Using Publicly Available Data to Make Program Decisions: One State's Example

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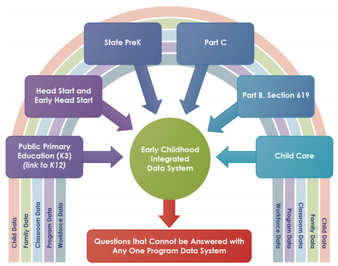
Division for Early Childhood's 33rd Annual International Conference on Young Children with Special Needs and Their Families
Portland, Oregon | October 2017

Background

Minnesota Early Childhood Longitudinal Data System (MN ECLDS)

- The ECIDS (as illustrated in the graphic) in Minnesota, the MN ECLDS, combines 18 data sources from the Department of Education, the Department of Human Services, and the Department of Health. After data sources are linked, data are deidentified and shared on the MN ECLDS website.
- ECLDS is part of a larger effort to integrate data across many publicly funded programs.
- Building the ECLDS was funded by the federal Race to the Top Early Learning Challenge grant.



MN ECLDS Process

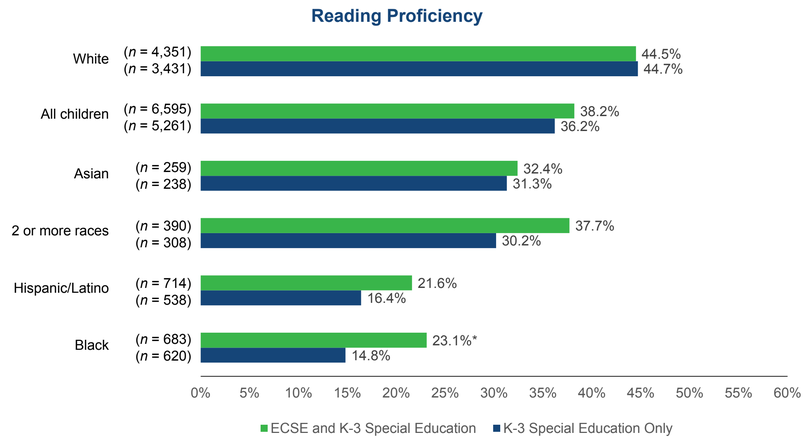
- Early Childhood Special Education has been actively involved in the development and ongoing expansion of ECLDS, represented on both the Governance and Research and Data Committees.
- Service and demographic data for children served by early intervention (EI) and early childhood special education (ECSE) are included going back to 2015, as are all child and family outcome data sets beginning in 2011.
- Early Hearing Detection and Intervention data were added in 2017.

Analysis Procedures

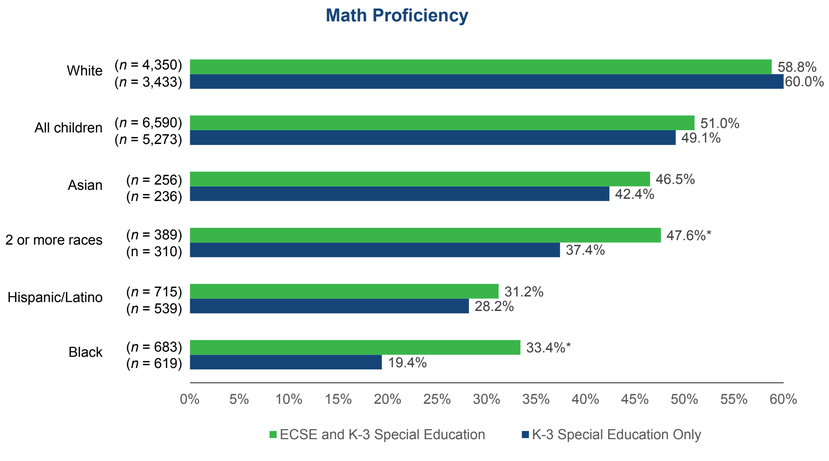
- We analyzed data from the ECLDS to answer three research questions:
  1. Do third grade assessment scores differ between children who received K-3 special education and ECSE versus children who received K-3 special education only?
  2. Does the magnitude of difference between the two groups vary by child race/ethnicity?
  3. Are the magnitudes of difference for children of color significantly differently from the magnitude of difference for White children?
- Chi-square tests were used for all research questions.
  - For the first two questions, the test compared the proportions of children proficient.
  - For the third question, 2x4 contingency tables were created to compare the difference in proficiency by ECSE status, by race/ethnicity group. In all comparisons, White children were the reference group.

Findings: Reading and Math Proficiency

Impact of ECSE on reading and math proficiency varies across racial/ethnic groups



* Statistically significant ($p < .01$) difference between proficiency in ECSE and K-3 and K-3 only



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Findings: Proficiency by Race/Ethnic Groups

Comparisons between the impact of ECSE in White children to children of other racial/ethnic groups

	Subject	Difference in Differences	Statistical Significance
Black children	Math	15.20%	$X^2 = 39.35$*
	Reading	8.50%	$X^2 = 20.11$*
Hispanic/Latino children	Math	4.20%	$X^2 = 3.11$
	Reading	5.40%	$X^2 = 5.90$
Asian children	Math	5.30%	$X^2 = 4.89$
	Reading	1.30%	$X^2 = 2.87$
Children of 2 or more races	Math	11.40%	$X^2 = 8.50$
	Reading	7.70%	$X^2 = 71.14$*

* $p < .01$

Conclusion

- For the full sample of all children, there were no significant differences in proficiency between children who received ECSE and K-3 special education and children who received only K-3 special education.
- However, among specific racial/ethnic subgroups, Black children who received ECSE and K-3 special education were more likely to be proficient on both math and reading than Black children who received only K-3 special education. This was also true of children of two or more races on math.
  - The magnitude of difference for Black children was statistically significantly different from the magnitude of difference for White children on both math and reading.
  - The magnitude of difference for children of color on math was not different from the magnitude of difference for White children on math but was for reading.

The contents of this presentation were developed under a grant from the U.S. Department of Education, # H373Z120002, and a cooperative agreement, #H326P120002, from the Office of Special Education Programs, U.S. Department of Education. However, those contents do not necessarily represent the policy of the U.S. Department of Education, and you should not assume endorsement by the Federal Government. DaSy Center Project Officers, Meredith Miceli and Richelle Davis and ECTA Center Project Officer, Julia Martin Eile.

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