessions and accompanied by social activities and integration

events. The course goal was to enhance understanding of dyslexia and associated specific learning difficulties and how they can affect FL learning. The aim was to familiarise teachers with effective inclusive FL instructional practices and language teaching techniques that can assist and support the learning processes of FL learners with dyslexia. The participants were requested to complete three pre-course assignments before the course started, then, when the course began, they were actively involved in two or three two-hour training sessions a day, which involved the study of ten modules of the *DysTEFL – Dyslexia for Teachers of English as a Foreign Language Course* (Nijakowska et al., 2016). The modules covered the following content: the nature of dyslexia, specific learning difficulties associated with dyslexia, identification of dyslexia, the effects of dyslexia on foreign language learning, classroom accommodations for foreign language learners with dyslexia, techniques for developing phonological and orthographic awareness, techniques for teaching vocabulary and grammar, techniques for teaching listening, speaking, reading and writing, and, finally, the assessment of language learners with dyslexia. Each module consisted of several instructional steps and tasks, followed by reflection activities. The training sessions for each unit were followed by self-study time, group work and quiz time.

Participation in the survey was voluntary and anonymous, and no identifying information was collected from the respondents. Both before and after the course, the questionnaire was administered on site, in a pen and paper version. All of the participants generated unique codes so that their pre-course and post-course responses could be matched. The pre-course survey was completed during the first day of the course before the classes started, and the post-course survey was administered during the last day of the course, after all of the course activities had been completed. The data were manually introduced into IBM SPSS Statistics software and analysed.

## **Results and discussion**

### *Pre-course vs post-course attitudes to inclusion in FL education, self-efficacy beliefs and concerns regarding inclusive FL teaching to learners with dyslexia*

Our first research question asked about how attitudes to inclusion in FL education, self-efficacy beliefs and concerns regarding inclusive FL teaching to students with dyslexia change in the context of an intensive face-to-face course on dyslexia and FL teaching. In order to answer RQ<sub>1</sub>, principal component analysis was conducted to investigate the structure of a set of variables, to identify clusters of variables across two datasets (pre-course and post-course) and to check

whether the derived solutions differed. Then, the non-parametric Wilcoxon rank-sum test was used to verify whether the differences between pre-course and post-course latent variables (factors) were statistically significant (Field, 2009). PCA was performed on all data (14 items) across the two samples (pre-course and post-course responses) with orthogonal rotation (varimax). It turned out that one item (Q10) did not work as expected: it loaded primarily on different factors across samples and loaded on more than one factor. It was decided to remove this item from further analysis and rerun the PCA with 13 items across both datasets. The Kaiser-Meyer-Olkin measure verified the sampling adequacy. The KMO was .764 for the pre-course and .731 for the post-course dataset, which is well above the acceptable limit of .5 (Field, 2009). Bartlett's test of sphericity was significant for both datasets (pre-course:  $\chi^2(78) = 314.870$ ,  $p < .001$ ; post-course:  $\chi^2(78) = 324.048$ ,  $p < .001$ ) and indicated that correlations between items were sufficiently large for PCA. The communalities were all above .3 in both the pre-course and post-course samples, indicating that each item shared some common variance with other items.

Three-factor solutions were reached for both the pre-course and post-course datasets. In the pre-course data, the eigenvalue for Factor 1 was 4.167, while for Factor 2 it was 1.965 and for Factor 3 it was 1.621. The initial eigenvalues showed that the first factor explained 32.06% of the variance, the second factor 15.14% of the variance, and the third factor 12.47%. In the post-course data, the eigenvalue for Factor 1 was 4.195, while for Factor 2 it was 1.903 and for Factor 3 it was 1.712. The first factor explained 32.27% of the variance, the second factor 14.64% of the variance, and the third 13.17%. Overall, these three factors explained 59.64% of the variance in the pre-course sample and 60.08% in the post-course sample. Scree plot analysis showed that the scree flattened out and tailed downwards after the third factor in both datasets. All of the items had primary loadings over .33, and some of the items presented cross-loadings across both datasets.

Identical three-factor solutions were derived for the pre-course and post-course datasets, involving the following factors: Factor 1 (F1) self-efficacy beliefs related to implementing inclusive FL instructional practices with learners with dyslexia (6 variables included, cut-off point for pre-course .701 and for post-course .620); Factor 2 (F2) concerns about implementing inclusive FL instructional practices with learners with dyslexia (4 variables included, cut-off point for pre-course .574 and for post-course .572); and Factor 3 (F3) attitudes to inclusion in FL education (3 variables included, cut-off point for pre-course .582 and for post-course .509). Table 1 shows the factor loadings after rotation, along with item means and standard deviations for the pre-course and post-course samples.

**Table 1**

*Factor loadings after rotation for self-efficacy beliefs (F1), concerns (F2) and attitudes (F3); means and standard deviations for the pre-course (N = 69) and post-course (N = 69) samples*

Items	Pre-course factor loadings			Post-course factor loadings			Pre-course		Post-course	
	F1	F2	F3	F1	F2	F3	M	SD	M	SD
13. I am confident in designing language learning tasks so that the individual needs of students with dyslexia are accommodated.	.822			.620			3.48	1.22	4.77	.94
12. I know how to modify the way teaching materials are presented to accommodate the needs of learners with dyslexia.	.817			.714			3.90	1.09	5.26	.61
8. I am able to provide an alternate explanation or an example when learners with dyslexia are confused.	.787			.693			4.41	1.06	5.23	.77
4. I can use a variety of assessment strategies for evaluating the foreign/additional language knowledge of learners with dyslexia.	.750			.786			3.96	1.31	5.07	.81
3. I know how to create an inclusive atmosphere in the language classroom for students with dyslexia.	.746			.579			4.01	1.11	5.12	.65
11. I can improve the learning of a student with dyslexia who is experiencing difficulties with a foreign/additional language.	.701			.755			4.43	1.14	5.20	.66
14. Other students suffer because of having learners with dyslexia in their classes.		.820			.572		4.71	1.09	5.06	1.00
9. I am concerned that I will be more stressed if I have students with dyslexia in my language classes.		.766			.859		3.91	1.43	4.32	1.33
6. I am concerned that students with dyslexia will not be/are not accepted by the rest of the students in the language classroom.		.723			.828		4.26	1.26	4.43	1.29
5. I am concerned that my workload will increase if I have students with dyslexia in my language classes.		.574			.760		2.94	1.41	3.35	1.44
7. Students with dyslexia should be taught foreign/additional languages in mainstream classes.			.801			.879	4.22	1.10	4.70	1.28
2. Students who frequently fail in various subjects should be taught foreign/additional languages in mainstream classes.			.745			.906	4.00	1.13	4.58	1.16
1. Students who need an individualised academic programme should be encouraged to learn foreign/additional languages.			.582			.509	4.91	.76	5.26	.70
10. You have to be a specially trained teacher to teach a foreign/additional language to learners with dyslexia.*										

*Note.* Factor loadings < .3; cross-loadings are suppressed. Extraction Method: Principal Component Analysis. Rotation Method: Varimax with Kaiser Normalisation. \*Note: Item 10 was removed from the scale and from further analysis

The reliability of the subscales ranged from minimally reliable to highly reliable. The self-efficacy beliefs subscale had a high internal consistency both in the pre-course ( $\alpha = .870$ ) and post-course ( $\alpha = .807$ ) datasets. The concerns subscale was internally consistent both in the pre-course ( $\alpha = .711$ ) and post-course ( $\alpha = .796$ ) samples. The attitude subscale was minimally reliable for the pre-course ( $\alpha = .567$ ) and reliable for the post-course ( $\alpha = .720$ ) (Cohen et al., 2011).

The distribution of data for the pre-course concerns and post-course self-efficacy beliefs, concerns and attitudes was non-normal. A non-parametric Wilcoxon rank-sum test was used to check whether the course participants' self-efficacy beliefs, concerns and attitudes differed before and after the course. Statistically significant differences were found between the pre-course ( $M = 4.03$ ,  $Md = 4.17$ ,  $SD = .90$ ) and post-course ( $M = 5.11$ ,  $Md = 5.00$ ,  $SD = .53$ ) self-efficacy beliefs ( $Z = -6.90$ ,  $p < .001$ ,  $r = -.59$ ). A considerable increase in self-efficacy beliefs was observed after the course, with a large effect size (Field, 2009). Similarly, pre-course ( $M = 3.96$ ,  $Md = 3.75$ ,  $SD = .95$ ) and post-course ( $M = 4.29$ ,  $Md = 4.50$ ,  $SD = 1.01$ ) concerns differed significantly ( $Z = -2.91$ ,  $p = .004$ ,  $r = -.25$ ). Participation in the course reduced teachers' concerns, with a small to medium effect size. Finally, attitudes to inclusion, already very favourable before the course ( $M = 4.38$ ,  $Md = 4.33$ ,  $SD = .74$ ), were boosted even further by participation in the course ( $M = 4.85$ ,  $Md = 5.00$ ,  $SD = .86$ ). The analysis showed that this change was statistically significant, with medium to large effect size ( $Z = -4.16$ ,  $p < .001$ ,  $r = -.35$ ) (Table 2).

**Table 2**

*Differences between pre-course and post-course self-efficacy beliefs, concerns and attitudes*

Scale	Sample	N	Mean	SD	Z	p	r
Self-efficacy beliefs	Pre-course	69	4.03	.90	-6.90	.001*	-0.59
	Post-course	69	5.11	.53			
Concerns	Pre-course	69	3.96	.95	-2.91	.004*	-0.25
	Post-course	69	4.29	1.01			
Attitudes	Pre-course	69	4.38	.74	-4.16	.001*	-0.35
	Post-course	69	4.85	.86			

Note. \*Statistically significant result

It can be concluded that a short but very intensive face-to-face training programme proved effective in strengthening and boosting positive attitudes to inclusion, in increasing FL teachers' self-efficacy beliefs and in reducing their concerns about inclusive FL teaching to learners with dyslexia. This finding is

consistent with the outcomes of an earlier study researching the same latent variables in the context of FL teacher training, where the training was delivered entirely online via the MOOC (Kormos & Nijakowska, 2017). It is also in line with the results of studies demonstrating the effectiveness of (relatively long and intensive) general education pre-service teacher training courses delivered face-to-face in enhancing self-efficacy beliefs and attitudes to inclusion and in lowering the level of anxiety and concerns about implementing inclusive teaching practices (e.g., Peebles & Mondaglio, 2014; Sharma & Nuttal, 2016).

The format of the course did not allow opportunities for observation of successful inclusive FL teachers in action in schools or enable teaching practice, which could have supported the increase in the teachers' self-efficacy beliefs and attitudes and further lowered concerns. This drawback was partially compensated for by interactions within the course community of experienced teachers, who actively participated in discussions, readily shared their teaching experiences related to learners with dyslexia and learned from each other. Despite this drawback, the effect size of the pre-post course change in self-efficacy beliefs was large. The effects were smaller in the case of attitudes and concerns, being medium and small, respectively. This can be explained by the fact that the initial attitudes were already very high, so their increase could not be as pronounced as in the case of self-efficacy beliefs. The course participants were interested in the topic and motivated. All of them volunteered to join the project and participate in the course, which required hard work and intensive study, including pre-course assignments. The teachers were prepared to accept the challenge because they were determined to improve their knowledge and skills so that they could more effectively respond to the needs of their dyslexic FL learners. The pre-course concerns were relatively low, and they diminished slightly after the course. The relatively low initial concerns might have been linked to experience in teaching learners with dyslexia (reported by over 75% of the course participants).

*The effect of previous training, experience in teaching FL to learners with dyslexia, participants' status (teacher vs teacher trainer), and full-time employment (primary, secondary or higher education) on pre-course and post-course attitudes to inclusion in FL education, self-efficacy beliefs and concerns about inclusive FL teaching to learners with dyslexia*

In our second research question, we asked how previous training, experience in teaching FL to learners with dyslexia, participants' status (teacher vs teacher trainer) and full-time employment (primary, secondary or higher education) were related to pre-course and post-course self-efficacy beliefs, concerns

and attitudes to inclusion in FL education. In order to answer RQ2, the Mann-Whitney U test was used to investigate whether the between-group differences were statistically significant. The course participants who had some previous training on inclusive FL teaching to learners with dyslexia ( $N = 27$ ,  $M = 4.41$ ,  $Md = 4.5$ ,  $SD = .73$ ) had more positive self-efficacy beliefs before the course than teachers who had no previous training ( $N = 42$ ,  $M = 3.79$ ,  $Md = 3.83$ ,  $SD = .92$ ). The Mann-Whitney U test showed that this difference was statistically significant, with a medium to large effect size ( $U = 342.50$ ,  $p = .006$ ,  $r = -.33$ ). Previous training proved to have significant impact on how the course participants perceived their self-efficacy before they joined the course, but this effect disappeared after the course. Participation in the course boosted the self-efficacy beliefs of all of the participants, particularly those who reported no previous training and felt significantly less self-efficacious before the course than teachers who had had some training on dyslexia before they joined the course. Previous training had no effect on pre-course and post-course concerns and attitudes. Similar findings were reported by Kormos and Nijakowska (2017) regarding online training in the MOOC context.

The effect of experience in teaching FL to learners with dyslexia was evident only in pre-course concerns. Teachers who had some experience in teaching FL to learners with dyslexia ( $N = 52$ ,  $M = 4.10$ ,  $Md = 4.13$ ,  $SD = .91$ ) were less concerned about implementing inclusive FL instructional practices with learners with dyslexia than those who did not report such experience ( $N = 17$ ,  $M = 3.51$ ,  $Md = 3.25$ ,  $SD = .97$ ). The Mann-Whitney U test showed that this difference was statistically significant, with a small to medium effect size ( $U = 274.00$ ,  $p = .019$ ,  $r = -.28$ ). The course proved effective in alleviating the concerns of all of the participants, but especially in levelling up the concerns of teachers who had not had experience teaching learners with dyslexia before joining the course. No effect of this variable was observed for post-course concerns or for pre-course and post-course self-efficacy beliefs and attitudes, while other studies have indicated significant effects of teaching experience with FL learners with dyslexia (SEN) (involving direct contact and personal involvement) on FL teachers' self-efficacy beliefs (Kormos & Nijakowska, 2017; Malinen et al., 2013; Nijakowska, Tsagari, & Spanoudis, 2018, 2020; Peebles & Mondaglio, 2014).

We wanted to find out whether being a teacher trainer had any impact on the reported pre-course and post-course self-efficacy beliefs, concerns and attitudes. The Mann-Whitney U test showed that teacher trainers differed significantly from the other course participants regarding pre-course self-efficacy ( $U = 291.00$ ,  $p = .035$ ,  $r = -.25$ ) and post-course concerns ( $U = 298.50$ ,  $p = .045$ ,  $r = -.24$ ), with a small to medium effect size. Teacher trainers ( $N = 17$ ,  $M = 3.61$ ,  $Md = 3.67$ ,

SD = .96) felt less self-efficacious before the course than the other participants ( $N = 52$ ,  $M = 4.17$ ,  $Md = 4.33$ ,  $SD = .85$ ), as well as reporting greater post-course concerns ( $N = 17$ ,  $M = 3.81$ ,  $Md = 3.75$ ,  $SD = 1.12$ ) than the other participants ( $N = 52$ ,  $M = 4.45$ ,  $Md = 4.75$ ,  $SD = .92$ ). These findings indicate that the course was successful in boosting the sense of self-efficacy among teacher trainers after the course, so that this initial difference in self-efficacy beliefs was levelled. However, even though fewer worries were reported after the course by all participants, the teacher trainers still finished the course more concerned than the other participants. This finding was consistent with the effect of full-time employment on concerns.

The effect of full-time employment (primary, secondary or higher education) on pre-course and post-course self-efficacy beliefs, concerns and attitudes was only evident in the case of concerns expressed by participants working in higher education, both before and after the course. The majority (58.8%) of the teacher trainers participating in the course worked in higher education institutions. The teacher trainers constituted 66.7% of all of the teachers working in higher education, 5 (33.3%) academic teachers were not teacher trainers, but some of the courses they conducted were also offered to university students in teacher training programmes. The Mann-Whitney U test showed that participants whose full-time employment was in higher education ( $N = 15$ ,  $M = 3.35$ ,  $Md = 3.25$ ,  $SD = .92$ ) were significantly more concerned before the course than teachers who did not work in higher education ( $N = 54$ ,  $M = 4.13$ ,  $Md = 4.13$ ,  $SD = .90$ ) ( $U = 208.00$ ,  $p = .004$ ,  $r = -.35$ ). The difference remained statistically significant after the course ( $U = 210.00$ ,  $p = .004$ ,  $r = -.34$ ). After the course, teachers working in higher education ( $N = 15$ ,  $M = 3.55$ ,  $Md = 3.75$ ,  $SD = 1.11$ ) still had more worries related to implementing inclusive instructional practices with learners with dyslexia than teachers working at other levels of education ( $N = 54$ ,  $M = 4.50$ ,  $Md = 4.75$ ,  $SD = .88$ ). The effect sizes of these differences, both before and after the course, were medium to large.

Apparently, the considerable increase in self-reported post-course self-efficacy, confidence in implementing inclusive teaching practices and knowledge of dyslexia did not sufficiently mitigate all of the worries of teacher trainers and participants working in higher education. The greatest concern that both groups – teacher trainers and teachers working in higher education – had before the course was about the increased workload related to teaching students with dyslexia, and this concern grew even more after the course, even though other concerns were initially low or moderate and were successfully alleviated after the course. This finding can be partially explained by the fact that these course participants found themselves in a relatively more demanding professional context



that placed a great deal of responsibility on them. As teacher trainers and academic teachers, they were expected not only to successfully include students with dyslexia in the classes they taught but also to adequately educate and prepare the trainee (and in-service) teachers they worked with in various academic and teacher training programmes for the challenges of inclusive teaching. Holding favourable attitudes and feeling more aware and self-efficacious about implementing inclusive instructional practices might have fuelled the commitment and readiness to offer high-quality inclusive teaching and training about inclusion. At the same time, this need and ambition to follow high standards, paired with responsibility, might have triggered the belief that this would pose additional demands in terms of workload.

*The effect of general teaching experience, knowledge about dyslexia, teaching context (country), level of education and the participants' age on pre-course and post-course attitudes to inclusion in FL education, self-efficacy beliefs and concerns about inclusive FL teaching to learners with dyslexia*

Our third research question looked at how general teaching experience, knowledge about dyslexia, teaching context (country), level of education and participants' age are related to pre- and post-course self-efficacy beliefs and concerns about inclusive FL teaching to learners with dyslexia, as well as to attitudes to inclusion in FL education. In order to answer RQ3, the non-parametric equivalent of analysis of variance, Kruskal-Wallis one-way ANOVA for three or more independent samples, was calculated for each demographic variable. Multiple (pairwise) comparisons were performed if the overall test showed significant differences across samples. The significance values were adjusted by the Bonferroni correction for multiple tests (Field, 2009). Epsilon squared was calculated to denote effect sizes of identified differences (Tomczak & Tomczak, 2014).

No effect of general teaching experience was found for pre-course and post-course self-efficacy beliefs, concerns and attitudes. This means that there were no statistically significant differences between the course participants who had less than five years of teaching experience ( $N = 9$ ), those who had between five and ten years of teaching experience ( $N = 12$ ) and those who had more than ten years of teaching experience ( $N = 48$ ). This is consistent with Kormos and Nijakowska's (2017) findings concerning online FL teacher training on inclusive teaching.

The Wilcoxon test showed that the perceived level of knowledge of dyslexia reported by the course participants before the course ( $N = 69$ ,  $M = 2.80$ ,  $Md = 3.00$ ,  $SD = .72$ ) was much lower than after the course ( $N = 69$ ,  $M = 3.97$ ,

Md = 4.00, SD = .64), with a statistically significant difference ( $Z = -6.55, p < .001, r = -0.56$ ). This means that the participants' evaluation of their knowledge changed radically after the course and the effect size of this change was large. Their assessments after the course were much more favourable: the teachers believed they were considerably more knowledgeable than before the course. The analysis showed that these perceptions of knowledge were crucially related to pre-course self-efficacy beliefs and concerns, as well as to post-course self-efficacy beliefs. Pre-course and post-course perceived knowledge of dyslexia was measured on a scale from 1 to 5, where 1 = none and 5 = very good. Since the extreme categories were either not selected or indicated only by one respondent, the variables were recoded to include three categories, where for pre-course knowledge 1 = poor ( $N = 23$ ), 2 = average ( $N = 37$ ), 3 = good ( $N = 9$ ) and for post-course knowledge 1 = average ( $N = 13$ ), 2 = good ( $N = 44$ ), 3 = very good ( $N = 12$ ). The two recoded variables were used for analysis.

The Kruskal-Wallis one-way ANOVA showed that pre-course perceptions of knowledge of dyslexia moderately influenced the participants' pre-course self-efficacy beliefs ( $H(2) = 10.369, p = .006, \epsilon^2 = .15$ ) and concerns ( $H(2) = 8.225, p = .016, \epsilon^2 = .12$ ). The Mann-Whitney U test was used to follow up this finding. Pairwise comparisons revealed statistically significant differences in pre-course self-efficacy beliefs between the participants who assessed their knowledge as poor ( $N = 23, M = 3.59, Md = 3.67, SD = .96$ ) and those who believed it was average ( $N = 37, M = 4.16, Md = 4.33, SD = .83$ ) ( $U = -12.198, p = .022$ ), as well as between those who assessed their knowledge as poor and those who claimed it was good ( $N = 9, M = 4.63, Md = 4.83, SD = .46$ ) ( $U = -23.686, p = .003$ ). Participants who perceived their pre-course knowledge of dyslexia as good had fewer pre-course concerns ( $N = 9, M = 4.81, Md = 4.75, SD = .48$ ) than those who perceived their pre-course knowledge as average ( $N = 37, M = 3.82, Md = 3.5, SD = 1.01$ ) ( $U = -20.884, p = .005$ ). Moreover, those who perceived their pre-course knowledge of dyslexia as good were less concerned than teachers whose perceived knowledge of dyslexia was poor ( $N = 23, M = 3.85, Md = 3.50, SD = .86$ ) ( $U = -19.570, p = .013$ ). These results show that participants with higher levels of perceived pre-course knowledge (average and good) reported greater pre-course self-efficacy beliefs than teachers who perceived their pre-course knowledge of dyslexia as poor. Similarly, the teachers with the most favourable perceptions of their pre-course knowledge of dyslexia (good) were less worried about implementing inclusive instructional practices with learners with dyslexia than those who believed their knowledge of dyslexia was average or poor. No impact of self-reported knowledge of dyslexia was shown for pre-course and post-course attitudes. These results are in line with earlier findings in the FL context demonstrating

no impact of knowledge of dyslexia on initial and post-course attitudes and indicating that less self-perceived knowledge of dyslexia was linked to greater concerns, and that self-reported knowledge on dyslexia was a significant predictor of pre-course self-efficacy beliefs (Kormos & Nijakowska, 2017).

The Kruskal-Wallis one-way ANOVA showed that post-course perceptions of the level of knowledge of dyslexia had a moderate effect on post-course self-efficacy beliefs ( $H(2) = 7.747, p = .021, \epsilon^2 = .11$ ). Post-course self-efficacy beliefs of teachers who assessed their post-course knowledge as average ( $N = 13, M = 4.74, Md = 4.67, SD = .58$ ) differed significantly from those who believed their knowledge was good ( $N = 44, M = 5.17, Md = 5.17, SD = .44$ ) ( $U = -15.067, p = .017$ ). Similarly, those teachers who evaluated their post-course knowledge of dyslexia as average differed significantly from those who perceived their post-course knowledge as very good ( $N = 12, M = 5.26, Md = 5.50, SD = .65$ ) ( $U = -20.609, p = .010$ ). The greater the level of post-course perceived knowledge teachers reported, the more self-efficacious they believed they were. This relationship between post-course perceived knowledge of dyslexia and post-course self-efficacy beliefs was not evident in the context of online training (Kormos & Nijakowska, 2017).

The effect of teaching context – the participants' country of origin – was not statistically significant for pre-course and post-course self-efficacy beliefs and attitudes. This means that there were no differences in pre-course and post-course self-efficacy beliefs and attitudes between the participants from Greece, Slovenia and Poland. However, the pre-course and post-course concerns were affected by the teaching context – the participants' country of origin. A statistically significant moderate difference regarding pre-course concerns was found between teachers from different countries ( $H(2) = 10.117, p = .006, \epsilon^2 = .15$ ). A Mann-Whitney U test was used to follow this finding. Pairwise comparisons indicated that there was a statistically significant difference ( $U = 17.463, p = .002$ ) between participants from Poland ( $N = 34, M = 3.60, Md = 3.50, SD = .84$ ) and Slovenia ( $N = 20, M = 4.43, Md = 4.50, SD = .82$ ), with Polish teachers being initially considerably more concerned than their colleagues from Slovenia. These relatively strong differences prevailed after the course and were statistically significant ( $H(2) = 11.680, p = .003, \epsilon^2 = .16$ ). Pairwise comparisons revealed that after the course, the participants from Poland ( $N = 34, M = 3.88, Md = 3.88, SD = .99$ ) were more concerned than the teachers from Slovenia ( $N = 20, M = 4.65, Md = 4.88, SD = .84$ ) ( $U = 15.319, p = .007$ ) and Greece ( $N = 15, M = 4.73, Md = 5.00, SD = .91$ ) ( $U = 17.727, p = .004$ ).

These findings are consistent with our findings about the intensity of concerns of teacher trainers and teachers working in higher education in comparison

to teachers working at other levels of education, in that the majority (86.7%) of the teachers in our sample working in higher education, and 47% of the teacher trainers, were from Poland. This means that the effect of the participants' country of origin on pre-course and post-course concerns could be partially linked to these two variables. However, the teachers from Poland who were not teacher trainers and did not work in higher education were also more concerned than their Greek and Slovenian colleagues in all of the researched aspects of concerns. Despite favourable attitudes and high self-efficacy beliefs, the Polish teachers were more concerned than the other course participants. Interestingly, most of the Polish course participants (79.4%) claimed they had some experience teaching learners with dyslexia, 61.8% reported average or good pre-course knowledge about dyslexia and 85.3% believed their post-course knowledge about dyslexia was good or very good, which could have been expected to positively influence and limit their concerns. However, this seems not to have been the case. One possible explanation for this finding might involve educational environment-related issues rather than teacher-related concerns. It seems that the worries of Polish teachers might have been intensified by an awareness of the barriers and challenges imposed on them by the requirements of the education system and policy-related issues. However, this would require further investigation.

The moderate effect of level of education was statistically significant for pre-course concerns ( $H(2) = 6.011; p = .05, \epsilon^2 = .09$ ). Before the course, those who held a bachelor's degree ( $N = 21, M = 4.38, Md = 4.50, SD = .83$ ) had significantly lower concerns related to implementing inclusive practices with FL learners with dyslexia than those who held a master's degree ( $N = 37, M = 3.76, Md = 3.50, SD = .88$ ) ( $U = 13.043; p = .017$ ), but not in comparison with those who held a doctorate ( $N = 11, M = 3.80, Md = 3.50, SD = 1.22$ ) ( $U = 11.835; p = .111$ ). The effect disappeared for post-course concerns ( $H(2) = 5.428; p = .066$ ). The effect of level of education was not statistically significant for pre-course and post-course self-efficacy beliefs and attitudes.

Age differentiated participants in the attitudes to inclusion they held before the course, with a moderate effect size ( $H(3) = 7.948; p = .047, \epsilon^2 = .10$ ). Pairwise comparisons showed a statistically significant difference between one pair of participants ( $U = -16.981; p = .005$ ), namely, older participants – 46 years and older ( $N = 27, M = 4.59, Md = 4.67, SD = .68$ ) – demonstrated more favourable attitudes towards inclusion in FL education before the course than younger teachers (between 26 and 35 years old) ( $N = 18, M = 4.02, Md = 4.17, SD = .60$ ). This difference disappeared after the course. It can therefore be concluded that the course contributed to boosting positive attitudes to inclusion in FL education among younger teachers.

## Conclusion

The present study contributes to our understanding of the role of training in modifying in-service teachers' self-efficacy beliefs and concerns about implementing inclusive instructional practices with learners with dyslexia and attitudes to inclusion in FL education. Using a matched design and a self-report instrument distributed before and after the training, we showed that a short, very intensive, face-to-face course on inclusion and dyslexia contributed to statistically significant increases in self-efficacy beliefs, attitudes and knowledge, as well as to alleviation of teachers' concerns. This mode of training, along with the content it covered, can thus be recommended for foreign language teacher professional development and training. These are promising findings because teachers' classroom practices and actions can be induced by their self-efficacy beliefs. Teachers with a greater sense of self-efficacy in implementing inclusive practices with learners with dyslexia, more positive attitudes and fewer worries are more likely to use inclusive strategies in their daily teaching practice and demonstrate greater readiness and stamina in facing challenges related to inclusion (Forlin & Sharma et al., 2014; Tschannen-Moran & Woolfolk Hoy, 2001, 2007). Teachers' perceptions of how self-efficacious they are can also influence student self-efficacy beliefs, motivation to learn and academic achievement (Guo et al., 2012).

The study verified the impact of several demographic variables on initial and post-course self-efficacy beliefs, concerns and attitudes. It confirmed earlier findings concerning the FL teaching context (Kormos & Nijakowska, 2017) demonstrating that teachers with more favourable perceptions of pre-course knowledge of dyslexia showed greater pre-course self-efficacy beliefs and lower concerns. It also demonstrated that the greater the level of perceived post-course knowledge teachers reported, the more self-efficacious they believed they were after the course. Knowledge about dyslexia proved closely linked to self-efficacy beliefs related to inclusive FL teaching to learners with dyslexia. This has important implications for course developers and teacher trainers.

As far as the effect of previous training is concerned, it was significant only for pre-course self-efficacy beliefs and disappeared after the training. General teaching experience, experience in teaching learners with dyslexia, teaching context (country), full-time employment and level of education were not significantly related to self-efficacy beliefs and attitudes either before or after the course. The initial effect of level of education and experience in teaching FL to learners with dyslexia on concerns disappeared after the course. The only variable that impacted the participants' attitudes was their age – older teachers held more favourable attitudes to inclusion in FL education than their younger colleagues

– but this difference was no longer present after the course.

Overall, the greatest impact of various demographic variables was observed in relation to participants' concerns. Teaching context (country) and full-time employment differentiated participants with regard to how concerned they were about implementing inclusive teaching before the course, and these differences prevailed after the course. Polish teachers and teachers working in higher education were the most concerned. Moreover, teacher trainers demonstrated significantly greater post-course concerns than other course participants. Importantly, most of the course participants with full-time employment in higher education, and roughly half of the teacher trainers, were Polish. Further research is needed in order to explain the possible causal links between these variables. Qualitative data collected during follow-up interviews with the course participants can shed light on this as well as on other important details that were not apparent in the quantitative analysis. This will in turn further support our understanding of the effect that selected demographic variables can have on the effectiveness of the type of training discussed in this paper.

It is important to note that the levels of teachers' attitudes, concerns, knowledge and self-efficacy were assessed based on the course participants' self-reported beliefs and perceptions, which were not verified by the observation of actual classroom practices. This limitation carries the risk of overestimation or underestimation, as teachers' stated beliefs and perceptions might be incongruent with their classroom practices (Basturkmen, 2012). Nevertheless, the findings have important implications for teacher training institutions regarding FL teacher training on inclusion. Relatively short but very intensive courses can bring the desired effects of boosted self-efficacy beliefs and attitudes and lowered concerns related to inclusion of FL learners with dyslexia. Incorporating this type of training into the teacher training and professional development offer can therefore be recommended.

More research is needed on how the effects of training on FL teachers' self-efficacy beliefs, attitudes and concerns translate into actual teacher behaviour in the classroom related to the implementation of inclusive instructional practices. In addition, more knowledge and understanding should be gained on how inclusive teaching influences the beliefs and achievements of FL learners.

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