

## FACTORS AFFECTING APPROACH TO INTEGRATED LEARNERS WITH SPECIFIC LEARNING DISABILITIES AT PRIMARY SCHOOLS

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**Abstract:** To have an adequate amount of knowledge about specific learning disabilities is one of the important and essential prerequisites of a primary school teacher in the process of inclusive education to cope with positive intervention towards learners with that disorder. The amount of acquired knowledge of each teacher can be affected by some objective and subjective factors that the authors analysed from foreign research. Their influence on the sample of Czech primary school teachers was certified by one of the research undertaken within the faculty project SGS 2011.

**Keywords:** knowledge, primary school, specific learning disabilities, subjective and objective factors, teacher

### 1 Introduction

Nowadays it goes without saying that specific learning disabilities (further SLD) develop when an individual's development of abilities and skills is impaired. This group of disorders contains all the learning disabilities arising as a result of partial dysfunctions necessary to acquire various school skills, such as reading, writing, counting, spelling. Specific learning problems can affect both pupils with lower intellectual abilities and also gifted learners. Intelligence of the dyslexics is distributed like in normal population and creates Gaussian curve. However, below-average intelligent learners often have learning difficulties of a complex nature as more intelligent children find a way to compensate their problems more easily, although they are not provided any expert advice. (Flowers et al., 2000, Baum, S. M., Olenchak, F. R., 2002).

To be able to establish a necessary standard to the integrated learners with this disability at a primary school the teachers must have sufficient knowledge about SLD. Only knowledgeable teacher can really understand problems of a dyslexic and therefore have realistic expectations from them which helps the process of inclusive education.

### 2 Research

The presented research was aimed at determining the factors that affect the extent of teachers' knowledge of SLD and in accordance with knowledge at intervention process of teachers within individual approach to learners with SLD at primary schools. Factors attributable to our consideration were based on analysis of several international studies dealing with the scope of knowledge of teachers about ADHD/ADD (e.g. Graeper, Barker, Terjesen, 2008; Fernández, Míngues, Casas, 2007). They include:

- sex of the respondent
- educational attainment
- teachers working on lower or higher level of a primary school
- teacher certification
- incidence of SLD in the teacher's family
- experience with teaching learners with SLD longer than 3 years
- interest in further education on this issue
- cooperation with the school's special needs teacher/psychologist
- length of teaching experience

We assumed that the factors affecting knowledge and intervention of teacher will be the same for ADHD/ADD and SLD because of their identical origin.

#### 2.1 Basic information about the research

The aim of the research was to verify the influence of these factors on teachers' knowledge on issues of specific learning disabilities. The research question tried to uncover which of the above-mentioned factors can influence the teachers' gained knowledge on specific learning disabilities. The question was: Which factors influence teachers' knowledge about SLD?

The research itself was carried out in January – February 2011 and was attended by 305 teachers from primary schools with an average age of 41 years. All of them teach learners with a specific learning disability. In the group of respondents women predominated in the ratio 263 : 42. At this stage it was a quota sample, as our own Range of knowledge about SLD was filled in only by teachers who were interested in participating in the research. They filled the research in by email.

The range of knowledge about SLD affected theoretical readiness of the teachers to integrate learners with SLD within inclusive education. There were 36 items, or statements about SLD, which each respondent assessed and chose from three possible answers – the statement is true, the statement is false or I do not know. The answer format allowed to distinguish respondents' knowledge (correctly assessed item) from inaccurate or misunderstood statements (incorrectly assessed item) and the lack of knowledge (I do not know).

To evaluate collected data we used non-parametric rank test to confirm or refute their influence. The factors with the resulting level of probability had values less than 0.05 could be considered statistically significant.

Dispersion characteristics (minimum, maximum, variation range, standard deviation, variance) was performed with using SPSS 11.0.

#### 3 Connection between the results of the range of knowledge and given factors

Total score of knowledge about SLD at female respondents is 48.90%, score of men is 38.80%. The difference of the total average score is 10.10. P-value in this table clearly shows that performance is influenced by this factors, female teachers have deeper knowledge of SLD.

- Factor: Sex of the respondent

The range of knowledge about SLD		
sex	MALE	FEMALE
number	42	263
minimum	13.9	8.3
median	38.9	50.0
maximum	75.0	80.6
average	38.8	48.9
Standard deviation	17.5	14.7
Average difference	10.1	
p-value	<b>0.000286</b>	

**Table no. 1: Connection between the respondents' knowledge about SLD and the sex of the respondents**

- Factor: Educational attainment

Table no. 2 shows that score of the knowledge about SLD of our respondents is not significantly influenced by their highest degree of education ( p-value = 0.63567).

The range of knowledge about SLD		
Highest degree of education	Secondary school	University degree
number	44	261
minimum	8.3	13.9
median	48.6	47.2
maximum	69.4	80.6
average	46.3	47.7
Standard deviation	14.2	15.7
Average difference	1.4	
p-value	<b>0.635672</b>	

**Table no. 2: Connection between the respondents' knowledge about SLD and educational attainment**

If we focus on qualitative analysis of the answers regardless of education, only 12.46% respondents know that good level of phonology is important for successful initial reading of the learner, only 16.07 respondents is aware of the dependency of reading in higher classes on the quality of semantic skills and 13.44% allow the connection between dyslexia and specific language impairment.

- o Factor: Position at school (higher or lower level of a primary school)

For comparison we processed data of respondents teaching at lower and higher level of a primary school.

The range of knowledge about SLD		
Position at school	Lower level	Higher level
number	104	111
minimum	8.3	13.9
median	50.0	44.4
maximum	80.6	77.8
average	48.9	44.6
Standard deviation	13.8	16.6
Average difference	4.3	
p-value	<b>0.049385</b>	

**Table no. 3: Connection between the respondents' knowledge about SLD and their position at school**

Although there was not demonstrated strong statistical significance, p-value is lower than 0.05. Therefore we can say that there is a difference between knowledge about SLD between both groups of respondents for the benefit of teachers from lower level or a primary school.

- o Factor: Certification

67 (22%) of respondents graduated from special needs, 238 (72%) of respondents graduated from different subjects. Difference between the total score is 14.10, p – value = 0!

The range of knowledge about SLD		
certification	Special needs	other
number	67	228
minimum	30.6	8.3
median	58.3	44.4
maximum	80.6	80.6
average	58.2	44.1
Standard deviation	11.9	15.1
Average difference	14.1	
p-value	<b>0.000000</b>	

**Table no. 4: Connection between the respondents' knowledge about SLD and their certification**

Graduation from special needs significantly affects quality of knowledge of respondents about SLD. One of the reasons is definitely the fact that curriculum of special needs deal with specific learning disabilities as a separate subject within 2-3 semesters, finished by an examination unlike other teaching certifications when SLD is only a small part within two-semester

block of special needs. Graduates from non-teaching subjects do not have opportunity to touch SLD at all.

- o Factor: Incidence of SLD in the teacher's family

The range of knowledge about SLD		
Relatives with ADHD	YES	NO
number	76	229
minimum	8.3	13.9
median	52.8	47.2
maximum	80.6	80.6
average	51.0	46.3
Standard deviation	14.7	15.6
Average difference	4.6	
p-value	<b>0.018870</b>	

**Table no. 5: Connection between the respondents' knowledge about SLD and incidence of SLD in respondent's family**

Table no 5 shows that respondents who have a relative with a specific learning disability have also more knowledge about it ( p – value = 0.01887).

- o Factor: Experience with teaching learners with SLD longer than 3 years y

The range of knowledge about SLD		
Experience	YES	NO
number	147	158
minimum	16.7	8.3
median	52.8	44.4
maximum	80.6	72.2
average	51.9	43.4
Standard deviation	15.1	14.7
Average difference	8.5	
p-value	<b>0.000004</b>	

**Table no. 6: Connection between the respondents' knowledge about SLD and practical experience with teaching learners with SLD**

Table no 6 shows significant statistical relevance ( p-value = 0.000004). Teachers who have 3 or more years practical experience with teaching learners with SLD achieve better results in this area. It is obvious that direct work with learners with SLD will in many cases lead teachers to the need to find out more information on this matter including monitoring the news.

- o Factor: Interest in further education on this issue

The range of knowledge about SLD		
Interest in further education	yes	no
number	243	62
minimum	8.3	13.9
median	50.0	38.9
maximum	80.6	77.8
average	49.2	40.8
Standard deviation	15.0	15.5
Average difference	8.4	
p-value	<b>0.000085</b>	

**Table no. 7: Connection between the respondents' knowledge about SLD and their interest in further education on this issue**

Teachers who are interested in further education achieve statistically better results ( p-value = 0.000085).

- Factor: Cooperation with the school's special needs teacher/psychologist

The range of knowledge about SLD		
Suggested a learner for examination	yes	no
number	132	173
minimum	13.9	8.3
median	52.8	44.4
maximum	80.6	75.0
average	51.7	44.2
Standard deviation	14.0	15.8
Average difference	7.5	
p-value	<b>0.000058</b>	

**Table no. 8: Connection between the respondents' knowledge about SLD and their possibility to cooperate with other experts**

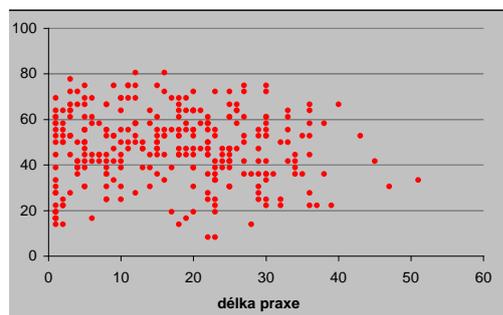
Our group of respondents demonstrated significant statistical dependence of the influence of the teacher's regular cooperation with a school psychologist or special needs teacher within work with learners with SLD ( $p\text{-value} = 0.000058$ ) on the quality of knowledge on this matter. We find it logical – the teachers are under a lot of pressure regarding their work with relationships and their own education towards integrated learners. Cooperation with a school psychologist or special needs teacher gives them personal support. They can safely discuss with this expert facts and information about integration of a particular learner and the specifics of their impairment. School psychologist or special needs teacher can give advice where to find other inspiration for with the learner. This also gently leads them to expansion of their knowledge.

- Factor: Length of teaching experience

Length of experience is indeed a quantitative value, but since it did not demonstrate normal division, its influence on the results was again assessed by the Spearman correlation coefficient ( $R_s$ ). The test shows how length of experience affects knowledge of respondents about SLD in a positive or negative way. Both Table no 9 and Graph below indicate that length of experience does not affect knowledge about SLD of the respondents. It even seems that the longer the respondent is active in teaching, the lower their theoretical knowledge is. ( $R_s = -0.0466$ ).

The range of knowledge about SLD	
$R_s$	-0.0466
p-value	0.4193

**Table no. 9: Effect of the length of teaching experience on the amount of knowledge about SLD**



**Graph no 1: Connection between the length of teaching experience and the amount of knowledge about SLD**

#### 4 Conclusion

In our research we examined the dependence of certain factors on actual knowledge of primary school teachers about SLD. We have dealt with the issue of SLD because of the increasing number of children with this diagnosis, not only in the Czech Republic. We were looking for an answer to the research question: Which factors influence teachers' knowledge about SLD? Individual factors were set in advance from the analysis of research carried out in the world.

**We found that teachers' knowledge about SLD is affected by following factors: sex, special needs education, practical experience with learners with SLD, cooperation with a school psychologist or special needs teacher, interest in further education and SLD in the teacher's family.**

No effect was demonstrated in the length of teaching experience and educational attainment in general.

The aim of research at this stage was completed. In the next stage we will continue to explore the knowledge of primary school teachers on appropriate approaches to integrated learners with SLD in the process of inclusion and the actual practical implementation.

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#### Primary Paper Section: A

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