

The Role of Part-Time Special Education Supporting Students with Reading and Spelling Difficulties from Grade 1 to Grade 2 in Finland

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The aim of the study is to evaluate the reading and spelling skills of Finnish children in grades 1 and 2 receiving part-time special education from special education teachers for reading and spelling difficulties (RSD) and for RSD with other learning difficulties. The results showed that the reading and spelling skills of students with RSD lagged behind age level and that students with overlapping difficulties exhibited even slower development. Small group education and a moderate amount of part-time special education (approximately 38 h per year) predicted faster skill development.

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The aim of the study is to evaluate the reading and spelling skills of Finnish children in grades 1 and 2 receiving part-time special education from special education teachers for reading and spelling difficulties (RSD) and for RSD with other learning difficulties. Of 152 children involved in the study, 98 received part-time special education for RSD, and 54 did not have RSD and did not receive special education. The results showed that the reading and spelling skills of students with RSD lagged behind age level and that students with overlapping difficulties exhibited even slower development. Small group education and a moderate amount of part-time special education (approximately 38 h per year) predicted faster skill development, whereas individual and large amount of special education (more than 48 h per year) were related to slower skill development and broader difficulties.

- Reading acquisition primarily requires performance of the alphabetic principle formed by letter-sound knowledge and phonemic skills, followed by maintenance of the detected phoneme in short-term memory to a synthesis of all read phonemes and finally a recognition of word meaning after generating the phoneme sequence.
- Orthographic complexity also affects reading and spelling (RS) development.
- The acquisition of spelling procedures is also affected by the orthographic consistency of the language as well as features of the oral language and the linguistic structure complexity.
- The process of learning to read and spell is challenging for 5% to 18% of school-age children depending on the criteria chosen to define reading and spelling difficulties (RSD).
- Moreover, evidence suggests that about 40% of school-aged children with one developmental disorder will also suffer another developmental disorder.

Effective reading instruction for students with RSD

- Explicit and systematic instruction.
- Foundational skills such as phonemic awareness and phonics/word study are essential elements of instruction.
- Higher processing skills such as fluency, vocabulary, and comprehension are essential from the beginning of reading instruction.
- Students who have difficulties benefit from smaller group instruction (five or fewer students).

Overview of support systems for RSD

- Many studies show that students fail to progress in reading in different support settings, and even when gains in reading achievement are made, there is little evidence that these students meet grade-level expectations after years of special education services.
- According to Swanson (2008), reading instruction for students with LD is generally of low quality and includes little to no explicit instruction in phonics or comprehension strategies.
- The common belief is that students with RSD need instruction at a slower pace and not a greater amount of instruction.
- Students with RSD benefit from intensive interventions, and many of these students require such interventions for multiple years.

Finnish educational system

- Finnish comprehensive school starts at age seven.
- One school year includes 38 weeks.
- There is also one year of pre-primary education for six-year-old children (kindergarten) which creates a foundation (e.g. for literacy skills).
- Systematic phonics-based teaching of reading begins in

grade 1.

- The development of syllable reading is important for reading fluency because two, three, four, and more multi-syllable words are frequent, and the number of one-syllable words is limited.
- In basic education, students do not need a formal diagnosis to receive special educational services.
- The most common form is part-time special education given by a special education teacher.
- It is a form of educational support in which students are in general education classes receiving support for 1 to 2 h per week from a special education teacher.
- Typically, it is put into practice in a small group (3 to 4 students at the same time) or individually.
- Usually, special education teaches reading and spelling simultaneously with phonics-based methods, motivating students by board games or computer programs.



The study

This study examined the development of RS skills among Finnish children in grades 1 and 2 who receive part-time special education for RSD from special education teachers.

Research questions:

1. Are there differences in the RS skills development of students in grades 1 and 2 who a) receive part-time special education for RSD and b) have no RSD and do not receive special education support? Is mean-level skill development different between children with only RSD and those with overlapping difficulties?
2. To what extent do the amount and the form of special

education and the presence of only RSD or RSD and overlapping difficulties predict RS development among children who receive special education for RSD?

The participants of this study were 152 children (63 girls, 89 boys). In the present study, 98 children were identified as at risk for RSD already in kindergarten and received part-time special education for RSD in grade 1. Out of these children, 56 received special education only for RSD. For the present study, 54 intensively followed control children with no RSD risk from the same classrooms as the risk for RSD children and who received no special education were randomly selected. The special education teachers were asked to rate the students who had received part-time special education during the first grade. Students RS skills were assessed during the autumn of grade 1 (T1), the spring of grade 1 (T2), and the spring of grade 2 (T3).



Findings

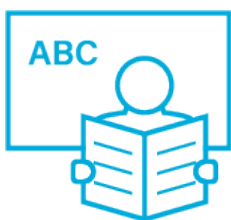
- The results show not time x group -interaction for reading skills, but the main effects of time and group were significant.
- Children's reading skills developed significantly during the follow-up period.
- The differences in reading skills favouring children without RSD remained relatively large across the follow-up period.
- The results for spelling skills, in contrast, show a significant time x group interaction.
- Spelling skills developed faster, especially from T2 to T3, among children with RSD who received part-time

special education compared to children without RSD who received no special education.

- The skill difference favouring children with no RSD was statistically significant in T1 and T2, but only marginally significant in T3.
- In other words, students with RSD who received part-time special education partly caught up to the level of other students.
- The development of reading skills from T2 to T3 was fastest among children with only RSD who received part-time special education and slowest among children with RSD and language problems.
- Children with no RSD or special education had better reading skills than all the other groups at every time point.
- In addition, children with RSD and attention difficulties had marginally significantly better reading skills than students with RSD and language difficulties and students with RSD and other learning difficulties.
- Also, in the spring of grade 2, students with only RSD and students with RSD and attention difficulties had better reading skills than students with RSD and language problems and students with RSD and other learning difficulties.
- The development of spelling skills from T2 to T3 was fastest among children with only RSD who received part-time special education and slowest among children without RSD and special education.
- Children without RSD or special education had better spelling skills than all other groups at T1.
- At T2, children without RSD or special education had better spelling skills than all the other groups, except for children with RSD and attention difficulties.
- In non-word spelling skills at T3, children without RSD or special education were no longer significantly different than the children in any other group.
- There were no significant inter-individual differences

between the students with RSD who received part-time special education in their reading skills in T1, but they differed in their rate of change in reading skills from T1 to T3.

- A medium amount of special education predicted faster reading skills development than a small or large amount of special education.
- There were no significant inter-individual differences between students with RSD who received part-time special education in their spelling skills, but they did differ in their rate of change in spelling skills from T1 to T3.
- Receiving only small-group special education predicted faster spelling skills development compared to receiving only individual special education or receiving both individual and small-group special education.
- In addition, receiving a medium amount of special education predicted faster spelling skills development than receiving a large amount of special education, and receiving a large amount of special education predicted a slower spelling skills development than receiving a small amount of special education.



Conclusions

- The results showed that students with RSD lagged their age level in reading skills during the follow-up period, but after two years, the control group had not achieved better spelling skills than those with RSD.
- Students with only RSD partly attained age-level RS

skills, whereas students with other difficulties exhibited clearly slower development.

- Small-group interventions (3 to 4 students) and a medium amount of part-time special education predicted faster development in the RS skills of RSD students.
- With some students, the difficulties are broader and more persistent and they need more intensified or long-lasting support; 1 to 2 h a week at first grade is not enough.