CHAPMAN UNIVERSITY

Attallah College of Educational Studies

Thompson Policy Institute on Disability

Chapman University, Attallah College of Educational Studies, Thompson Policy Institute on Disability

Meghan Cosier, Don Cardinal, Audri Gomez

This study explored the state of placement of students with disabilities (SWD) in districts across the State of California and the relationship between placement and economic and demographic factors. ***Results suggest significant variability in classroom placement, relationships between placement and factors, such as race and expenditure, and alarmingly low access to general education classrooms for students with extensive support needs.***

A continued focus on access to placement in regular classes for SWD is apparent across the United States and many other countries (Ainscow & Cesár, 2006; Drudy & Kinsella, 2009). Despite the increasing attention to placement in regular classes, SWD continue to be educated away from their peers without disabilities (e.g., Morningstar, Kurth, & Kozleski, 2014; Porter, 2004). Furthermore, there is significant variability in placement in, or access to, general education for SWD (Cosier, White, & Wang, 2018). The variability in placement and limited access to general education for SWD, and particularly for students with extensive support needs, highlights the need to identify factors associated with placement and then address the role of current policy, while also recognizing future policy needs.

Evidence of a Problem

The Individuals With Disabilities Education Act (IDEA) articulates the principle of least restrictive environment (LRE), stating that SWD should be included with their nondisabled peers in the general education classroom "to the maximum extent appropriate," and that they should be removed from the regular education environment only when this education, even with "the use of supplementary aids and services[,] cannot be achieved satisfactorily" (20 U.S.C. 1412 §612 [a][5][A]). This principle of the act was created with a presumption of access to general education settings (Yell, 2015). However, there is no specific right to access or clear guidelines for implementing this preference. Hence, states and districts are left to interpret the LRE principle as they see fit. The lack of clarity may then lead to variation in implementation of such state and federal policy by school- and district-level administrators (Irvine, Lupert, Loreman, & McGhie-Richmond, 2010). These significant differences in access to general education classes among states and districts (Kurth, Morningstar, & Kozleski, 2014) underscore the shortcomings associated with the LRE principle (Sauer & Jorgensen, 2016).

States vary widely in placement practices for SWD (Brock & Schaeffer, 2015; Kurth et al., 2014).

For example, in California, approximately 6% of students with Intellectual Disability (SWID) spend 80% or more of the day in a general education classroom. This is in sharp contrast to Iowa, where approximately 64% of SWID spend 80% of the day or more in a regular class (U.S. Department of Education, 2017). This variability also exists among school districts within states, including California, with access to general education for SWID ranging from 0-30% (California Department of Education, 2017). Despite the significant variability in placement for SWD, very little research exists that investigates the factors associated with placement at the district-level or that attempts to tease out factors related to such variability that can then be applied to inform current and future policy.

The purpose of this study was to investigate the variability in placement in regular classes and separate settings across districts in California and factors related to the variability of educational environment for SWD, with a focus on students with "mild to moderate" disabilities and those with "extensive support needs."

This study design is grounded in prior scholarship acknowledging factors associated with placement, such as geographic location (Brock & Schaefer, 2015), race/ethnicity (e.g., Donovan & Cross, 2002; Fierros & Conroy, 2002; National Council on Disability, 2015), expenditure (Cosier & Causton-Theoharis, 2010), and income (O'Connor & Fernandez, 2006). This current summary represents a snapshot of a portion of data and analyses from a larger study. We present descriptive statistics, Pearson correlations between critical variables, and preliminary linear regression analyses where we assess the relationship between common systemic variables and inclusion and exclusion of SWD across California school districts. These systemic variables include measures of district wealth (total per pupil expenditures and proportion of students eligible for free and reduced- price lunch), district size (total special education pupil count), and ethnicity (percentage of students who are Black, Hispanic, and White). We are currently adding additional variables in an attempt to better understand what may explain the variance in inclusion/exclusion rates across California.

Impact on Policies

As California moves toward more inclusive practices, this information could be critical in decision-making around future policy. In an effort to address this need, this research focuses on the trends in placement of SWD, including those with mild/moderate and extensive support needs. This study focused on two primary research questions to address this gap in the research associated with placement trends in California: (a) Is there significant variance across California school districts as to the degree to which they include and exclude students in similar disability categories? and (b) What schools district factors are associated with placement in general education or separate settings across school districts?

Data Treatments

Using the most current data available from the California Department of Education at the time of this study (2016-2017), we eliminated entries in the database that represented home schooling or very small local educational agencies (LEAs) or districts where the LEA represented a single school. For example, for this analysis, we excluded the single independent charter schools that act as an independent LEA, as they cannot be compared to entire districts in this type of analysis. However, we understand that such LEAs provide valuable information, and we are currently developing a research design that allows for increased attention to such LEAs as a group and within the larger context of this current study.

Creating Composite Indices

Across the 938 remaining school districts, we selected six of the 13 federal placement categories to use for this analysis to create composite indices. Composite indices were used to provide a clearer interpretation of inclusion and exclusion based on the level of needs of students in each category. The six categories included: Specific Learning Disability (SLD), Other Health Impairment (OHI), Autism, Intellectual Disability (ID), Multiple Disabilities (MD), and Emotional Behavioral Disability (EBD).

Table 1:
Composite Placement Categories Matrix (Inclusion and Exclusion)

Placement Category	Total	Mild/Moderate Needs	Extensive Needs
Specific Learning Disability (SLD)	X	X	
Other Health Impaired (OHI)	X	X	
Autism (AUT)	X		X
Intellectual Disabilities (ID)	X		X
Multiple Disabilities (MD)	X		X
Emotional Behavioral Disability (ED)	X		X

All six categories were included in the Total Inclusion Composite Index (ICI). Two additional composite groups were created: Mild/Moderate Support Needs (MMN) and Extensive Support Needs (EN). The MMN ICI group included two categories: SLD and OHI and represented 68% of the remaining six categories. The EN ICI group included four placement categories: Autism, ID, MD, and EBD. Together, the EN composite group represented 32% of the remaining six categories (see Table 1).

Trimming the Data for Added Clarity

The remaining placement categories were trimmed from our analysis due to their low incidence rates. These low numbers per district were exacerbated by the fact that state reporting, in an effort to protect confidentiality of individual students, included an asterisk in categories with 11 or fewer students, making it impossible to use in our analyses. One very large category, Speech or Language Impairment (SLI; 20.85%), was trimmed from our analysis since students in this category are regularly included in general education classrooms 80% more of their school day, while receiving services in a pull-out model (U.S. Department of Education, 2017). In addition, this group is so large that we believed including this group would erroneously skew the inclusion and exclusion rates. The remaining six placement categories were divided into two composite groups for analysis, representing 96.13% of the remaining non-SLI special education student population in California—over 583,000 students in 2016-2017.

Measuring Placement

In this study, we addressed inclusion and exclusion of SWD. Inclusive schooling was defined by the percentage of students who spend 80% of the school day in the general education classroom. Exclusion was defined as those students who either attend a special school or are educated in a general education classroom less than 40% of the school day. While this method may not be an ideal way to measure the constructs of inclusion and exclusion, we believe this is the best available district-level measure of placement.

Predictor Variables

In an attempt to explain the variance across districts within the composite categories, race/ethnicity, size of district, and socioeconomic status were used. Specifically, these variables included: (a) percentage of White students, (b) percentage of Black students, (c) percentage of Hispanic students, (d) total enrollment of SWDs in the school district, (e) current expenditure per ADA (expenditure), and (f) percentage of students eligible for free and reduced priced meals (FRPM). A matrix of the variables and composite categories can be found in Table 2.

Visual Mapping

In addition to statistical treatment of the data, geographic information systems (GIS) mapping was used to provide descriptive visual clarity associated with the trends in placement across districts. While not formally used in our statistical analysis, the GIS mapping technique provides visual validation to the statistical data presented. Each map set represents all 938 school districts in the study. Map sets are needed since school districts vary in their configuration. For example, some districts are elementary only, and some are high school and middle school only. Yet, other districts are “unified” or “union” districts, typically including TK-12 student populations. As such, they cannot be reported in a single map. Instead, for each reporting category, we present a set of two maps, one for elementary and unified and another for secondary and unified. This leads to overlap of the unified school districts appearing on both maps. Viewing them side by side allows for a more complete picture. This overlap only exists in the visual mapping part of this study and has no effect on the statistical analysis.

Summary of Results

The first research question of this study revolved around assessing if there is substantial variation in placement of SWD across California school districts. Descriptive statistics were used to assess the degree of variation of both inclusive and exclusive placement practices. For a visual assessment of variability across California school districts, GIS mapping was used.

Table 2 indicates that, across all categories, an average of 53% of SWD are included in general education classrooms for 80% or more of the school day. In contrast, only 30% of students in the extensive support needs category are included in general education, each with substantially large standard deviations of 17 and 21, respectively. The percentage of students included less than 40% of the school day or attending separate schools shows substantial variance as well. GIS maps indicate similar high degrees of variation across school districts in both rate of inclusion and exclusion. All the GIS maps for all categories are not displayed in this brief report due to space considerations but do appear in the full report. For demonstration purposes, we present four GIS maps (see Graphs 1 and 2). Graph 1 shows the variation with elementary and unified school districts in California of students with extensive support needs. The left map in Graph 1 indicates the percentage of students per district who are included in the general education classrooms less than 40% of the school day or who are placed in separate schools (excluded). The right map represents the same districts, except the map indicates those students who are included 80% or more of the school day (included). The darker the shade of the district, the greater the percentage of students. Graph 2 maps represent the same inclusion and exclusion scenarios except for high school and unified districts. [To become familiar with GIS mapping process, refer to “Comparing Inclusion Maps across Need Categories” below.]

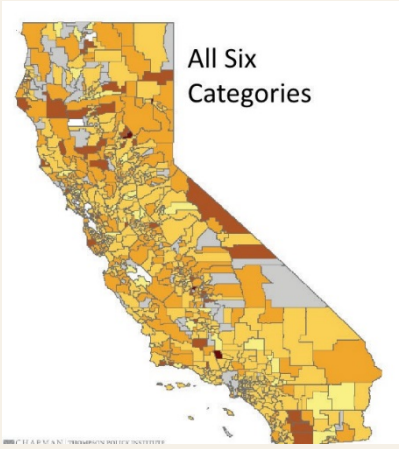
The second research question asked: If such a variation does exist across California school districts, what conditions may explain such a variance?

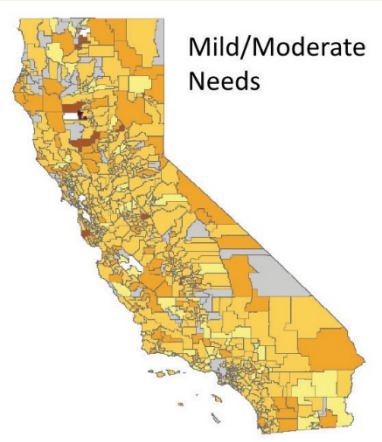
Table 2: Descriptive Statistics of School District Variables

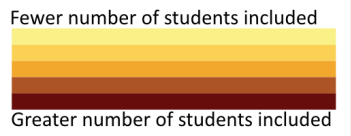
Variable	N	M	Mdn	SD	Min	Max
Inclusion/Exclusion Composite Categories						
Inclusion: All Categories	844	53	50	17	0	100
Inclusion: Mild/Moderate Support Needs	847	63	63	18	0	100
Inclusion: Extensive Support Needs	851	30	24	21	0	100
Exclusion: All Categories	839	30	24	11	0	60
Exclusion: Mild/Moderate Support Needs	839	10	9	8	0	42
Exclusion: Extensive Support Needs	836	42	46	21	0	100
Predictor Variable						
Total SWD enrolled	838	878	288	3220	11	86005
Current expenditure per ADA	920	12575	11375	4556	7372	48156
Percentage eligible for free or reduced-price lunch	919	56	58	24	1	100
Percentage of Black SWD in the district	606	4	1	7	0	49
Percentage of Hispanic SWD in the district	736	50	49	27	0	100
Percentage of White SWD in the district	738	38	37	24	0	97

Note. **N size varies slightly depending on available data for each variable.**
N = number; M = mean; Mdn = median; SD = standard deviation; Min = minimum; Max = maximum

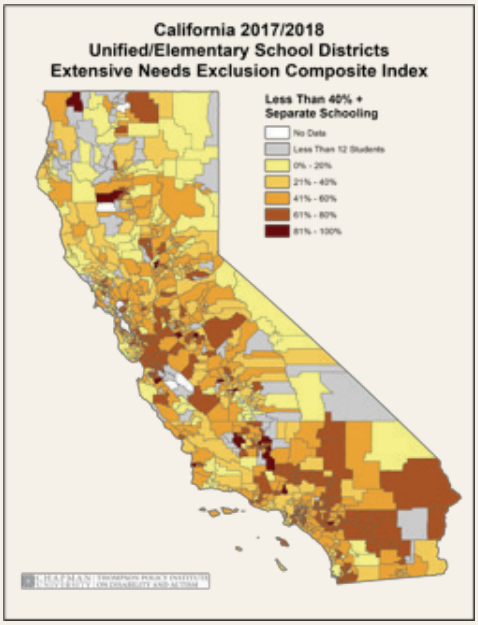
Comparing Inclusion Maps Across Need Categories

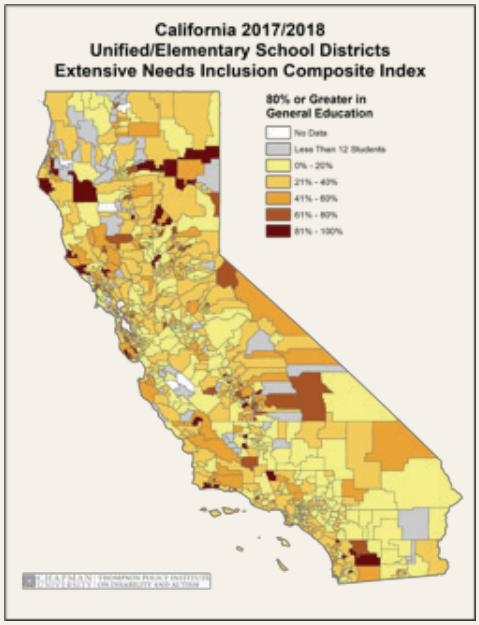




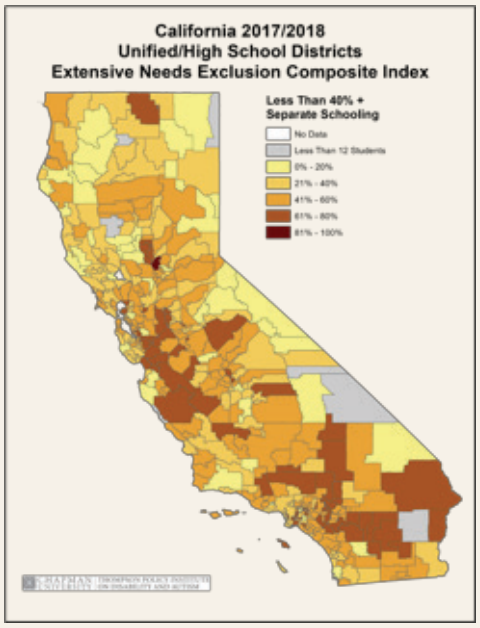


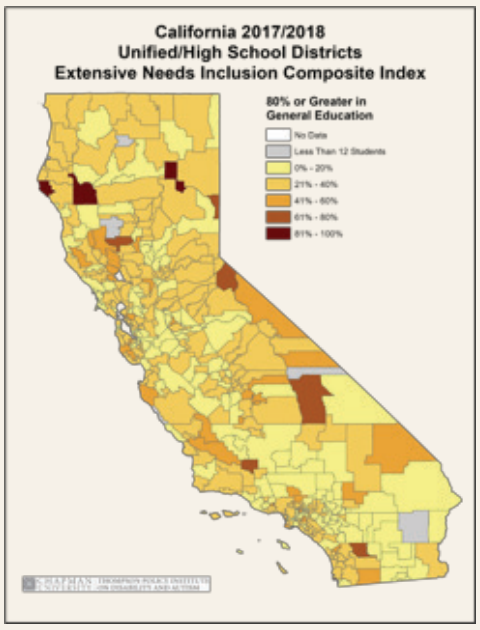
Graph 1: Comparison of Exclusion and Inclusion of Students with Extensive Needs in Elementary and Unified Districts





Graph 2: Comparison of Exclusion and Inclusion of Students with Extensive Needs in High School and Unified Districts





Pearson Correlation Analysis

There were no significant relationships between percentage of FRPM and any of the six placement categories. However, Expenditures per ADA and District Disability Population were each significantly and mildly correlated with all six individual placement categories (see Table 3). The three Inclusion placement categories were each inversely (negatively) correlated with district size (population) but directly (positively) correlated with Expenditures per ADA. In other words, the larger the size of the district, the less inclusion that exists. Conversely, the greater the district expenditures, the higher the level of inclusion. Correlations between Exclusion placement categories showed a reverse relationship to this scenario. All three Exclusion placement categories were also significantly and mildly correlated with Expenditures per ADA and District Disability Population. These relationships occurred in an opposite fashion in relation to the Inclusion placement categories. All three Exclusion placement categories were directly correlated with district size and inversely correlated with district Expenditures per ADA. In other words, the larger the school district, the greater level of exclusion that existed. Conversely, the greater the school districts' Expenditures per ADA, the lower the level of exclusion.

The Pearson correlation analysis also suggests that student ethnicity may be a consideration. For example, there was a significant and inverse relationship (r = -.223, p = .000) between the percent of Black students and Total Inclusion Composite Index, indicating that the larger the percentage was of SWD reporting Black as their ethnicity, the less they were included. Also, there was a direct relationship between this same group and Total Exclusion Composite Index (r = .363, p = .000), indicating that the higher the percentage was of Black SWD, the greater their rate of exclusion. Conversely, the opposite was true with the percentage of White SWD. That is, the larger the percentage of White SWD, the greater the rate of inclusion (r = .327, p = .000) and the greater the percentage of White SWD, the less the rate of exclusion (r = -.526, p = .000).

Table 3:

Pearson Correlation Matrix: Composite Indices by Predictor Variables

	Placement Category	Distract Disability Population	Expenses per ADA	Percent Eligible FRPM	Percent Black	Percent Hispanic	Percent White
INCLUSION	Total ICI (r)	-264	.141	-.027	-.223	-.023	.327
	Sig.	.000	.000	.434	.000	.538	.000
	N	836	844	843	535	713	723
	MMN ICI (r)	-.202	-.106	-.021	-.169	.002	-.219
	Sig.	.000	.002	.543	.000	.952	.000
	N	837	847	846	538	715	724
	EN ICI (r)	-.100	.161	-.042	-.185	-.136	.371
	Sig.	.000	.000	.225	.000	.000	.000
	N	830	851	850	542	717	721
EXCLUSION	Total ECI (r)	-320	-.245	-.034	.363	.262	-.526
	Sig.	.000	.000	.329	.000	.000	.000
	N	837	839	838	530	710	722
	MMN ICI (r)	-.253	-.179	.034	.333	.249	-.441
	Sig.	.000	.000	.324	.000	.000	.000
	N	837	839	838	530	710	722
	MMN ICI (r)	.100	-.261	.025	.288	.278	-.495
	Sig.	.004	.000	.468	.000	.000	.000
	N	830	836	835	528	711	719

Linear Regression Analysis

From the single order correlations in Table 3, several emerge as potential variables to help explain the variance in rate of inclusion and exclusion. Only the relationship between the percentage of White SWD and the percentage of Hispanic SWD suggest multicollinearity (r = -.86). As such, they do not appear together in any multiple linear regression analyses. No other multicollinearity exists between variable pairs. Additionally, since there appears to be no significant relationship between FRPM and any of the six composite indices, the percentage of FRPM was left out of our predictive models. Results of the multiple linear regression for all students in the six composite placement categories included 80% or more of the day in a general education setting, indicated that there was a collective significant effect between the percentage of White students, the percentage of Black students, per pupil expenditure, and total SWD, $F(4, 449) = 20.7$, $R = .395$, $p < .001$ (see Table 4). The multiple linear regression for all students in the six composite placement categories who are educated less than 40% of the day in general education, or who are educated in a completely separate setting, indicated that there was a collective significant effect between the percentage of White students, percentage of Black students, per pupil expenditure, and total SWD, $F(4, 450) = 63.95$, $R = .602$, $p < .001$ (see Table 5). For complete results, please see full report.

Table 4: Summary of Linear Regression Analyses for Variables Predicting Total Inclusion Composite Index

	Total Inclusion Composite Index	
Variable	B (SE)	β
Total enrollment of students with disabilities	-1.00 (.000)	-.106*
Expenditures per ADA	4.39 (.000)	.196**
Percentage of Black SWD	-.238 (.099)	-.115*
Percentage of White SWD	.139 (.031)	-.219**
R	.395 (p=.000)	
R^2 (Adjusted)	.148	
F (df1, df2)	20.7 (4,449)	

Note. N = 454; 10. *p<.05 **p<.001

Table 5: Summary of Linear Regression Analyses for Variables Predicting Total Exclusion Composite Index

	Total Inclusion Composite Index	
Variable	B (SE)	β
Total enrollment of students with disabilities	6.14 (.000)	.089*
Expenditures per ADA	3.02 (.000)	-.184**
Percentage of Black SWD	.30 (.063)	.198**
Percentage of White SWD	-.20 (.020)	-.424**
R	.602 (p=.000)	
R^2 (Adjusted)	.357	
F (df1, df2)	63.95 (4,450)	

Note. N = 454; 10. *p<.05 **p<.001

Discussion

Results of this analysis suggest significant variability in placement of SWD across districts including those with both mild/moderate and extensive needs, as well as relationships associated with both race and placement and expenditure and placement. These results provide some insight into placement practices and the interpretation of current policy related to placement of SWD. These results must be interpreted carefully and considered within the entire context of special education practice, policy, and funding in California.

Descriptive analysis and the GIS mapping analysis demonstrate variability in placement among all disability categories represented in the composite indices. The maps suggest that districts that are geographically near each other seem to have disparate practices in placement, with some districts including higher percentages of students with EN and other neighboring districts including little to no students with EN in general education settings. In addition, descriptive analyses show low rates of inclusion in general education for students with EN across the state. Results suggest the need to address placement guidelines and regulations, as well as the need to provide additional resources, such as personnel and professional development, to support the inclusion of students with EN in general education classrooms.

In this analysis, placement was significantly related to race and expenditure in some way. Specifically, when the percentage of Black SWD increased, inclusion decreased, and exclusion increased. The converse was evident as the percentage of White SWD in the district increased, with inclusion increasing and exclusion decreasing. While the percentage of Hispanic SWD and increases in exclusion were evident in the correlation analysis, it did not result in a statistically significant relationship in the regression analysis. These results must be interpreted cautiously as they cannot be tied to student-level phenomena. For example, we cannot state that Black SWD in particular districts are more likely than other SWD to be included or excluded, only that we see trends in the percentage of Black SWD and inclusion or exclusion in the district. That said, the results clearly suggest the need to further investigate issues of race and placement in our increasingly diverse state. Targeted research at the district and school levels may provide the necessary insight and support in the interpretation of these results.

As with race, expenditure per ADA shared a strong relationship with inclusion and exclusion, suggesting that, as expenditures rise, so does inclusion, and similarly, as expenditures decrease, exclusion increases. It is essential to avoid the assumption that these results suggest that inclusion is "more expensive," as the data for expenditure are not disaggregated to show exactly how much of that money is spent supporting SWD. However, it does suggest that better resourced school districts may provide increased opportunities for access to regular classes for SWD. Results on expenditure indicate a need to address the necessary funding for personnel, professional development, and additional resources that support a shift toward inclusive practices. Although inclusive education may not necessarily be more expensive, districts and schools will need additional funding to support the transition from separate settings to inclusive classrooms, or to support pilot inclusion models that can then be replicated across the district. Thus, there is a clear need for policy that addresses increased funding for inclusive practices.

Conclusion

Access to regular classes for all SWD, particularly those with EN who are often educated in placements outside the general education setting, is not only a pressing global issue (Ainscow & Cesár, 2006), but an issue across the United States and in California. To attend to inequities in access, we must understand the factors that contribute to these inequities and then systematically address them. This requires a multipronged approach that focuses on factors at the classroom, school, district, and state level. Furthermore, specific policy guidance and support is essential. ***California has the opportunity to act as a leader in working toward increased access for SWD, focusing on the students who traditionally lack access, such as students with autism, intellectual disability, multiple disabilities, and emotional behavioral disabilities.***

References

1. Ainscow, M., & Cesár, M. (2006). Inclusive education ten years after Salamanca: Setting the agenda. European Journal of Psychology of Education, 21, 231–238. doi:10.1007/BF03173412
2. Brock, M. E., & Schaefer, J. M. (2015). Location matters: Geographic location and educational placement of students with developmental disabilities. Research and Practice for Persons With Severe Disabilities, 40, 154-164. doi:10.1177/1540796915591988
3. California Department of Education. (2017). District-Level Data for Districts in California. Sacramento, CA: Assessment, Evaluation and Support Unit of the Special Education Division.
4. Cosier, M., & Causton-Theoharis, J. (2010). Economic and demographic predictors of inclusive education. Remedial and Special Education, 32, 496-505. doi:10.1177/0741932510362513
5. Cosier, M., White, J., & Wang, Q. (2018). Examining the variability in general education placements for students with intellectual disability.International Journal of Whole Schooling, 14(2), 16-52. Retrieved from http://www.wholeschooling.net/Journal_of_Whole_Schooling/IJWSIndex.html
6. Donovan, M. S., & Cross, C. T. (Eds.). (2002). Minority students in special and gifted education.Washington, DC: National Academies Press.
7. Drudy, S., & Kinsella, W. (2009). Developing an inclusive system in a rapidly changing European society International Journal of Inclusive Education, 13, 647-663. doi:10.1080/13603110802106170
8. Fierros, E. G., & Conroy, J. W. (2002). Double jeopardy: An exploration of restrictiveness and race in special education. In D. J. Losen & G. Orfield (Eds.), Racial inequity in special education (pp. 39-70). Cambridge, MA: Harvard Educational Press.
9. Irvine, A., Lupart, J., Loreman, T., & McGhie-Richmond, D. (2010). Educational leadership to create authentic inclusive schools: The experiences of principals in a Canadian rural school district. Exceptionality Education International, 20, 70-88. Retrieved from https://ir.lib.uwo.ca/eei/vol20/iss2/7
10. Kurth, J., Morningstar, M., & Kozleski, E. (2014). The persistence of highly restrictive special education placements for students with low-incidence disabilities. Research and Practice for Persons With Severe Disabilities, 39, 227-239. doi:10.1177/1540796914555580
11. Morningstar, M., Kurth, J., & Kozleski, E. (2014). The persistence of restrictive placements for students with low-incidence disabilities. Research and Practice for Persons With Severe Disabilities, 39, 227-239. doi:10.1177/1540796914555580
12. National Council on Disability. (2015). Breaking the school-to-prison pipeline for students with disabilities. Retrieved from https://www.ncd.gov/system/files_force/Documents/NCD_School-to-PrisonReport_508-PDF.pdf
13. O'Connor, C., & Fernandez, S. D. (2006). Race, class, and disproportionality: Reevaluating the relationship between poverty and special education placement. Educational Researcher, 35(6), 6-11. doi:10.3102/0013189X035006006
14. Porter, G. L. (2004). Meeting the challenge: Inclusion and diversity in Canadian schools. Education Canada, 44(1), 11-13. Retrieved from https://www.edcan.ca/articles/meeting-the-challenge-inclusion-and-diversity-in-canadian-schools/
15. Sauer, J., & Jorgensen, C. (2016). Still caught in the continuum: A critical analysis of least restrictive environment and its effects on placement of students with intellectual disability. Inclusion, 4(2), 56-74. doi:10.1352/2326-6988-4.2.56
16. U.S. Department of Education. (2017). IDEA section 618 data products: State level data files. Retrieved from https://ideadata.org/idea-section-618-data-products
17. Yell, M. (2015). The law and special education (4th ed.). New York, NY: Pearson.

Contact Us:

tpi@chapman.edu

www.chapman.edu/tpi