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What are the Differences in the Focus on Various Domains among Professionals who Implement Additional Professional Support for Students with Special Needs?

Abstract

The purpose of the study was to determine on which domain teachers focus most during additional professional support for children with special needs and what differences there are among the groups. A total of 1863 professionals were included in the study, seven different groups of professionals were compared regarding their work on learning, motivational and social-emotional domain. Results reveal that support for students with special needs is mainly focused on the learning domain, moderately on the motivational domain and little on the social-emotional domain, with significant differences between professionals. In the social-emotional domain significant decreases occur among subject teachers, professionals in other job positions and principals.

Introduction

Teachers and their work with students during additional professional support (APS) or additional educational support have a great impact on achievements, motivation, executive functions and inclusion of students with special needs in the educational environment (Cohen, Manion and Morrison, 2014). Lifelong competences like learning to learn and social competences are very important (Deakin Crick, Stringher and Ren, 2014; McCormick, 2006; Rychen & Salganik, 2003). Teachers should support students with special needs to develop these com-

petences, because they are transferable to other environments and circumstances, can have lifelong effects and enable students to become more autonomous, self-determined and empowered (Soresi, Nota and Wehmeyer, 2011; Deakin et al., 2014).

Studies show that students with special needs can and should be taught about specific competences such as motivation, social-emotional competences and teaching of thinking and metacognition, which can be achieved with the use of specific methods such as instruction scaffolding, cognitive coaching and cooperative learning, together with high-quality teaching in key subject areas (Howie, 2011). Studies also indicate that interventions related to various domains, e.g., learning domain, motivational domain and social-emotional domain, are important and support students with special needs (Archer & Hughes, 2011; Baker et al., 2009; Bowles et al., 2017; Ennis et al., 2014; Graham et al., 2013; Reid et al., 2013). These are the reasons why professionals who work with students with special needs should focus on specific methods and strategies that would support and develop essential knowledge, skills and attitudes related to basic skills and empower students with special needs to use these competences in multiple contexts (Archer & Hughes, 2011).

However, few studies analyse the use domains employed by various professionals who work with special needs students in mainstream education. Some studies focus on effective inclusive practice (e.g., Choate, 2000; Gee, 2002; McLesky et al., 2001) and investigate the effectiveness of practices in general, but they do not analyse the methods and domains used by different professionals in mainstream education, which would reflect the current state of support for students with special needs, which is important for many reasons, e.g., planning of instruction, professional development of teachers, education policy of learning to learn, improvement of effective learning, standard achievement, etc. With this research our aim was to fill this gap, so the purpose of the study was to analyse: a) professionals' support in three domains: learning domain, motivational domain and social-emotional domain; b) which of the three domains are used most often; and c) what the differences are in the use of domains between various profiles of professionals who implement additional professional support for children with special needs[1].

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[1] The data collection and basic analyses were carried out as part of a national evaluation study of different forms of additional professional support assigned to children with special needs according to the Placement of Children with Special Needs Act (Vršnik Perše et al., 2016). In this paper, we present additional analyses related to differences regarding the job positions of the teachers providing additional professional support.

Method

Participants

The participants in the study were various professionals who implement additional professional support for children with special needs in basic/primary education in Slovenia[2]. We included 1863 professionals who provide additional professional support for students with special needs, of whom 94.2% were females and 5.6% were males. The teachers who teach in the 6th to 9th grades and are teachers of specific subjects (maths, languages, geography, etc.) comprised 40.3% (N = 750) of them, while 21.1% (N = 392) were teachers who provided additional professional support (educated as special education teachers, inclusive pedagogues, pedagogues, social pedagogues), 14% (N = 263) were teachers who teach in the 1st to 5th grades and are elementary teachers, 11.6% (N = 217) were mobile teachers providing additional professional support (mostly educated as special education teachers), 6.1% (N = 113) were school counsellors and 5.6% (N = 105) of the teachers were in the "other" category. This category included: librarians, a combination of various profiles like psychologists and pedagogues, school counsellors and subject teachers, escorts of children with special needs, etc. The smallest share of professionals providing additional support was principals (head teachers) (1.2%, N = 23).

Instrument

The instrument was developed for the purpose of a national evaluation study on additional professional support for children with special needs (Vršnik Perše et al., 2016). The instrument included eight sets of questions regarding: a) demography; b) specifics of identification and support of children with difficulties but without the special educational needs status, c) planning and implementation of additional professional support (APS); d) evaluation of APS; e) APS for twice-exceptional children (talented with special needs); f) effect assessment of APS; g) professional development of APS teachers; h) teachers' opinions and beliefs about the APS system.

In the results section, data are presented as results of the question: Assess your work with student during APS related to specific domain. The question was assessed by professionals who implement APS using a five-item Likert-type scale.

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[2] Basic education in Slovenia is for children aged from 6 to 15. Basic education is compulsory and consists of three cycles: the first and second cycles are primary education, while the third cycle is lower secondary education.

The scale ranged from 1 to 5 (1 – none, 2 – low, 3 – moderate, 4 – high, 5 – very high). The questionnaire was pilot-tested on a smaller sample of APS teachers, classroom teachers and school counsellors in two basic schools and two upper secondary schools. After the pilot testing, some suggestions for improvements in terms of the clarity and length of the instrument were included and the final version of the instrument was prepared as an e-version.

Data collection and analysis

Data collection was done using the e-version of the instrument with the collaboration of the research team from the Faculty of Education at the University of Maribor and the Ministry of Education, Science and Sport in Slovenia, which financed the initial study. Data were collected in collaboration with the schools that participated in the study; each school had one coordinator for the study. The data collection was anonymous. The whole data collection process was carried out during November and December 2015.

Analysis of the data for the results presented in this paper was performed in 2017 and was only partially presented in the study report, which was finished in September 2016 (Vršnik Perše et al., 2016). Data in the initial study were analysed at the level of descriptive statistics (mean, standard deviation, frequencies). Here we also present some further analysis of differences between groups regarding the learning domains. Analysis was made with one-way ANOVA, post-hoc tests and retested with the Kruskal Wallis test for one domain where homogeneity of variances is not met. Effect sizes are also presented.

Results

This section presents the results for the domains of APS related to learning to learn and differences among professionals in using these domains during APS regarding job position.

The results presented in the table indicate that most often the teachers of APS implement the learning domain (M = 4.44; SD = 0.72), with more than half (55.1%) of the teachers of APS expressing a very high level of work in this domain and 36.5% expressing a high level of work in the learning domain. Most of the support is focused on this domain, as 91.6% of the teachers express a high or very high focus on learning during APS. An important part of learning to learn is motivation. However, the results indicate that 31.2% of the teachers express a very high level of work and 47.8% express a high level of work in the motivational

Table 1. Descriptive statistics for the domains of APS

Domains of APS	None (f %)	Low (f %)	Moderate (f %)	High (f %)	Very high (f %)	Total (f %)	M (SD)
Learning domain	0.4	1.6	6.5	36.5	55.1	100.0	4.44 (0.72)
Motivational domain	0.8	2.3	18.0	47.8	31.2	100.0	4.06 (0.81)
Social-emotional domain	1.8	8.8	33.1	37.0	19.4	100.0	3.63 (0.95)

Note: N = 1863.
Distribution of the variables indicate that all the three variables are skewed left, with highly left skewed Learning domain (SC = -1.39, SE = 0.57; KC = 2.42, SE = 0.11), moderately left skewed Motivational domain (SC = -0.73, SE = 0.57; CC = 0.72, SE = 0.11) and moderately left skewed Social-emotional domain (SC = -0.33, SE = 0.57; CC = 0.26, SE = 0.11).

domain (the total for very high and high in motivational domain is 79.0%). For the social-emotional domain, the results are even lower, with 19.4% expressing a very high level of work, 37.0% expressing a high level of work and 33.1% of the teachers expressing a moderate level of work in this domain. A total of 10.6% express low or no focus on the social-emotional domain, which represents almost 200 teachers in our sample who do not use this support in working with children with special needs.

Table 2. Differences in domains regarding the job positions of APS teachers

Domains of APS	Job position	Numerus	Mean	Standard deviation	Levene test of homogeneity	Analysis of variance	Effect size	Kruskal Wallis
		N	M	SD	F	F	$\eta2$	x^2
Learning domain	School counsellor	111	4.06	0.97	14.15 ***	9.07 ***	0.17	30.40 ***
	APS teacher	389	4.50	0.66				
	Mobile APS teacher	215	4.31	0.90				
	Elementary teacher	260	4.56	0.63				
	Subject teacher	733	4.49	0.62				
	Principal	23	4.39	0.89				
	Other job positions	104	4.34	0.82				

Domains of APS	Job position	Numerus	Mean	Standard deviation	Levene test of homogeneity	Analysis of variance	Effect size	Kruskal Wallis
		N	M	SD	F	F	η2	x^2
Motivational domain	School counsellor	112	4.13	0.84				
	APS teacher	390	4.18	0.76				
	Mobile APS teacher	214	4.21	0.79				
	Elementary teacher	259	4.21	0.79	0.70	10.01 ***	0.18	62.81 ***
	Subject teacher	711	3.90	0.82				
	Principal	23	3.78	0.67				
	Other job positions	104	4.07	0.75				
Social-emotional domain	School counsellor	112	4.05	0.90				
	APS teacher	391	3.99	0.85				
	Mobile APS teacher	215	4.01	0.92				
	Elementary teacher	260	3.70	0.86	2.09	43.75 ***	0.35	234.22 ***
	Subject teacher	717	3.25	0.89				
	Principal	23	3.39	1.12				
	Other job positions	103	3.57	0.94				

*** $p < 0.000$

A one-way ANOVA was conducted to determine differences among various groups of professionals who implement additional professional support for students with special needs. The participants were classified in seven groups according to job positions. The data was non-normally distributed in all the three domains and there was not homogeneity of variances in the learning domain as assessed with the Levene test ($p < 0.0005$) and the Welch test ($p < 0.0005$). However, the assumption of homogeneity of variances is met for the motivational domain and social-emotional domain, so we decided to run ANOVA anyway and also to do the retest with the non-parametric Kruskal-Wallis test.

Results for the learning domain

For the learning domain, the results of ANOVA indicate the CWWS score was statistically significantly between different groups ($F (6, 1828) = 9.07$, $p < .0005$, = 0.17). The same result is confirmed with the Kruskal Wallis test ($H (6) = 30.40$; $p < .0005$). The CWWS score increases from the school counsellors ($M = 4.06$, $SD = 0.97$), to mobile APS teachers ($M = 4.31$, $SD = 0.90$), to teachers in other job

positions (*M* = 4.34, *SD* = 0.82), to principals (*M* = 4.39, *SD* = 0.89), to subject teachers (*M* = 4.49, *SD* = 0.62), to APS teachers (*M* = 4.50, SD = 0.66) and to elementary teachers (*M* = 4.56, *SD* = 0.63).

The Games-Howell post hoc test for the learning domain reveals that the mean values increase from the school counsellors to APS teachers and are statistically significant (0.44, 95% CI [0.14, 0.73], p < .0005), as well as the increase from the school counsellors to elementary teachers (0.50, 95% CI [0.20, 0.80], *p* < .0005) and school counsellors to subject teachers (0.42, 95% CI [0.14, 0.71], *p* < .0005). The mean values also increase and are statistically significant between the mobile APS teachers and elementary teachers (0.26, 95% CI [0.04, 0.47], *p* = .01). No other group differences were statistically significant.

Results for the motivational domain

For the motivational domain, the results of ANOVA show the CWWS score is statistically significantly different between different groups (*F* (6, 1806) = 10.01, p < .0005, = 0.18). The same result is confirmed with the Kruskal Wallis test (*H* (6) = 62.81; p < .0005). The CWWS score increases from the principals (*M* = 3.78, *SD* = 0.67), to subject teachers (*M* = 3.90, *SD* = 0.82), to teachers in other job positions (*M* = 4.07, *SD* = 0.75), to school counsellors (*M* = 4.13, *SD* = 0.84), to APS teachers (*M* = 4.18, SD = 0.76), to mobile APS teachers (*M* = 4.21, *SD* = 0.79) and to elementary teachers (*M* = 4.21, *SD* = 0.79). The last two groups have the same mean value.

The Tukey-Kramer post hoc test reveals that the mean values which are statistically significant decrease from the subject teachers to elementary teachers (-0.31, 95% CI [-0.49, -0.05], *p* < 0.0005), from subject teachers to mobile APS teachers (-0.31, 95% CI [-0.50, -0.13], *p* < 0.0005), from subject teachers to ASP teachers (-0.28, 95% CI [-0.43, -0.14], *p* < 0.0005) and from subject teachers to school counsellors (-0.24, 95% CI [-0.48, -0.01], *p* = 0.05). No other group differences were statistically significant in the motivational domain.

Results for the social-emotional domain

The CWWS score was statistically significantly different between the groups *F* (6, 1820) = 43.75, p < .0005, = 0.35. The same result is confirmed with the Kruskal Wallis test (*H* (6) = 234.22; p < .0005). The CWWS score in the social emotional domain increases from the subject teachers (*M* = 3.25, *SD* = 0.89), to principals (*M* = 3.39, *SD* = 1.11), to teachers in other job positions (*M* = 3.57, SD = 0.94), to elementary teachers (*M* = 3.70, *SD* = 0.86), to APS teachers (*M* = 3.99, *SD* = 0.86), to mobile APS teachers (*M* = 4.01, *SD* = 0.92) and to school counsellors (*M* = 4.05, *SD* = 0.90).

The Tukey-Kramer post hoc test for the social-emotional domain reveals statistically significant results related to the subject teachers. Namely, the values decrease from the subject teachers to school counsellors (-0.80, 95% CI [-1.07, -0.54], $p < 0.0005$), from subject teachers to mobile APS teachers (-0.76, 95% CI [-0.96, -0.55], $p < 0.0005$), from subject teachers to APS teachers (-0.74, 95% CI [-0.91, -0.58], $p < 0.0005$), from subject teacher to elementary teachers (-0.45, 95% CI [-0.64, -0.26], $p < 0.0005$) and from subject teachers to teachers in other job positions (-0.32, 95% CI [-0.60, -0.04], $p = 0.01$).

In the social emotional domain, statistically significant results occur also for the principals, the values decrease from the principals to school counsellors (-0.66, 95% CI [-1.26, -0.06], $p = .01$), from principals to mobile ASP teachers (-0.62, 95% CI [-1.19, -0.04], $p = .03$) and from principals to ASP teachers (-0.60, 95% CI [-1.17, -0.04], $p = .03$).

And finally, in the social-emotional domain, statistically significant results occur also for the professionals in other job positions (POJP), e.g., school librarians. The values decrease from the POJP to school counsellors (-.48, 95% CI [-0.84, -0.12], $p = .002$), from POJP to mobile ASP teachers (-0.44, 95% CI [-0.75, -0.12], $p = .001$), from POJP to ASP teachers (-0.42, 95% CI [-0.71, -0.13], $p < .0005$) and increase from POJP to subject teachers (0.32, 95% CI [0.04, 0.60], $p = .01$). No other group differences were statistically significant in this domain.

Discussion

General conclusions

We can conclude that according to the teachers' opinions, APS in Slovenia is mainly focused on the learning domain, moderately on the motivational domain and less on the social-emotional domain, although social-emotional functioning is a very important part (and often an issue) and the basis for the successful learning and social functioning of children with special needs in the education environment (Education Council, 2006; Ennis et al., 2014). Work with students with special needs should not be focused primarily on one domain, but should be more balanced between different types of support, which would help student to be successfully included in the classroom and to develop various ranges of skills, including social-emotional skills (Elias, 2004). The quality of APS regarding the social-emotional domain raises concerns as 10.6% of the teachers express low or no focus on this domain. APS in elementary school should be more focused on this domain because social and emotional functioning of any student in ele-

mentary school is very important, even more important if it is a student with special needs. Social and emotional skills are equally important as cognitive skills (Baker et al., 2009; Ennis et al., 2014), so teachers of APS should focus more on the social and emotional domain and empower students with special needs to gain social-emotional skills as they can be transferred to other environments and used in lifelong learning (Reis, McGuire and Neu, 2000), they can also have an impact on student engagement, achievement and wellbeing (Tomlinson, 2014).

Conclusions about the differences between professionals

Significant differences between seven groups of professionals occur in all the three domains.

In the learning domain, the effect size is large (Richardson, 2011). However the smallest among effect sizes in all the three domains. The learning domain is most often used by elementary teachers, APS teachers and subject teachers. A statistically significant increase in the learning domain occurs among the school counsellors and three other groups (APS teachers, elementary teachers and subject teachers), which is an expected result, as school counsellors are usually focused on other areas of support. The CWWS scores also significantly increase between the mobile APS teachers and elementary teachers, which can be explained by the fact that elementary teachers usually have the student in the classroom and are therefore more focused on learning support than mobile APS teachers, who only visit the school a few times a week.

In the motivational domain, all the tests confirm significant differences, the effect size is large. The motivational domain is most often implemented by the elementary teachers, mobile APS teacher and APS teachers. A significant decrease in the use of the motivational domain is revealed in the group of subject teachers and four other groups (elementary teachers, mobile APS teachers, APS teachers and school counsellors), which indicates that subject teachers could be more supportive in motivating students with special needs during APS.

In the social-emotional domain, differences are significant and effect size is large, the results of post-hoc test reveal that differences occur in the group of subject teachers, principals and professionals in other job positions (POJP). Namely, the decrease in CWWS scores is high in comparison to the decrease in other domains. The subject teachers work in the social-emotional domain less than five other groups (school counsellors, mobile APS teachers, APS teachers, elementary teachers and professionals in other job positions), the principals work in the social-emotional domain less than the school counsellors, mobile APS teachers and APS teachers. The POJP work in the social-emotional domain significantly

less than the school counsellors, mobile APS teachers and APS teachers. These results reveal that subject teachers and principals who work with students with special needs and professionals in other job position need interventions in terms of the awareness and importance of the social-emotional domain for each student with special needs as the majority of students with special needs (e.g., with specific learning disabilities) have difficulties in social relationships, they tend not to be accepted by their peers, they often have shortcomings in interactions with peers and adults, they may have lack of age-appropriate social understanding of complex interactions or difficulties in communicating effectively with others (Elias, 2004).

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