

PUPILS WITH LEARNING DISABILITIES AND THEIR SOCIAL INTEGRATION

MAJDA SCHMIDT

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The results of our empirical research clearly show that the social, emotional, and motivational integration of pupils with learning disabilities who attend regular primary schools is lower in comparison to that of the pupils from schools with special education programs. The achievements of pupils with learning disabilities in regular primary schools were also lower, whereas the structure of perceptual-motor and cognitive abilities was better than that of pupils from the schools with special education programs.

The poor or even critical social and emotional state of the pupils with learning disabilities attending regular primary schools signals that integration requires the establishment of the least restrictive environment.

Therefore, it is necessary for professionals, researchers, and theoreticians to systematically follow and scrutinize the impact of integration models on pupils with learning disabilities and to take Slovene research results into consideration.

Key words: pupils with learning disabilities, integration into regular primary school, social integration, emotional integration, motivational integration.

INTRODUCTION

The process of integrating pupils with special educational needs still reveals several dilemmas and issues, predominantly when it comes to implementation. This is the reason why integration is a popular theme of discourse between professionals and theoreticians from the area of special education. The term **integration** is used as a collective noun for all attempts to avoid educating of students with disabilities in a segregated and isolated environment (Pijl, S.J.; Meijer, C.J. W., 1991). Its scope ranges from the actual integration of regular and special schools (or classes) to measures that aim to reduce the outflow of regular education to special education. The organizational structures of integration vary from country to country, ranging from regular classes without support, regular classes with support, and regular classes as the basis with part-time special classes to full time special school.

Attempts to introduce integration into regular schools require some consideration of social integration which is more complex and more intimate. The term **social integration** includes frequent and intensive social contacts

between handicapped and nonhandicapped pupils (Kobi, 1983). Significant social integration within the whole setting of school life may often present itself as harder to achieve than teaching pupils in one room.

While the organizational and objective issues of integration are being solved, obscurities still remain in the specialized professional areas. Worthy of mention are the problems with diagnoses that are related to deficient instruments and assessment criteria, as well as the problems of stigmatization, while at the same time environmental factors and social interaction are not taken sufficiently into consideration. School legislation in Slovenia (1996) has decided upon a developmental process arrangement with individual educational plans for children with special needs instead of a categorical approach.

In the literature and among professionals the area of defining learning disabilities reveals several deficits. For example, we still

* Majda Schmidt, PhD Faculty of Education, University of Maribor, Koroška c. 160, 2000 Maribor, Slovenija.

do not have an appropriate operational definition that covers all age groups. Many authors (Hammill, 1990; Doris, 1993; Brinckerhoff, et al., 1993) suggest that the National Joint Committee on Learning Disabilities (NJCLD) definition is the most appropriate. The term **pupils with learning disabilities** is used in our study as a general term that refers to a heterogeneous group of disorders manifested by significant difficulties with acquisition and the use of listening, speaking, reading, writing, reasoning, or mathematical abilities which are intrinsic to the individual and presumed to be due to central nervous system dysfunction. Problems in self-regulatory behaviors, social perception, and social interaction may exist with learning disabilities but do not by themselves constitute a learning disability (NJCLD, 1994).

The professional competence of teachers in both regular and special education schools is weak, as is their level of cooperation. In general, follow up studies and analyzes of the success rate of educational and social aspects of integration in practise are not systematic. There have still been no empirical studies, and the criteria and principles for integration into the least restrictive environment are still quite vague.

The social, emotional, and motivational integration of pupils with learning disabilities into regular primary school

The social status and emotional experiences of pupils with learning disabilities are the two most reliable indications of successful educational integration. The regular primary school class in which the pupil is taking part represents the referential frame for designing the criteria for behavior and learning achievements. It has a comparative function. The higher the orientation of the pupils and teachers in the identification group is towards school achievement and proper adaptive behavior, the lower the placement of failed pupils on the popularity

scale is (Petillon, 1978). When a less successful pupil in a heterogeneous class is constantly faced with better pupils, there is a high probability for a negative response when assessing his/her own abilities. This could motivationally/psychologically lead to lower achievement motivation, negative self-image, and progressively to isolation.

Studies by Lambirch (1986) and Rist (1970) show that, right from the beginning of their school careers, low-achieving pupils are less involved in communication with their teachers and less involved in a number of class activities as well. Their peers and teachers link their low achievement motivation to lower social skills and underestimate their personalities.

Empirical findings in the United States, Germany, Great Britain, and Switzerland confirm the fact that pupils with learning disabilities in regular primary schools on the average have a lower sociometric status than other pupils; being completely integrated into regular classes or only partially has not influenced these results (Haeberlin et al., 1991).

Z. Stančić (1990) conducted a study in Croatia about the sociometric status of pupils with delayed cognitive development in a regular school and found that their status was lower than the status of pupils with no learning disabilities. She assumed that social status is determined by some other variables: socio-economic status (being relatively lower), social origin, appearance, some personality characteristics, and the harmful impact of stigmatization.

Swedish research by Sonnander, Emanuelsson, Kebbon (1993) on the integration of children with mental disabilities into regular primary schools also calls attention to the adverse status position of children with mild disabilities in psychological development, stressing the inappropriate position of girls in the regular classes.

A qualitative study by Albinger (1995) using inductive analysis, and a quantitative study by Reid and Button (1995) about the feelings and experiences of pupils with

learning disabilities who have been involved for some time in a resource room program, indicates a low self-image, a feeling of inadequacy (frustration, sadness), and the negative influence of stigmatization.

A study (Esminger, 1991) that included ten schools in Atlanta, Georgia, showed that the pupils involved in the special education program, could not make the connection between knowledge and life, and their motivation for learning was low as well. On the other hand, we can see that models of special treatment for pupils with learning disabilities that are related to life, that are directed towards the development of different skills, and that involve cooperative forms of learning, give positive results. Stimulating pupils to participate in shaping the curriculum and providing a school climate that accepts diversity and offers the same possibilities for development of abilities (such as the Foxfire programs in the United States, and some European countries) contributes more to creating a better sociometric structure than individual learning in traditional lessons. This was confirmed by the research of Armstrong, Johnson, and Balow (1981) as well as the most recent studies (Augustine, Gruber & Hanson, 1989; Pomplun, 1996).

The results of research by Ackerman and Howes (1986) indicate that those pupils with learning disabilities who are accepted at school are not accepted outside school; hence it is necessary to distinguish between the status of a pupil within the classroom from his/her status in the extracurricular activities.

RESEARCH PROBLEM AND GOAL

Our research problem is to determine and analyze the differences between pupils with learning disabilities in regular primary schools, pupils with learning disabilities in schools with special education programs and pupils with no learning disabilities in regular primary schools in terms of their bio-psycho-social structure.

The goal of our study is to define the latent structure of the pupils' characteristics

and get an overview of the entire structure of the characteristics of pupils, based on objective indicators.

HYPOTHESES

General hypothesis

We expected to find structural differences between the following groups of pupils: pupils with learning disabilities in regular primary school, pupils in schools with special education programs, and pupils with no learning disabilities.

Specific hypothesis

We expected that differences between groups of pupils would be proved in four areas:

- learning abilities
- visual-motor integration
- audio-visual discrimination
- social integration

METHOD

Sample

The purposive sample comprises 121 fourth-grade pupils attending regular primary school and school with special education programs in northeastern Slovenia during the 1995/96 school year. This group included 81 pupils from regular primary school who had no learning disabilities, 19 with learning disabilities (also attending regular primary school), and 21 with learning disabilities from school with special education program.

Procedure of collecting data

The research was conducted during the 1995/96 school year under the supervision of a special education teacher. Tests were administered to all the participants under standardized conditions with the same examiner. The pupils were divided into smaller groups (about eight) and received the same standardized instructions before each testing.

Materials

Three instruments were used: the adapted Acadia Test for detecting learning-disabled children (Fakultet za defektologiju Sveučilišta u Zagrebu, 1981), a test of written abilities and the adapted Swiss Social Integration Questionnaire (U. Haerberlin, U. Moser, G. Bless, and R. Klaghofer, 1989). The designed apparatus gives data for 15 criterion variables. The reliability of all the instruments was appropriate (Cronbach coefficient $\alpha > 0.80$).

Data analysis

The data were analyzed with the SPSS-X computer program - statistical package in the Center za računalništvo PF Maribor. The methods used were one-way analysis of variance, multivariate analysis of variance, and discriminant analysis.

RESULTS AND INTERPRETATION

On the basis of the Wilk's lambda value ($\Lambda=0.098$) and an appropriate Rao test

($F=15.218$; $P=0.000$), we can infer that the taxonomic groups differ with statistical significance, in perceptual-motor and cognitive characteristics, as well as in the social integration.

The variables that contribute significantly to the obtained difference between the taxonomic groups are shown by the results of univariate analysis of variance.

Results of univariate analysis of variance

Table 1 represents the results of univariate analysis of the variables in the Acadia Test, general success in school, and social integration for all three taxonomic groups of pupils (horizontal analysis) in regular primary school and school with special education program.

On the basis of these results we can see that the level of statistical significance of the differences between all three groups is high ($P<0.05$). The only exception is the variable auditory discrimination ($P>0.05$).

Table 1: F-ratios (F) and their statistical significance (P); arithmetic means for perceptual-motor, cognitive, and social integration variables for the group of pupils with no learning disabilities (M 1), for learning disabled pupils at regular primary school (M 2) and group of pupils with learning disabilities at school with special education program (M 3)

Varijables	M 1	M 2	M 3	F	P
auditory discrimination	56.91	56.26	57.19	0.43	0.650
visual-motor coordination and series	50.92	52.16	37.14	44.21	0.000
visual discrimination	49.32	41.10	32.14	25.54	0.000
visual memory	55.15	53.05	47.81	10.02	0.000
audio-visual association	48.85	42.84	30.28	31.21	0.000
series and digit symbols	52.59	40.74	34.33	33.85	0.000
auditory memory	47.74	40.16	13.00	10.48	0.000
concept formation	52.79	44.05	35.71	39.06	0.000
Vocabulary	48.97	41.31	30.00	40.65	0.000
automatic vocabulary	52.06	47.74	37.71	51.22	0.000
visual association	45.23	41.58	35.19	8.32	0.000
Dictation	72.00	66.42	56.57	53.17	0.000
general success in school	12.66	8.89	11.90	17.47	0.000
social integration	50.06	43.74	47.38	7.61	0.001
emotional integration	51.05	36.21	46.19	29.92	0.000
achievement-motivational integration	47.21	33.58	42.48	38.14	0.000

This variable represents the ability of receiving auditory stimuli and discriminating among them, as a result of the integration of the subject's experiences and the functioning of the central nervous system.

In the auditory discrimination variable the group from the school with special education program achieved the same (or even higher) results than the group without learning disabilities, which could be attributed to their intense practicing of tasks of this kind at the special education schools.

The pupils from the school with special education program obviously scored lower in comparison to integrated pupils in the following areas: visual perception, series and digit symbols, concept formation, vocabulary and writing performance. We can infer that these areas indicate a lower level of acquired knowledge, impoverished early intellectual and learning experiences, as well as a lack of stimulation in their families. They also reflect a low educational and professional status of their parents, together with the differences in curriculum of a special education school, which has a different structure with less content. These results also reflect a dysfunction of the central nervous system (CNS) or a specification of deficits in information processing (Kolligian & Sternberg, 1987; Swanson, 1987) that are related to skill and strategy deficits, difficulties in memory and paying attention to tasks and difficulties in executive control or self-regulation. We can infer on the basis of the one-way analysis of variance that the structure of perceptual-motor and cognitive abilities is better in pupils integrated in the regular primary school than in pupils in the school with special education program, depending on the higher achievement aims and requirements towards the pupils. Differences between integrated pupils and pupils from school with special education program in the areas of vocabulary, concept formation, series and digit symbols and writing performance are also confirmed by the results of Swiss (Bless et al., 1990) and Croatian (Levandovski, 1992) investigations.

Statistically significant between-group differences ($P=0.000$) were obtained on the general school success variable, which covered subjects such as the Slovenian language, mathematics and the natural sciences.

The highest scores on the general school success variable were achieved by the pupils with no learning disabilities attending regular primary school, followed by the pupils attending school with special education program. Arithmetic means of their results are very close to those of pupils with no learning disabilities. The lowest scores were obtained by the learning-disabled pupils attending regular primary school. It is clear that school success is determined also by other factors. Cognitive abilities, interest and time spent doing school work represent a valid variance of what school grades should measure. Of course, some other conative abilities should be added as well. Learning-disabled children at regular primary school manifest several difficulties in reading, writing, mathematics, speech and thinking as well as several social functioning difficulties. The teachers frequently experience these pupils as ones with cognitive impairments (Tomplison, 1982), who are without interests and lazy. Their emotional and social needs are usually ignored within traditional teaching. Inappropriate reactions towards their learning disabilities at school and additional misconceptions of their parents trigger several psychological problems that lead inevitably to the failure of these pupils at school.

For all three variables of social integration (social integration, emotional integration, and achievement motivational integration) the differences between the taxonomic groups of pupils are statistically significant ($P=0.000$). The pupils attending school with special education program scored higher in the area of social integration than learning-disabled pupils attending regular primary school. The differences are predominantly evident in emotional integration and achievement motivational integration. This was also

confirmed by further statistical analysis (see discriminant analysis, table 4). The highest scores on the above mentioned variables were achieved by the group of pupils with no learning disabilities.

Our research findings are also supported by the results of empirical studies in other countries, e.g. Switzerland (Haeblerlin et al., 1991), which report that integrated pupils with learning disabilities in the lowest grades have a lower sociometric status than pupils in special classes. The latest investigation on the social integration and social interaction of pre-school children also reports a low sociometric status of children with special needs (Guralnick et al., 1995).

We can presume that the low scores on the emotional integration variable of pupils with learning disabilities in regular primary school indicate their low general school success, their deficiencies in social skills, and their social rejection by the group of pupils

with no difficulties - all of which contribute to the unhappy feelings of these pupils in class. The outcome of the emotional integration variable may also have been influenced by a culturally different value system in the community, by inadequate attitudes towards people with special needs and exclusion from activities outside school and home (sports, interesting leisure time activities, etc).

The fact that achievement motivational integration is a lot lower among pupils with learning disabilities in primary school in comparison to pupils in school with special education programme can be explained by their mistrust of their own abilities and their low self-evaluation, as well as by other factors, such as their families' value system, participation in a heterogeneous identification group, and inadequate learning methods and approaches and achievement orientation.

Table 2: Eigenvalue (λ), % of explained variance (% var), canonical correlation coefficient (Rc), Wilk's lambda (Λ), chi-square, degree of freedom (df), statistical significance of discriminant function (P)

Function	λ	% var	Rc	Λ	chi-square	df	P
1	3.56338	74.24	0.883	0.097	257.86	30	0.000
2	1.23675	25.76	0.743	0.447	89.35	14	0.000

Table 3: The structure of discriminant functions

Variables	Function 1	Function 2
auditory memory	0.683 *	0.185
Dictation	0.481 *	0.250
automatic vocabulary	0.479 *	0.199
visual-motor coordination and series	0.454 *	0.105
Vocabulary	0.415 *	0.247
concept formation	0.390 *	0.310
audio-visual association	0.372 *	0.169
visual discrimination	0.320 *	0.234
visual memory	0.213 *	0.082
visual association	0.190 *	0.099
achievement-motivational integration	0.092	0.706 *
motional integration	0.074	0.628 *
series and digit symbols	0.341	0.359 *
social integration	0.055	0.309 *
auditory discrimination	0.023	0.066

Results of discriminant analysis

The calculated values from Table 2 of the Wilks-Bartlett Test for the first discriminant function ($\Lambda=0.09$, chi-square=257.86, $P=0.000$) and the second discriminant function ($\Lambda=0.447$, chi-square=89.35, $P=0.000$) show that there are two discriminant functions that discriminate the groups among the 15 variables (Acadia Test and social integration). The first one explains 74.6% of the variance in the complete system of variables; the second one the remaining 25.7%. The structure of distinctive functions is shown by the correlation coefficients (r) of the encompassed variables with discriminant functions.

Analyzing the structure of variables that correlate significantly with the first discriminant function - variables that measure the achievement in perceptual-motor and cognitive tasks, the first discriminant function could be defined as **the learning ability and discrimination**.

The variables: achievement motivational integration ($r=0.706$), emotional integration ($r=0.628$), and social integration ($r=0.309$) are the variables that significantly correlate with the second discriminant function. They indicate the child's social status within the identification group, his feelings of well-being in the class, and his level of learning motivation. Hence we have defined the second discriminant function as **social-emotional integration**.

From the negative/positive sights of the centroid projections on the first and the second discriminant function, we can infer the following findings:

1) The group of pupils with no learning disabilities and the group of integrated children with learning disabilities score significantly higher in the areas of learning and discrimination, whereas the pupils from

the school with special education program obtained the lowest scores.

2) In comparison to pupils with learning disabilities from regular primary school, the pupils from school with special education program achieved higher results in the level of social, emotional and motivational integration; the highest level of social and emotional integration is that of the group of pupils with no learning disabilities in regular primary school.

CONCLUSION

On the basis of the Wilk's lambda value ($\Lambda =0.098$) and the Rao Test ($F= 15.218$, $P = 0.000$), we conclude that the differences between the three taxonomic groups are statistically significant in the areas of perceptual-motor and cognitive abilities and social integration. This confirmed our general hypothesis.

The results of the univariate analysis of variance confirmed our specific hypotheses except on auditory discrimination variable (table 1), which we interpreted theoretically and empirically. The discriminant analysis identified two discriminative functions. We defined the first one as the learning and discrimination ability, and the second one as social and emotional integration.

Our research findings clearly indicate that the social integration of pupils with learning disabilities is significantly lower than the social integration of other classmates in the heterogeneous classes at regular primary school. The inadequate social involvement of these pupils is determined by several factors, e.g. low school achievement, social and interactional difficulties in relationship with classmates and teachers, as well as poor self-concept. Pupil self-evaluation in school with special education program is higher in terms of social integration, than that of the learning-disabled pupils at regular primary school. These results can be hypothetically explained with the fact that within the group, homogeneous in their abilities, their own achievements are compared only

Table 4: Centroids of groups

Groups	Function 1	Function 2
1	0.905	0.557
2	0.630	-2.517
3	-4.062	0.126

to similar pupils; therefore the self-evaluation of their own abilities is a lot higher. The conceptual and organizational frameworks of school with special education program (individualization, adjusted programs, and higher application to everyday life) probably contribute to self-concept of pupils with learning disabilities being more positive.

Results of this investigation, showing better social and emotional integration of pupils from school with special education program, match closely the results of another study, entitled "The Attitudes of Teachers Towards the Educational Integration of Children with Special Needs into Regular Forms of Education (Schmidt, 1994). These results, namely, cast doubt on the successfulness of educational integration of children with learning disabilities into regular primary school. Special education teachers, in particular, have rather unfavorable attitudes towards the emotional and social integration of children with special needs, whereas teachers in regular schools are rather sceptical about the implementation of individualization and differentiation of lessons for these pupils. They are also concerned about the demands of the primary school curriculum.

Moreover, on the basis of our results we can infer that the possibilities for social, emotional, and motivational integration in schools with special education program are more favorable than in today's instrumentalistic, achievement-oriented primary schools.

Our research results justify the rejection of often expressed alleged shortcomings of schools with special education programs: that they do not fulfil their expected outcomes and that they reinforce life-long segregation. We think that schools with special education programs have a significant role in the formation of positive self-image, working habits, and skills, and this was confirmed by our research.

As long as achievement is the predominant social value in our primary schools, the organizational and objective integration

changes (together with the new school legislation) will not be capable of hindering the social exclusion of pupils. This can be seen in the results of the latest American studies, whose results match ours. Although the integrated pupils were given additional special educational support - either in the classroom or outside of it, they were socially isolated. Even when taking into consideration the resource room model of educational integration, with a special education teacher, there is no guarantee for the social and emotional integration of pupils in Slovenia. To gain an insight into the appropriacy of the model of special educational support in the lower grades of primary school, further studies should be conducted in the nearest future to investigate the problems of identifying learning disabilities, the feelings of pupils at school, stigmatization, and social isolation. Integrated children with learning disabilities require the formation of educational environments that will put into force the changes - not only in the cognitive and emotional area, but also in the social climate (we need the programs for social integration). These changes extend to the area of education and the professional training of teachers and special education teachers, who should be competent in interpersonal relationships and skilled in social competence in general, as well as capable of working in teams. The school curricula should associate school learning with life experiences to a greater extent. It should also encompass educational contents and areas that develop survival skills, healthy self-concept and the enthusiasm for future learning.

Our general conclusion is that integration is not appropriate for pupils with learning disabilities - from neither the social, emotional, nor motivational aspects. Still, this finding does not contradict the claim that integration with additional professional support (and when taking into account the criteria and determinants that provide pupils with the least restrictive environments) is the only appropriate and serious alternative to special education schools.

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