

Reading anxiety and writing anxiety in dyslexia: Symptomatic and asymptomatic adolescents

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Abstract

The main purpose of this study is to investigate levels of reading and writing anxieties in Polish secondary grammar school students with and without symptoms of developmental dyslexia. The participants were 105 students (63 girls and 42 boys) with symptoms of developmental dyslexia and 142 students (103 girls and 39 boys) without symptoms of developmental dyslexia. The results show that students with developmental dyslexia symptoms suffer from significantly higher levels of skill-specific anxieties. Apart from that, their self-perceived assessment of FL skills, as well as final FL grades, are significantly lower. These results are attributed to the interaction of anxiety generated by the acquisition of FL skills, and consequences of this learning deficit, of cognitive and affective nature.

Keywords: language anxiety, reading anxiety, writing anxiety, developmental dyslexia, dyslexia symptoms

1. Introduction

The aim of the paper is to analyze the relationship between language-skill specific anxieties (reading anxiety and writing anxiety) against the background of developmental dyslexia in the context of the Polish secondary grammar school. For this purpose the nature of both anxieties will be presented, followed by an outline of cognitive and affective problems generated by developmental dyslexia. Then there is a description of an empirical research devoted to the skill-specific anxieties in dyslexia symptomatics and asymptomatics in the context of the Polish secondary grammar school. The paper finishes with implications for further studies and the EFL classroom practice.

Language learning, as a deeply upsetting psychological proposal, can threaten self-concept, a broad category that encompasses the self-esteem and identity, as well as destabilise one's worldview (Brewer 2006). This is the reason why the production of negative emotions may be considered to be its inevitable consequence. One of such emotions is anxiety, whose negative impact on the learning process is most pervasive, because it may constitute a significant threat to ultimate success in SLA, hereby also called FL acquisition or learning.

In the SLA process a specific emotional experience of anxiety is generated, defined as “a distinct complex of self-perceptions, beliefs, feelings, and behaviors related to classroom language learning arising from the uniqueness of the language learning process” (Horwitz, Horwitz and Cope 1986: 128). It designates the tension specifically associated with FL acquisition, in particular: second language performance requiring the use of a second language with which one is not fully proficient.

The context of FL acquisition implies the extensive use of the four micro-skills: speaking, listening, reading and writing, which may also evoke feelings of threat. Hence distinct forms of anxiety can be proposed with reference to specific skill areas, such as reading anxiety or writing anxiety, depending on the mode of communication.

1.1 Language-skill-specific anxieties

The concept of *writing anxiety*, also called *writing apprehension* can be defined as a language-skill-specific form of anxiety, unique to the language-particular skill of writing (Bline *et al.* 2001). It encompasses a fear of the writing process that prevails over the expected gain from the ability to write, which may eventually lead to relatively enduring predispositions to dislike, evade or fear writing.

In fact, L2 writing anxiety is associated with the tendency to avoid the writing situation, because it causes elevated anxiety levels. It is also found to lead to difficulties in producing effective and coherent written pieces, as well as with problems in writing simple letters or complex reports (Schweiker-Marra and Marra 2000). This is the reason why L2 writers produce shorter compositions and use less-intense words (Daly and Miller 1985, Steinberg and Horwitz 1986). Other behaviours frequently observed are procrastination, apprehension, tension, low self-esteem, and lack of motivation (Leki 1999). According to Tsui (1996), writing is predominantly product-oriented, and requires individual work, which may be treated as a significant stressor because FL learners are deprived of help, support and encouragement. In effect, students are threatened by serious negative consequences of their poor work, such as a limitation of their career choices (Young 1986).

In contrast to writing, the skill of reading should appear quite easy to master, because it is a private act, allowing for ample time for reflection and clarification. Most of all, the application of the skill does not require FL production, which is predominantly stress-evoking. The student reading in L2 is not involved in the dynamic construction of meaning, so no performance anxiety operates (Saito, Horwitz and Garza 1999).

Unfortunately, the individualised nature of reading, inwardly connected with the view of reading as a private act, isolates the student from the group. This evokes a significant threat in the student who feels lonely and abandoned, giving way to mounting skill-specific anxiety. Moreover, even if reading does not require any performance demands, it is a complex process requiring not only letter and word recognition, but also decision making about meaning and strategy use. It follows then that reading anxiety is connected with many negative effects. First of all, the learning of a foreign language may involve studying unfamiliar scripts and writing systems. This is especially relevant for non-transparent languages, such as English, whose grapheme-phoneme representations are not consistent (Ganschow and Sparks 2000). The second cause for experiencing anxiety while reading is unfamiliar cultural material. It may then mean that in spite of the successful decoding of words, no logical message can be obtained due to unfamiliar cultural concepts.

1.2 Developmental dyslexia and the SLA process

Individual cognitive processing variations may constitute a foundation for serious levels of negative emotions. Their source may be attributed to learning deficits, such as *developmental dyslexia* that can be defined as specific learning difficulties in reading and writing/spelling (Murphy 2004). Dyslexics are generally described to suffer from language processing deficits, which means that they are at a considerable risk of experiencing difficulties in learning spelling and reading in any language. In many cases these learning difficulties can be managed in learning the native language when the compensatory strategies of dyslexic students mask linguistic coding deficits. Nevertheless, dyslexics are unable to cope effectively with the challenges introduced by the FL process. New print symbol-sound relationships and systems of thoughts are particularly demanding, and cannot be managed without specialized aid (Schneider and Crombie 2003).

To explain the cause for dyslexics' problems in mastering L2, the Linguistic Coding Differences Hypothesis (LCDH) was proposed by Sparks and Ganschow (1991). As they elsewhere clarify, "the primary causal factors in successful or unsuccessful FL learning are linguistic; that is, students who exhibit FL learning problems have overt or subtle native language learning differences that affect their learning of a foreign language" (Ganschow, Sparks and Javorsky 1998: 248-9). It follows that skills in the native language components provide the basic foundation for foreign language learning,

hence any problems connected with general language skills can impair the acquisition of the foreign language.

Moreover, language deficits are believed to constitute a cause of affective differences, such as high anxiety or low motivation. According to Sparks and Ganschow, “subtle or overt difficulties in an individual’s understanding of or inability to use the language codes are a likely cause of FL learning difficulties, whereas affective differences are a likely consequence of these language learning difficulties” (1993b: 290). In this view, affective disturbances are “a *result* rather than a *cause* of FL learning problems” [emphasis in the original] (Ganschow *et al.* 1998: 248). This means that dyslexic foreign language learners suffer from generally high anxiety levels (Riddick *et al.* 1999), which may be the reason why elevated writing and reading anxiety levels can also be expected.

The above observation is not limited only to individuals who have been officially diagnosed with developmental dyslexia. One should be aware of the fact that the symptoms of developmental dyslexia lie on a continuum: from mild to severe, creating certain individual ‘constellations’ (Bogdanowicz 2003). They undergo certain fluctuations caused by the individual’s developmental stage; hence, even students who have not been diagnosed may experience symptoms of developmental dyslexia that might be a cause of FL learning problems.

This is the reason why, for the purpose of the paper, it is speculated that developmental dyslexia may constitute a cause of specific problems with the development of the two critical skills: reading and writing in L2. It is likely that higher levels of respective skill-specific anxieties will be generated as a result of cognitive and affective consequences of the deficit, further augmented by anxiety identified in the FL process. Therefore, the hypothesis proposed hereby is the following: *dyslexia symptomatics suffer from significantly higher levels of reading anxiety and writing anxiety in comparison to their asymptomatic peers.*

2. Method

The informants in this study were 393 students of the six secondary grammar schools in Opole, (south-western Poland): 266 girls and 127 boys. At the beginning of the research their average age was 17.7 (min. 16, max. 19 years).

On the basis of the Revised Adult Dyslexia Checklist results (Vinegrad, 1994), the sample was divided into three groups. The lower quartile (≤ 22) comprised a group of

142 students (103 girls and 39 boys) with no developmental dyslexia symptoms, called dyslexia asymptomatics (DA). The upper quartile (≥ 26) included a group of 105 students (63 girls and 42 boys) with dyslexia symptoms, referred to as dyslexia symptomatics (DS). The remaining group of students (middle quartiles) was excluded from further analysis.

The main instrument applied in the study was a questionnaire, which contained the following scales. First, there was the 20-item *Revised Adult Dyslexia Checklist* (Vinegrad 1994), translated into Polish by Bogdanowicz and Krasowicz (1996). Its aim is to estimate symptoms of developmental dyslexia in different areas in larger populations, and to give a preliminary indication of whether problems are dyslexia-related. Sample items were the following: *Is your spelling poor?* and *When you say a long word, do you sometimes find it difficult to get all the sounds in the right order?*, with *yes* and *no* answers. The maximum number of points was 40 and minimum 20, while its reliability assessed in terms of Cronbach's alpha was .73.

The Reading Anxiety Scale by Saito *et al.* (1999) measures anxiety over different aspects of reading in the foreign language. It consists of 12 items, such as: *I feel intimidated whenever I see a whole page of English in front of me* or *I usually end up translating English*. The items were placed on the five-point Likert scale from 1 – *I totally disagree* to 5 – *I totally agree*. The minimum number of points was 20 and the maximum: 100. The scale's reliability was .84.

The Second Language Writing Anxiety Inventory (SLWAI) by Cheng (2004) assesses the students' experience in writing in English as a foreign language. There were the following sample items: *I avoid writing in my foreign language class* or *I never seem to enjoy what I write in English*. The scale had a format of 22 four-point Likert-format items ranging from 1 – *I totally disagree* to 4 – *I totally agree*. The maximum number of points on each scale was 88 and minimum: 22. Its reliability was .92.

Apart from that, *self-perceived NL abilities* were also included (adopted from Schneider, 1999). The participants assessed their ability to read silently and aloud, to write essays and letters, listen to the radio, TV and other people, to pronounce, spell, remember dates, numbers, stories and historical events, and to speak in public and in private. The Likert-format scale from 6 – *excellent* to 1 – *very poor* was applied. The minimum number of points was 12 and the maximum 72. The scale's reliability was .90.

A scale exploring *global abilities in English*, called *global FL abilities* consists of 18 items exploring self-perceived assessment of the students' pronunciation, speaking with others in class, noticing differences between sounds, listening and understanding the teacher, others and recordings, repeating what the teacher said, reading silently and aloud, writing notes and essays, note taking in English, spelling, understanding of grammatical rules explained by the teacher or elaborated by oneself, remembering words, and in-class concentration (adopted from Schneider, 1999). A 6-point Likert scale from 6 – *excellent* to 1 – *very poor* was used (min. 18, max. 108 points). Its reliability was estimated by means of Cronbach's alpha ($\alpha=.92$).

Apart from that, in the last wave of the study also the informants' final FL grades were collected from the official school records. The grades ranged from 6 – *excellent* to 1 – *very poor/fail*.

The research design is differential, as it focuses on the comparison of two groups of participants: students with and without symptoms of developmental dyslexia on the dependent variables, i.e., reading and writing anxiety. The research was conducted by comparing means obtained on the reading and writing scales.

The data collection procedure took place in two waves: in December 2003 the participants' reading anxiety was measured, while writing anxiety – in January 2005. At each point of measurement, the same students were asked to complete a questionnaire, giving sincere answers without taking excessive time to think.

3. Results and discussion

The results of the descriptive findings of all the variables are presented in Table 1 below.

Table 1. Means (M) and standard deviations (SD) of writing and reading anxieties, final FL grades and NL, FL abilities in dyslexia symptomatics (DS) and asymptomatics (DA)

Variable	DS (N=105)		DA (N=142)	
	M	SD	M	SD
Writing anxiety	81.32	18.09	64.73	20.46
Reading anxiety	31.67	8.56	25.71	7.24
Global NL abilities	48.18	8.05	56.70	8.55
Global FL abilities	63.02	13.64	73.47	14.27

Final FL grades	3.55	1.05	4.01	1.00
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* p<.05; ** p<.01; *** p<.001

The mean results of the t-test for independent samples of reading and writing anxiety levels show a significant difference between the scores of dyslexia symptomatics and asymptomatics. The same refers to the assessment of their NL and FL abilities (see Table 1 for the summary of descriptive and inferential statistics). As far as final FL grades are concerned, the group differences measured by means of the U Mann Whitney test revealed another significant difference (see Table 2).

Table 2. Parametric and non-parametric differences between dyslexia symptomatics (DS) and asymptomatics (DA) on the measures of writing and reading anxieties, final FL grades and NL, FL abilities in

	Writing anxiety	Reading anxiety	NL abilities	FL abilities	Final FL grades
Group comparison	t(245)= 5.91 ***	t(245)= 6.61 ***	t(245)= -7.55 ***	t(245)= -5.80 ***	Z=-3.18 **

* p<.05; ** p<.01; *** p<.001

Indeed, the results of the study indicate that secondary grammar school students with symptoms of developmental dyslexia differ significantly from students without such symptoms on the measures of reading anxiety, writing anxiety, self-assessed NL and TL abilities, as well as their final FL grades. These findings demonstrate a very strong relationship between the skill-specific anxieties and symptoms of developmental dyslexia, allowing for a full corroboration of the hypothesis.

The result can be explained by deficits in the area of reading and spelling, which are specific to this learning deficit. Dyslexic students' general language skills are defective, hence, they are unable to attend consciously to the sound structure of language and to auditorily distinguish parts of speech, such as syllables and phonemes. As skills in the native language components provide the basic foundation for foreign language learning, any L2 reading or writing problems are a likely consequence, as confirmed by Chen (2001) or Chen and Chang (2004).

The assessment of reading and writing anxiety in dyslexia symptomatics and asymptomatics shows that, again, there is a substantial discrepancy between the group results. They can be attributed directly to two direct sources of anxiety. The first one is

connected with the learning deficit, while the other – with the specificity of the FL language learning process.

As far as developmental dyslexia is concerned, the primary cause for the negative findings is constituted by deficits in the accuracy and the segmental organization of the phonological representations of words in their mental lexicons. In effect, a dyslexic person has serious problems in handling the alphabetical principle, that is, the understanding that letters represent speech sounds and that relationships between written letters and spoken words are systematic and predictable. Aside from cognitive problems, a dyslexic student suffers from affective disturbances, such as anxiety higher levels. This outcome is also supported by research in the field of developmental dyslexia, where dyslexic individuals are generally more anxious and suffer from poorer language skills and foreign language aptitude (Ganschow *et al.* 1994; Ganschow and Sparks, 1996).

Also, their high levels of negative emotions are also attributed to the application of the foreign language with which the learner is not fully proficient, and spring from a complex of self-perceptions, beliefs, feelings, and classroom-specific behaviours. As such, the anxiety specific for SLA relies on an experience characterised by feelings of inadequacy, self-centred thoughts, fear of failure, and emotional reactions in the language class.

As far as reading anxiety is concerned, it is expected that all learners may suffer from it but the students with processing problems may experience even greater intensity of the emotion in consequence of their deficit. Apart from that, the process of acquiring English can be assessed as difficult by Polish students due to non-transparency of L2. Its semi-cognatedness, or partial relatedness to Polish, further intensifies the participants' negative emotions.

The high levels of writing anxiety point to the dyslexic student's seemingly noteworthy apprehension about the skill. This result can be ascribed to several factors responsible for the specificity of the development of this competence. Aside from the learning deficit dwelling on the ability to spell, the writing skill is specifically connected with a high demand of frequently individual and unassisted work, even in spite of co-operative classroom practice. In consequence of the learner's isolation, deprivation of support and encouragement, especially in the final phase focusing on the product, high levels of writing anxiety develop. Moreover, the specificity of the Polish educational context may also have a great impact on the negative outcome connected

with high levels of writing anxiety. Namely, in secondary grammar education there are no direct curricular prerequisites inducing a consistent development of this skill. Consequently, it may be rarely practised, because it is challenging and time consuming for students and quite difficult to assess for the teacher. On the other hand, paradoxically, for many teachers grades for written assignments may often be considered critical in calculating the students' final assessment. In effect, the ambiguity of the treatment of the writing skill may generate high levels of concern specific to the skill.

In general, it can be speculated that students with symptoms of developmental dyslexia suffer from significantly higher levels of skill-specific anxieties due to two basic anxiety types. The first type of anxiety is exerted by problems with academic and functional skills, narrowing their cognitive capacity and affecting their written language. It arises in consequence of their adjustment problems, such as the ones encountered in the FL acquisition process. As well, there is dyslexics' greater sensitivity to anxiety. Both types of anxiety interact, leading to significantly higher writing and reading anxiety levels in students with symptoms of developmental dyslexia and hindering the FL process on two planes: cognitive and emotional.

4. Implications

FL mastery is now a basic demand placed on the world citizen, hence every student, in spite of their deficit, has a right and obligation to study other languages. Therefore, employing a teaching procedure that could successfully accommodate needs of dyslexic students and facilitate their language acquisition process in mainstream education is a crucial requirement, calling for more attention on the part of teacher trainers and FL instructors. *Multisensory structured language instruction* (Schneider 1999) is a very promising teaching methodology, drawing on the use of all learning pathways in the brain (visual/auditory, kinesthetic-tactile) concurrently in order to improve memory and learning. Also, it needs to be stressed that a friendly atmosphere in the classroom, an approachable teacher and supportive classmates may be considered undeniably valuable assets for dyslexic students, as well as for their peers. Apart from that, the whole group of students should be instructed about the deficit, so that the teacher could pay special attention to the person without being accused of giving him/her preferential treatment.

Aside from immediate student-oriented interventions, there is also a need for offering effective parent training which could instruct dyslexics' relatives on how to support the

students in the process of FL learning, how to pay attention to their school work, study habits, or how to help them with homework (whenever possible). Above all, the parents should know how to communicate positive and truthful information concerning the student's school work and possible advantages of the foreign language mastery. In this way a more positive attitude to the FL can be established.

The study offers many interesting paths for further research. The phenomenon of skill-specific anxieties in the foreign language classroom from the perspective of language deficits has so far been neglected in the literature of the field. Hence, it is worth shedding more light on the interaction of anxiety evoked by the deficit and anxiety produced by the FL process. Such studies may also take into consideration participants with different types of developmental dyslexia.

Another path in research on anxiety may refer to the application of other research designs, apart from the one used here. The most desirable are experimental designs, because they offer the greatest degree of control. Yet, they are extremely difficult to apply in the case of dyslexic individuals, already at the level of the sampling of subjects. Their learning difficulties range on a continuum from mild to severe; moreover, every dyslexic learner has 'an individual pattern of spoken and written language difficulties' (Simpson, 2000: 372). Hence, assigning dyslexic participants for groups in a true experiment seems to be extremely challenging. Thus, descriptive studies or even case studies still render a valuable insight into the understanding of cognitive and emotional processes in a student with developmental dyslexia and their experience of skill-specific anxiety in the SLA process.

The study has some limitations that should be addressed. The instrument used for measuring symptoms of developmental dyslexia, the Revised Adult Dyslexia Checklist (Vinegrad 1994), is only a preliminary tool. Its indications need to be confirmed by a team of specialists in order to give a reliable and official statement of developmental dyslexia. Hence, for practical reasons, the empirical research focused on students with dyslexia symptoms and its results must be treated with caution.

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