



Understanding Types of Inclusion for Students with Disabilities in Grades 7-11

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Utah Education Policy Center
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Executive Summary

Study Overview

The Utah Education Policy Center, as part of a research-practice partnership with the Utah State Board of Education (USBE), conducted this study to investigate the inclusionary practices for students receiving special education services in grades 7–11 in Utah schools from 2016 to 2023. This study supports the USBE and Local Education Agency efforts to develop inclusionary practices to provide a full educational opportunity to all students (34 CFR §300.109). In addition, this research on inclusionary practices for students with disabilities aligns with the principles of the Individuals with Disabilities Education Act (IDEA), which emphasizes educating students in the least restrictive environment to promote equitable access to the curriculum, foster peer interactions, and improve academic, social, and long-term outcomes.

This study compares two measures of inclusion, which we refer to as *placement level* and *curriculum type*. *Placement level* is the expected percentage of time that a student will spend in general education as opposed to special education settings, is prescribed to students by an Individualized Education Program (IEP) team, and is at one of three levels: 0–39%, 40–79%, or 80–100%. In contrast, *curriculum type* refers to the classes in which a student is enrolled and is defined as the intersection of education type (general versus special) and class type (core versus non-core). For this study, course codes were used to distinguish between general education (Gen Ed) and special education (SpEd) as well as between core (i.e., math, science, language arts, and social studies) and non-core (e.g., art, music, physical education, etc.) classes. For each student in a given school year, we calculated the percentage of classes taken in each of the four curriculum types. We then compared the average percentage of classes of each curriculum type across the three placement levels. The analysis examines variations in these percentages by grade level, school year, and disability category. Finally, it evaluates the relationship between inclusion in Gen Ed classrooms, particularly core classes, and student achievement, controlling for placement levels, prior academic performance, and demographic factors such as age, gender, race/ethnicity, low-income status, and English-language learner status.

Research Questions

The study addresses three primary research questions:

1. Among students receiving special education services, how are classes distributed between Gen Ed vs. SpEd, and core vs. non-core categories, at each of the three placement levels?
2. How do the patterns identified in RQ#1 vary by grade level, school year, and disability category?
3. What is the relationship between inclusion in Gen Ed settings, specifically core curriculum classes, and achievement test performance, controlling for prior achievement and other demographic variables?

Key Findings

The analysis revealed notable differences in curriculum type percentages across placement levels, grade levels, school years, and disability categories. Students in higher placement levels (80–100%)

consistently spent more time in Gen Ed classrooms for core and non-core curricula than those in lower placement levels. Students in higher grades spent a slightly larger proportion of their time in non-core curricula (Gen Ed and SpEd) than in core curricula. Over time, a modest yet positive trend emerged, indicating increased inclusion of students receiving special education services in Gen Ed classrooms (core and non-core). While placement level differences remained consistent across grades and years, they were slightly less pronounced in higher grades and more recent school years. Additionally, greater inclusion in Gen Ed core curriculum settings was associated with higher scores on standardized assessments, including the ACT, Utah Aspire +, and DLM.

Implications and Considerations

The findings highlight the potential benefits of inclusionary practices, with time spent in Gen Ed core classrooms positively linked to higher achievement outcomes. This suggests that rigorous Gen Ed curricula can enhance academic performance for students with disabilities. However, as an observational study, these results cannot confirm causation, emphasizing the need for careful interpretation and further research to address unmeasured factors. Effective inclusion requires adequate support, as not all students thrive in Gen Ed environments without it. Teachers may face challenges accommodating diverse needs, underscoring the importance of professional development, targeted resources, and classroom support. Future research should also explore whether certain student subgroups, such as those with lower prior achievement, benefit equally from inclusion or might require alternative approaches. Schools can promote inclusion by expanding access to Gen Ed core classrooms while ensuring necessary support, such as co-teaching models, paraprofessionals, and individualized interventions. Regular monitoring and evaluation are essential to align placement decisions with IDEA principles and to refine inclusionary efforts. Collaboration among educators, families, and policymakers is key to creating flexible, sustainable inclusion models that meet the diverse needs of all students.

Report Organization

The report is organized into four main sections. The first section provides a background, highlighting the importance of including students receiving special education services in Gen Ed settings and summarizing existing research on this topic. The second section outlines the study's methodology, including details on the sample, measures, data sources, and analytical approaches. The third section presents the results, focusing on answering the research questions, including patterns of inclusion rates across placement levels, grade levels, school years, and disability categories, as well as the relationship between inclusion percentages and academic outcomes. The final section discusses the implications of the findings, offers considerations for practice to support students receiving special education services in Gen Ed settings, and addresses the study's limitations.

1 | Study Background

The Utah Education Policy Center, as part of a research-practice partnership with the Utah State Board of Education (USBE), conducted this study to investigate the inclusionary practices for students receiving special education services in grades 7–11 in Utah schools from 2016 to 2023. This study supports the USBE and Local Education Agency efforts to develop inclusionary practices to provide a full educational opportunity to all students (34 CFR §300.109), as outlined in the Utah State Board of Education Special Education Rules, which were most recently amended and adopted by the Board in June 2023. In addition, this research on inclusionary practices for students with disabilities aligns with the core principle of the Individuals with Disabilities Education Act (IDEA, 2004). This act mandates that students with disabilities be educated in the "least restrictive environment" (LRE) alongside their non-disabled peers to the maximum extent appropriate.

Nationally, inclusion levels are often reported within one of three *placement levels* based on the percentage of time students are expected to spend in Gen Ed settings: 0–39%, 40–79%, or 80–100%. Student placement in Gen Ed settings is designed to reflect each student’s individualized learning needs while ensuring meaningful access to the Gen Ed curriculum. IDEA requires individualized placement decisions made by the student’s Individualized Education Program (IEP) team.

To date, there is limited information about how these placement levels translate into actual classroom experiences in practice and outcomes in Utah schools. Moreover, while the inclusion of students receiving special education services in Gen Ed classes may vary by the type of curriculum—core subjects like math, language arts, social studies, and science versus non-core subjects like art, music, and physical education—these patterns are not well understood in Utah.

Structural factors and demographic trends may influence inclusion patterns. For instance, inclusion rates may decline as students progress to higher grades, where classroom environments and curricula may differ significantly from those in lower grades. Evolving policies and practices over time may also influence student inclusion patterns. Similarly, differences across disability categories are important to consider. For instance, while students with autism have seen increased placement in Gen Ed classrooms, students with intellectual disabilities remain predominantly in segregated settings, with fewer than 20% receiving most of their education in inclusive environments (Morningstar et al., 2017). Students with significant cognitive disabilities (SCD) who are eligible for alternative assessments are also disproportionately placed in self-contained classrooms, further limiting their exposure to Gen Ed settings (Kleinert et al., 2015).

Research on the inclusion of students with disabilities in Gen Ed classes highlights significant academic, social, and long-term benefits. Academically, inclusive settings often lead to improved outcomes, with students in these environments generally outperforming peers in segregated settings (Dessemontet et al. 2012; Gee et al. 2020; Hehir et al., 2016; McMahan et al., 2016; Oh-Young & Filler, 2015; Ruijs & Peetsma, 2009; Zagona et al., 2022). For example, Dessemontet et al. (2012) found that students with intellectual disabilities in inclusive classrooms achieved higher scores in vocabulary and grammar comprehension than a matched comparison group of students with intellectual disabilities in special schools, while Ruijs and Peetsma (2009) reported neutral to positive effects on academic achievement for both students with disabilities and their non-disabled classmates. However, persistent achievement gaps remain between students with disabilities and their typically developing

peers (Gilmour et al., 2019). Some studies, such as Malhotra (2024), found no direct impact on test scores but observed increased graduation rates, indicating broader benefits of inclusion over time.

Socially, inclusion fosters a sense of belonging, peer acceptance, and improved social skills for students with disabilities (McMahon et al., 2016; Stefánsdóttir & Björnsdóttir, 2016). These settings promote collaboration and tolerance, benefiting all students by reducing stigma and fostering positive attitudes (Jameson et al., 2022; Yin et al., 2022; Kart & Kart, 2021). Long-term impacts are also notable, with inclusive education linked to better postsecondary outcomes, including employment, independent living, and further education opportunities (Baer et al., 2011; Joshi & Bouck, 2017; Test et al., 2009; Theobald et al., 2019). While the success of inclusion depends on factors such as teacher preparedness, the nature of disabilities, resources, and effective instructional strategies (Alquraini, 2012; Chhabra et al., 2010; Eisenmen et al., 2015), the evidence suggests that inclusionary practices not only support the academic growth of students with disabilities but also enhance their social and long-term prospects, contributing to more equitable educational experiences.

This Study

This study provides a comprehensive understanding of how students receiving special education services experience inclusion in Utah schools. It examines whether students' actual classroom experiences align with their assigned placement levels and investigates how inclusion differs between Gen Ed core curriculum classes (i.e., math, language arts, science, and social studies) and non-core curriculum classes (e.g., art, music, physical education). Additionally, it explores how inclusion patterns vary across grade levels, school years, and disability categories. Finally, the study examines the relationship between inclusion—particularly in core curriculum classrooms—and academic performance on standardized tests, considering prior academic achievement and demographic factors. By exploring these questions, the study provides meaningful insights into inclusionary practices and their implications for students receiving special education services.

Research Questions

The study addresses three primary research questions:

1. Among students receiving special education services, how are classes distributed between Gen Ed vs. SpEd, and core vs. non-core categories, at each of the three placement levels?
2. How do the patterns identified in RQ#1 vary by grade level, school year, and disability category?
3. What is the relationship between inclusion in Gen Ed settings, specifically core curriculum classes, and achievement test performance, controlling for prior achievement and other demographic variables?

The methods used to address these questions are discussed in the next section.

2 | Methods

Data

This study utilizes data from Utah State Board of Education (USBE), which were available through a Master Data-Sharing Agreement between the USBE and the Utah Education Policy Center (UEPC).¹ We extracted class enrollment, special education, demographic, and achievement data for students with disabilities in grades 7 through 11² for eight academic years (2016-2023).³

Table 1: The Number and Percentage of Students with Disabilities by School Year, Grade Level, Disability, and Placement Level

	Counts (n)	Percentage (%)
By School Year		
2015-2016	27,890	11.55
2016-2017	28,681	11.87
2017-2018	29,236	12.1
2018-2019	30,033	12.43
2019-2020	30,613	12.67
2020-2021	31,303	12.96
2021-2022	31,859	13.19
2022-2023	31,957	13.23
By Grade Level		
7	54,350	22.5
8	51,448	21.3
9	48,380	20.03
10	45,447	18.81
11	41,947	17.36
By Disability		
Learning Disability	146,010	60.44

¹ The Utah Education Policy Center has a Master Data Sharing Agreement with the Utah State Board of Education for use of education data for evaluation and research purposes. The UEPC adheres to terms of the Master Data Sharing Agreement, including terms of use, confidentiality and non-disclosure, data security, monitoring, and applicable laws, and the University of Utah Institutional Review Board provisions, for the purposes of educational evaluations and research. The UEPC also adheres to FERPA regulations to protect student privacy. Consistent with FERPA and data share agreements, the UEPC does not report data for samples with fewer than 10 students. In addition, the UEPC does not report any personally identifiable information.

² This study focuses on grades 7–11 because grade 7 is the first level at which specific classes (e.g., math, science) are recorded in detail. Grade 12 was excluded from the analysis due to variability in student enrollment, as some students receiving special education services remain in this grade for additional years to complete life skills and career preparation training.

³ To ensure clarity and consistency in the analysis, we excluded students attending “separate” schools, as the definition of placement (percentage of time spent in a Gen Ed or non-exclusively special education classroom) is less applicable to such settings. Our final sample includes only students whose environment code indicates attendance at a regular school.

Other Health	35,085	14.52
Autism	21,621	8.95
Speech/Language	13,324	5.52
Intellectual	11,259	4.66
Emotional-Behavioral	8,010	3.32
Multiple	2,936	1.22
Hearing Impairment	1,183	0.49
Brain Injury	984	0.41
Visual Impairment	669	0.28
Orthopedic	422	0.17
Deafblind	69	0.03
By Placement Level		
80-100%	141,268	58.48
40-79%	78,651	32.56
0-39%	21,653	8.96
Total	241,572	100

Table 1 presents the total number of students by school year, grade level, disability category, and placement level. While the study sample contains 241,572 total records, it represents 85,647 unique students. Many students appear in multiple school years. The number of students with disabilities increases over the school years but decreases as grade levels progress. Learning disabilities are the most common category of disability identified, followed by other health impairments, autism, speech/language impairments, and intellectual disabilities. The majority of the students (58%) are assigned to the highest placement level in Gen Ed (80–100%). These descriptive statistics provide an essential overview of the distribution and characteristics of the students analyzed in this study.

Analytic Approach

To categorize classes taken by students, we used course codes to distinguish between Gen Ed and SpEd as well as between core and non-core curriculum classes. SpEd courses were identified by the code "23," either at the beginning or in the 7th and 8th characters of the course code (an 11-digit code used by the USBE). Gen Ed courses were defined as any course without a SpEd identifier in its course code. Core curriculum classes included subjects that are typically required for all students, including math, science, language arts, and social studies. Non-core classes encompassed all courses not classified as core, including courses such as physical education, art, music, and other electives. Appendix A provides some examples of each curriculum type. For each student and academic year, we calculated four percentages reflecting *the percentage of classes* in each curriculum type: *Gen Ed-core*, *Gen Ed-noncore*, *SpEd-core*, and *SpEd-noncore*. Appendix B illustrates an example enrollment schedule for an 11th-grade student in the 2015-2016 academic year and the calculation of percentages of classes in each curriculum type for this student.⁴

⁴ Utah's high school graduation requirements mandate a minimum of 24 credits over four years, equating to approximately 6 credits per year. Since most high school courses are worth 0.5 credits per semester, students typically enroll in about 6 classes per semester, totaling 12 classes per year. However, many students take additional courses, such as electives or advanced options, which can increase their enrollment to 7 or 8 classes per semester, totaling 14-16 classes per year.

To address RQ#1 (“How are classes distributed between Gen Ed vs. SpEd, and core vs. non-core categories, at each of the three placement levels?”), we computed the mean percentage of classes students take in each of the four curriculum types by placement level. We conducted ANOVA and regression analyses to determine whether the mean percentage of classes in each curriculum type differed significantly across placement levels.

To answer RQ#2 (“How do the patterns identified in RQ#1 vary by grade level, school year, and disability category?”), we calculated the mean percentage of classes in each curriculum type for each grade level, school year, and disability category. Regression analyses were then used to assess the main effects of these factors (grade level, school year, and disability category) and their interactions with placement level. These analyses allowed us to explore whether the relationships between placement levels and the percentage of classes in each curriculum type varied across grade levels, school years, or disability categories.

Finally, to explore RQ#3 (“What is the relationship between inclusion in Gen Ed settings, specifically core curriculum classes, and achievement test performance?”), we conducted analyses focusing on three measures of academic performance: ACT scores, Utah Aspire Plus (UA +) scores, and Dynamic Learning Maps (DLM) scores. These analyses were carried out for relevant grade levels in the 2021–2022 and 2022–2023 academic years.

ACT

For ACT scores, we analyzed data for 11th graders in 2021–2022 and 2022–2023, using their 10th-grade UA+ scores as a baseline (previous year) control due to the strong correlation between UA+ and ACT scores. The models predicted 11th-grade ACT scores based on the percentage of time students spent in Gen Ed-core classrooms while controlling for prior-year UA+ scores. Placement level was also included as a control variable because it reflects the proportion of time a student is expected to spend in Gen Ed settings, which could confound the relationship between inclusion and academic performance.⁵ UA+ scores were calculated as the average of the three subject areas (math, language arts, and science) to create a composite score. Additional covariates included student demographics such as race/ethnicity, English-language learner (ELL) status, eligibility for free or reduced-price lunch, gender, and age. These covariates reduced the risk that the observed relationship between Gen Ed-core classroom participation and ACT performance was confounded by other factors, providing a clearer understanding of how classroom inclusion is related to academic outcomes.

Utah Aspire Plus

In addition to ACT scores, we analyzed Utah Aspire Plus (UA +) scores for 10th graders in the same academic years (2021–2022 and 2022–2023). These models used 9th-grade UA+ scores as the baseline control and included placement level as well as the same demographic covariates as the ACT analyses. As with the ACT analysis, UA+ scores were calculated as a composite of the three subject areas. This approach allowed us to assess whether inclusion in Gen Ed-core classrooms is associated with academic performance earlier in high school.

⁵ One of the main threats to internal validity in this analysis (i.e., inferring a cause-effect relationship between inclusion and achievement) is that inclusion may not be a cause but rather simply an indicator of greater academic ability. We control for academic ability in part by using UA+ scores as a covariate, but placement level adds another layer of control by accounting for the large differences in test scores between students in different placement levels.

Dynamic Learning Maps

Finally, we examined Dynamic Learning Maps (DLM) scores for students in grades 7–11 for the 2021–2022 and 2022–2023 academic years. The DLM is an alternative assessment given to students designated as having significant cognitive disabilities. DLM scores were analyzed using proficiency levels (1, 2, 3, 4), as no raw scores were available. Composite scores were created by averaging the proficiency levels for the three subject areas (math, language arts, science). Models predicted the composite DLM scores based on the percentage of time students spent in Gen Ed-core classrooms, while controlling for prior-year DLM proficiency level, placement level, and the same demographic covariates as in the previous analyses. The inclusion of these analyses provided additional insights into the relationship between classroom inclusion and academic outcomes for students with extensive support needs.

Analytic Models

Table 2 describes each model and outcome variable used in the analyses, including sample sizes, outcome ranges, baseline control variables, and relevant grade levels. Sample sizes for these analyses are smaller than those in earlier sections because the sample was limited to students in the relevant grades who had complete data, including both current-year and prior-year test scores (used as baseline controls), as well as non-missing data on key demographic variables. For ACT and UA+, raw composite scores were used, with ACT ranging from 1–36 and UA+ from 100–300. In contrast, DLM scores were based on proficiency levels (1–4), as raw scores were unavailable. Multilevel regression analyses were employed to account for clustering at the school level, ensuring that the data's nested structure (students within schools) was appropriately modeled. This approach allowed us to estimate the relationship between inclusion and academic performance more accurately while controlling for school-level factors that could influence the results.

Table 2: Description of Analytic Models

	ACT		UA +		DLM	
	21-22	22-23	21-22	22-23	21-22	22-23
Sample Size	2,425	2,689	3,288	3,665	1,562	1,737
Outcome means	14.92	14.66	168.14	165.54	1.71	1.72
Outcome range	1 - 36		100 - 300		1 - 4	
Grade Levels	11		10		7-11	
Baseline control	10 th Grade UA + scores (previous year)		9 th Grade UA + scores (previous year)		DLM proficiency level (previous year)	
Other covariates	Placement level, gender, race, age, low income, ELL					
Analysis	Multilevel regression models					

3 | Results

The results section begins with an examination of the overall percentages of students in different curriculum types across the entire sample. Following this, we compare these percentages across placement levels to explore how inclusion differs by the time students are expected to spend in Gen Ed settings. Next, we analyze how these percentages vary by grade level, school year, and disability category, shedding light on trends and patterns over time and across groups. Finally, we present findings on the relationship between inclusion in Gen Ed settings—particularly core curriculum classes—and achievement test performance, focusing on how classroom experiences are associated with academic outcomes.

Curriculum Types

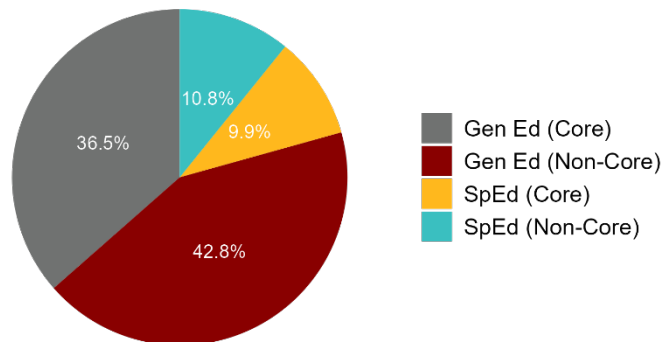
Table 3 shows that, on average, students with disabilities in grades 7–11 take approximately 16 different classes in an academic year, with the number of classes increasing slightly as students progress to higher grade levels.⁶

Table 3: The Mean Number of Classes Taken by Grade Level

Grade Level	Mean Number of Classes Taken
7	15.38
8	15.28
9	15.73
10	16.18
11	16.10

Figure 1 displays the average percentages of curriculum types across the entire sample, illustrating the typical distribution of courses for students in grades 7–11 receiving special education services. On average, 36.5% of the courses these students take are Gen Ed core curriculum classes (equivalent to approximately 5–6 classes per year). Gen Ed non-core classes comprise the largest share of classes taken at 42.8% (around 6–7 classes per year). Meanwhile, SpEd core classes account for 10% (1–2 classes per year), and SpEd non-core classes represent 11% (also about 1–2 classes per year).

Figure 1: Percent of Classes in Each Curriculum Type

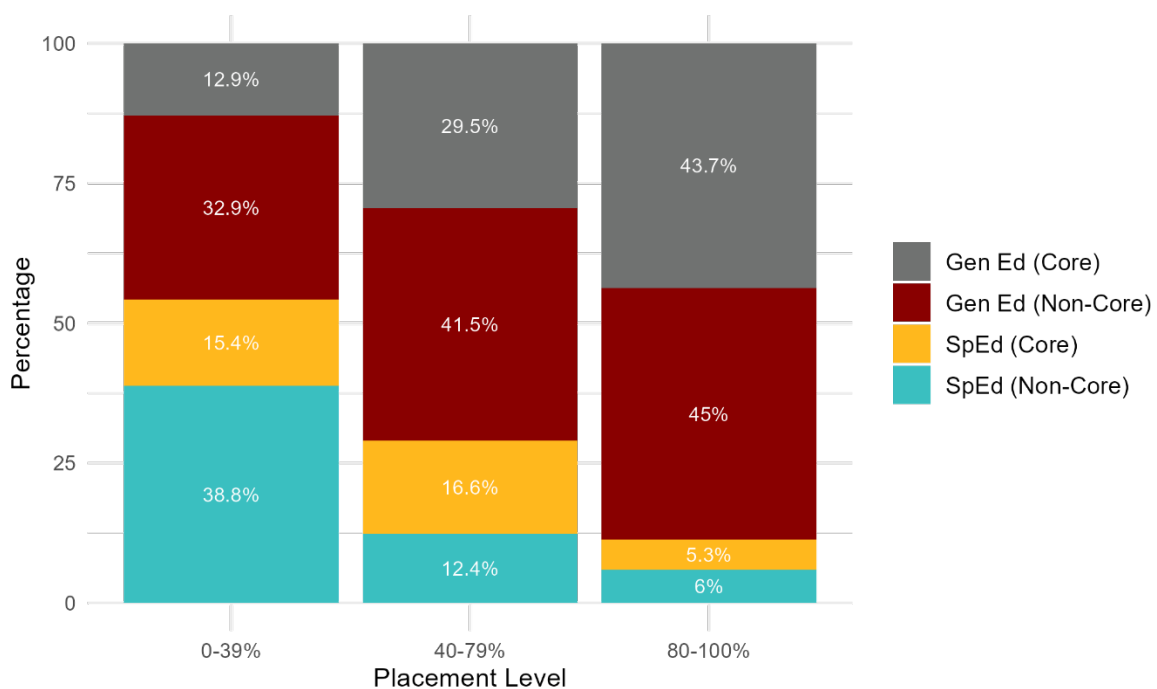


⁶ The average number of classes per year is slightly inflated because some schools operate on a quarter rather than a semester system, leading to a higher total number of classes. Additionally, year-long courses in both semester and quarter systems are counted multiple times based on duration.

Placement Level Differences across Curriculum Types

The distribution of curriculum types differs significantly across placement levels (0–39%, 40–79%, and 80–100%). As shown in Figure 2, students in higher placement levels spend a larger proportion of their time in Gen Ed classes, while their time in SpEd classes decreases. Specifically, the mean percentage of time spent in Gen Ed-core and Gen Ed-noncore classes increases with placement level, whereas the percentages for SpEd-core and SpEd-noncore classes decline. Statistical analyses, including ANOVA and regression models, confirm that the percentage of time spent in each of the four curriculum types was significantly different across placement levels. These findings highlight the strong relationship between placement levels and the type of classroom settings in which students are enrolled.

Figure 2: Percent of Classes in Each Curriculum Type by Placement Level

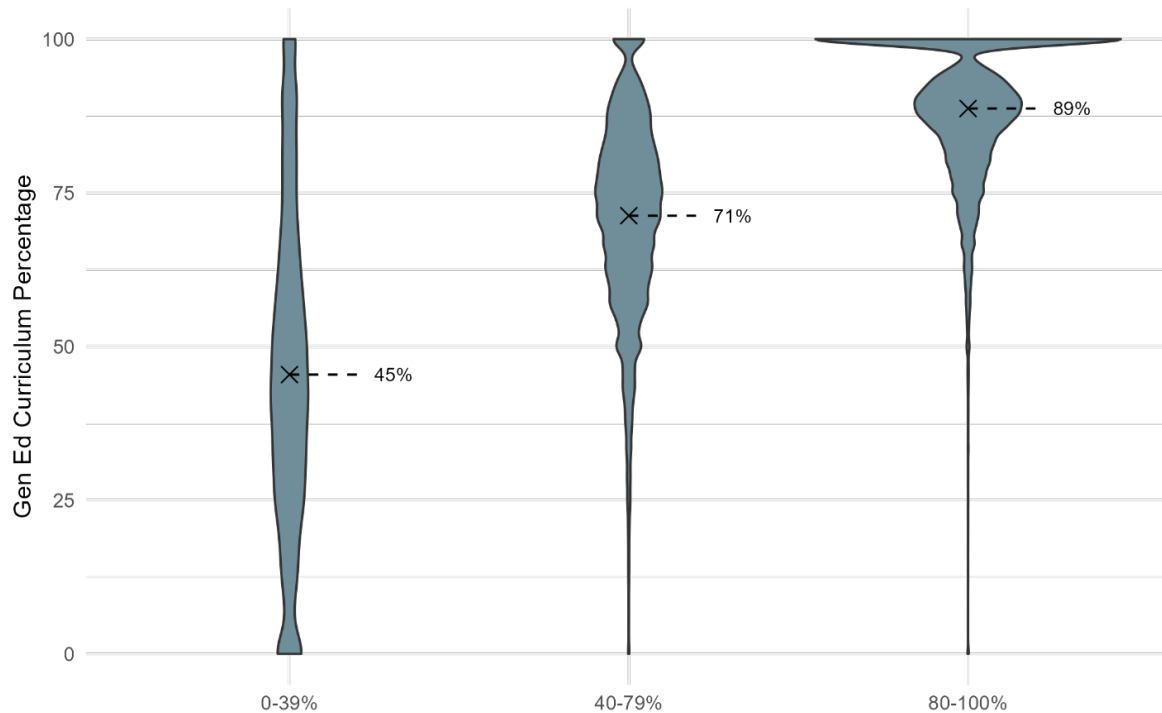


Note: “Placement Level” refers to the three-level designation assigned to students by their Individualized Education Program team, whereas the four curriculum types (Gen Ed core, etc.) are based on course enrollments.

These results also indicate a strong alignment between placement levels and students’ time in the Gen Ed curriculum. Figure 3 illustrates the relationship between placement levels (0–39%, 40–79%, and 80–100%) and the actual percentages of time students spend in Gen Ed curriculum classes (core + noncore), using a violin plot to show the distribution of Gen Ed percentages across these levels. In a violin plot, the width of the colored area reflects the relative proportion of students, with the widest areas showing concentrations of students and the narrowest areas indicating few students. The mean Gen Ed percentage for each placement level is also highlighted: 45% for the 0–39% group, 71% for the 40–79% group, and 89% for the 80–100% group. A notable finding is that the mean Gen Ed percentage for the 0–39% placement level (45%) exceeds the upper limit of its range, suggesting that, on average, students in this group spend more time in Gen Ed curriculum settings than the placement level

descriptor implies. However, the 0–39% group also exhibits substantial variation in Gen Ed percentages, as indicated by the wide distribution in the violin plot (Figure 3). This variability underscores the diverse classroom experiences within this placement level, which may reflect differences in school practices or individual student needs.

Figure 3: Percent of Classes in Gen Ed Curriculum by Placement Level



Grade Level Differences

As shown in Figure 4, the mean percentage of time spent in core classes (both Gen Ed and SpEd) declines as grade level increases, while the percentage of time spent in non-core classes (both Gen Ed and SpEd) increases. This trend may reflect structural changes in curriculum or shifts in available course offerings as students advance to higher grades. For example, some students may complete core requirements in earlier grades and no longer need to take as many core classes. Additionally, high school students often enroll in classes within specific Career and Technical Education (CTE) pathways, such as agriculture, business, finance, marketing, health, engineering, technology, or human services, which are classified as non-core and become more accessible in later grades. The trends may also reflect changes in the percentage of students with specific disability categories across grade levels. Specifically, the percentage of students receiving special education services who have a speech/communication disability declines sharply from 4th grade to 11th grade, while the percentage of students with learning disabilities increases with grade level. A change in the "disability profile" of special education students across grade level could be partly responsible for the decline in the percentage of time spent in Gen Ed core classes from 4th to 11th grade. Regression analyses confirm that these changes are statistically significant. Figure 5 uses predicted mean percentages from regression models to illustrate the general relationship between grade level and time spent in different curriculum types.

Figure 4: Percent of Classes in Each Curriculum Type by Grade Level

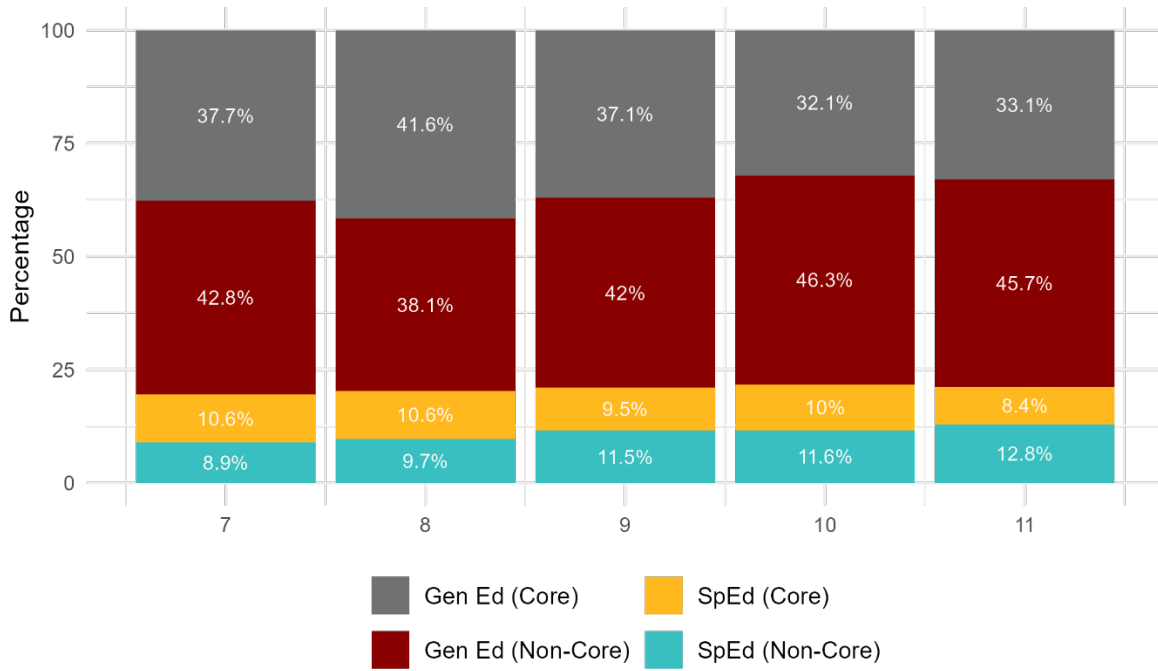
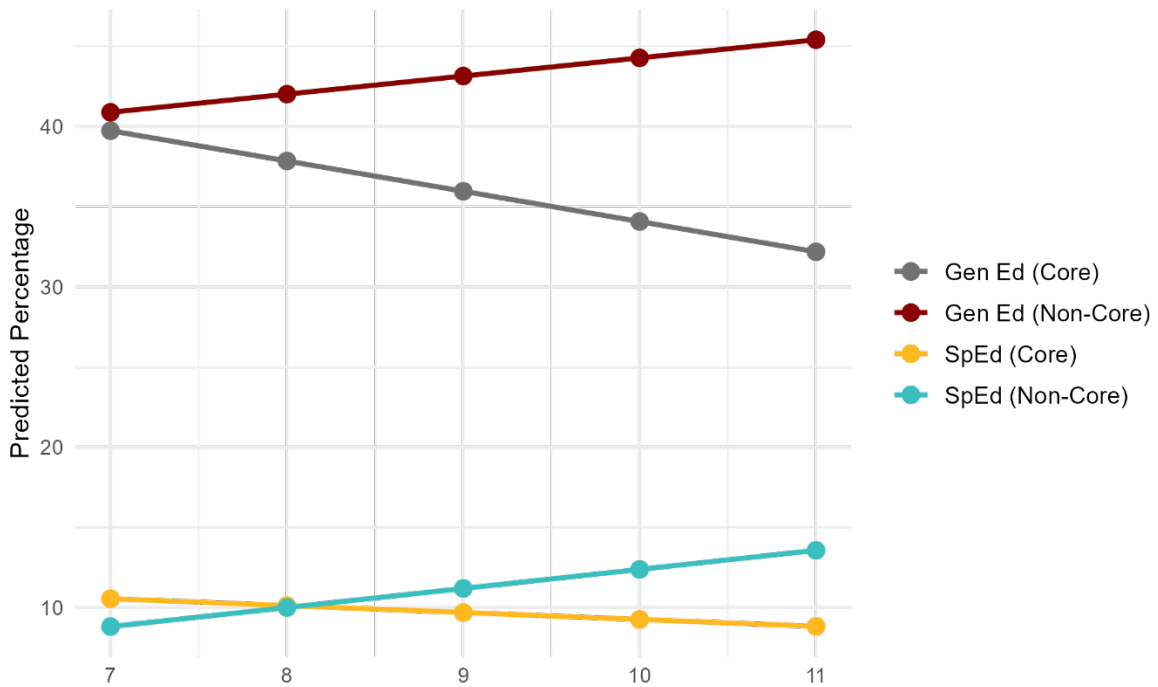
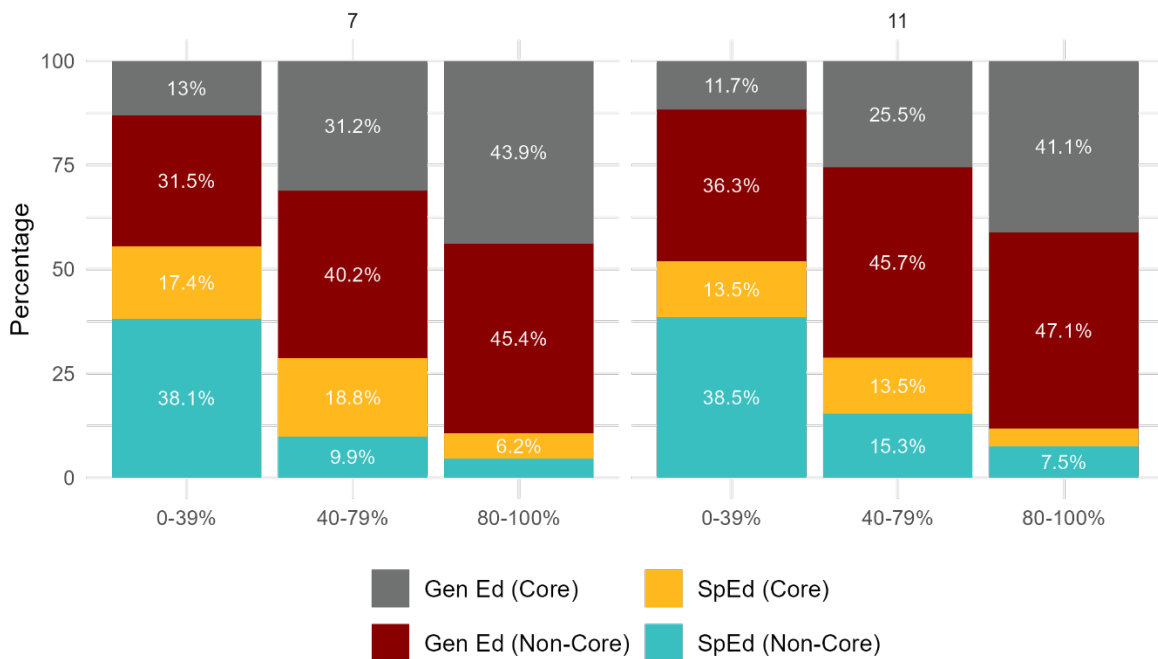


Figure 5: Predicted Mean Percentages by Grade Level



Although the overall relationship between placement level and curriculum types depicted in Figure 2 remains consistent across grade levels, regression analyses reveal a small but statistically significant interaction between placement level and grade level. Specifically, as grade level increases, the differences among placement levels in the percentage of time spent in particular curriculum types become slightly less pronounced. For instance, Figure 6 compares the distribution of curriculum types across placement levels for 7th and 11th graders. Among 7th graders, the Gen Ed-core percentage increases significantly across placement levels, from 13% in the 0-39% category to 31.2% in the 40-79% category and 43.9% in the 80-100% category. In contrast, for 11th graders, this increase is more gradual, from 11.7% to 25.5% and then 41.1%. These findings suggest that placement level differences across curriculum types may diminish slightly in higher grade levels. Appendix C shows placement level differences in curriculum types for all grades analyzed.

Figure 6: Placement Level Differences in Curriculum Types for 7th and 11th Grades



School Year Differences

As shown in Figure 7, global trends across school years reveal an encouraging pattern for inclusion: the mean percentages of time spent in Gen Ed classes (both core and non-core) have gradually increased from 2016 to 2023, while the percentage of time spent in SpEd classes (core and non-core) have declined. These trends suggest a modest but positive shift toward greater inclusion of students receiving special education services in Gen Ed classes over time. Regression analyses confirm that these changes in curriculum type percentages across school years are statistically significant. Figure 8 illustrates the regression-predicted percentage of time spent in each of the four curriculum types over the analyzed school years.

Figure 7: Percent of Classes in Each Curriculum Type by School Year

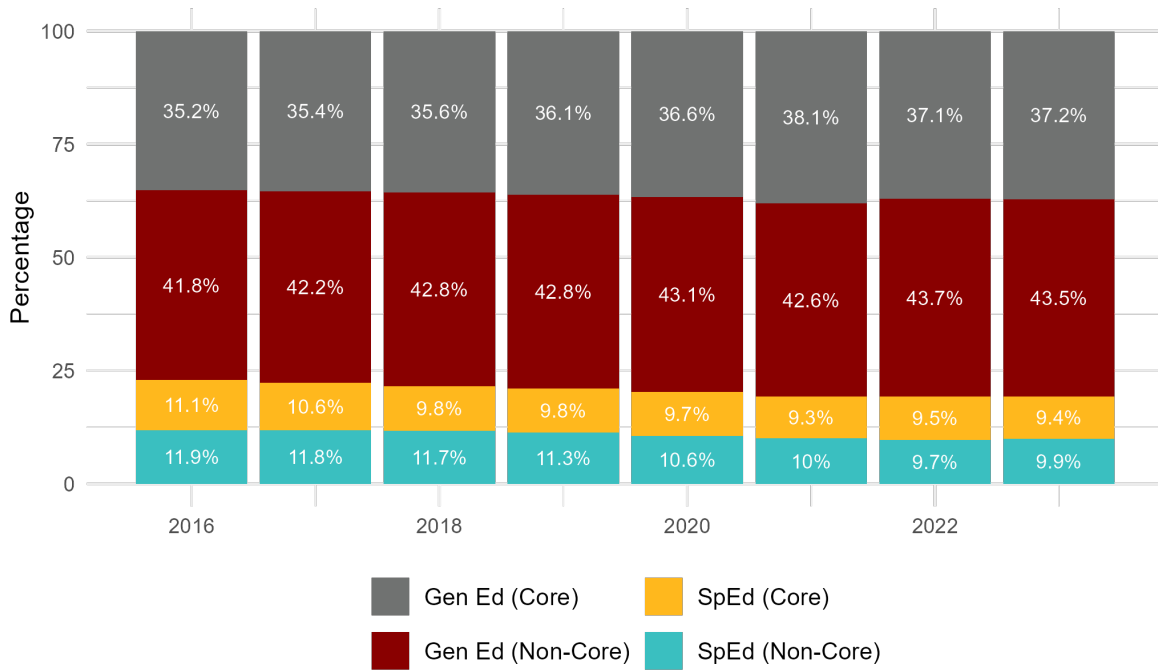
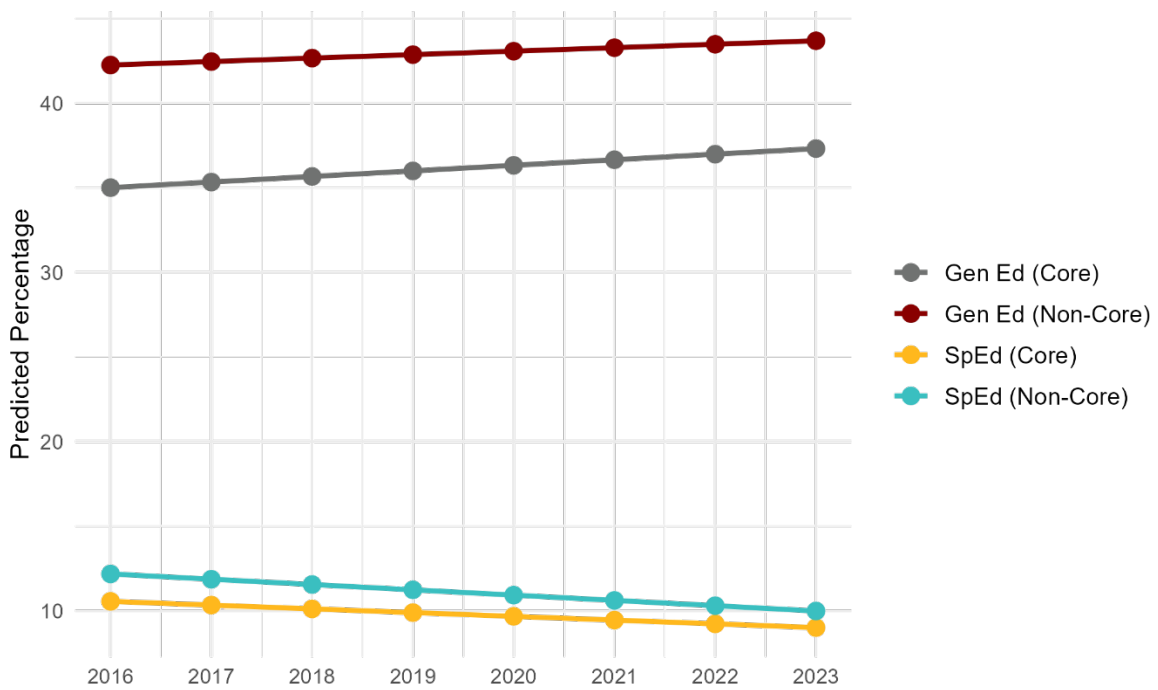
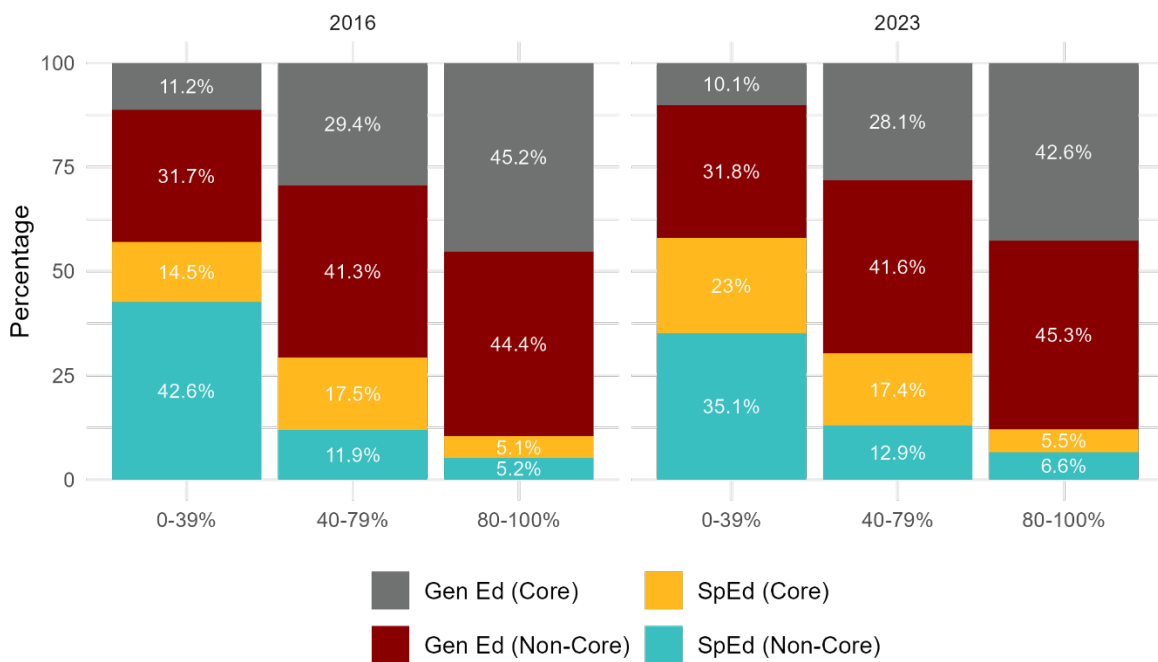


Figure 8: Predicted Mean Percentages by School Year



Similar to grade level variations, the overall relationship between placement level and curriculum types remains consistent across school years. However, regression analyses reveal a small but statistically significant interaction between placement level and school year. Specifically, as school years progress, the differences across placement levels become stronger for some curriculum types and weaker for others. For example, Figure 9 compares the distribution of curriculum types by placement level for the 2016–2017 and 2022–2023 academic years. Over time, there had been a slight shift from Gen Ed core to Gen Ed non-core among the highest placement group (80-100%) and from SpEd non-core to SpEd core among the lowest placement group (0-39%). These findings suggest nuanced shifts in the inclusion patterns for different curriculum types as placement levels and school years interact. Appendix D shows placement level differences in curriculum types for all years analyzed.

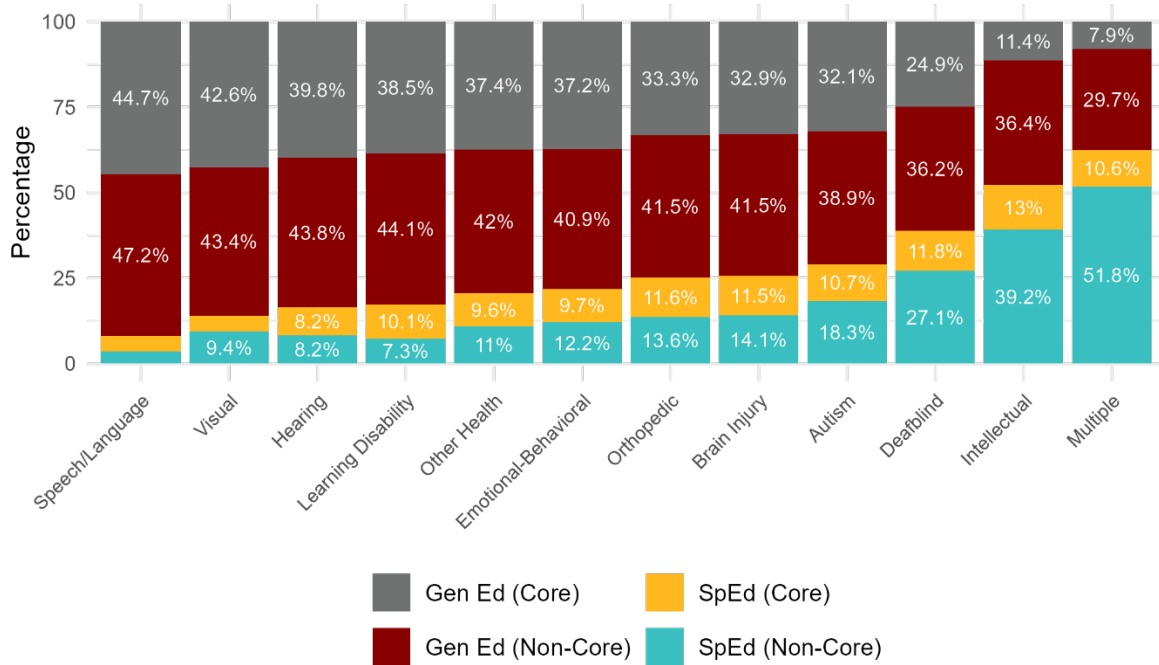
Figure 9: Placement Level Differences in Curriculum Types for 2015-2016 and 2022-2023 School Years



Differences by Disability Category

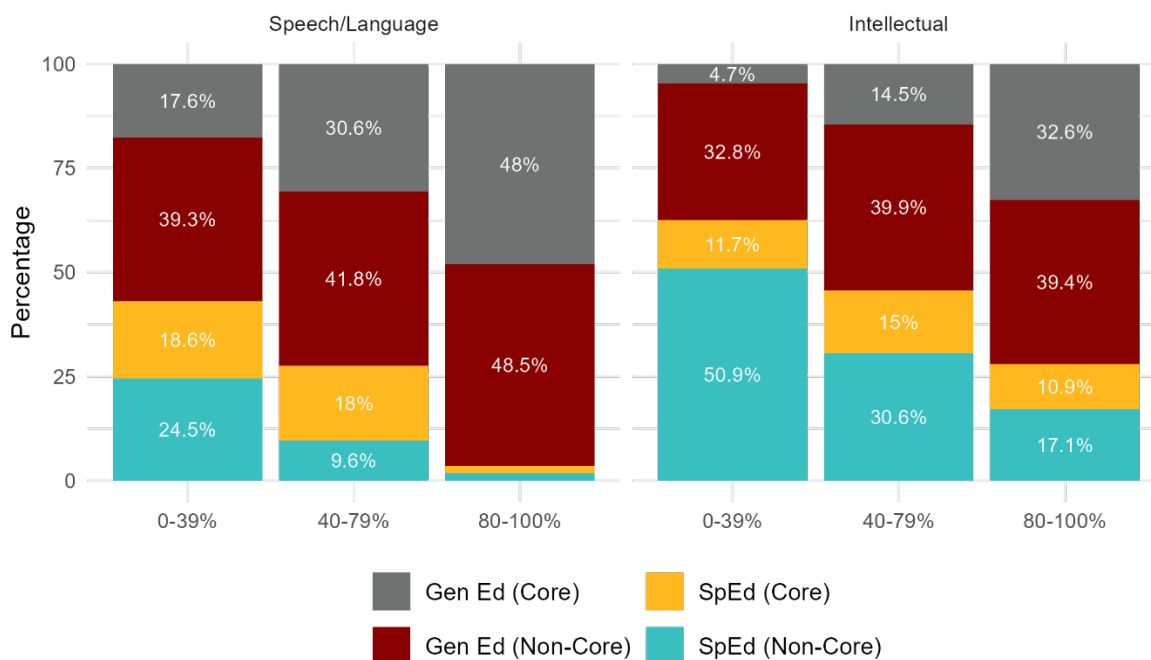
Analyses reveal that the percentage of time spent in each curriculum type (Gen Ed core, Gen Ed non-core, etc.) varies significantly across different disability categories. As shown in Figure 10, students with disabilities such as speech/language impairments, visual impairments, and hearing impairments spend a higher proportion of their time in Gen Ed environments (both core and non-core). In contrast, students with disabilities such as deaf-blindness, intellectual disabilities, and multiple disabilities are more likely to spend a greater proportion of their time in SpEd environments (both core and non-core).

Figure 10: Percent of Classes in Each Curriculum Type by Disability Category



Regression analyses reveal that the relationship between placement level and the percentage of time spent in each curriculum type varies significantly by disability category. For example, Figure 11 compares the percentage of time spent in each curriculum type by placement level for students with speech/language impairments and those with intellectual disabilities. Among students with speech/language impairments, the mean percentage of time spent in SpEd-core classes decreases sharply as placement level increases, dropping from 18.6% at the lowest placement level (0–39%) to just 1.7% at the highest placement level (80–100%). In contrast, for students with intellectual disabilities, the decline in SpEd-core percentages is much less pronounced, with a slight decrease from 11.7% at the lowest placement level to 10.9% at the highest placement level. These findings suggest that for students with intellectual disabilities, the proportion of time spent in SpEd-core classes remains relatively stable across placement levels. Overall, these results underscore the significant role that disability categories play in shaping classroom experiences and the relationship between placement level and time spent in each curriculum type. Appendix E shows placement level differences in curriculum types for all disabilities.

Figure 11: Placement Level Differences in Curriculum Types for Speech/Language and Intellectual Disability Category



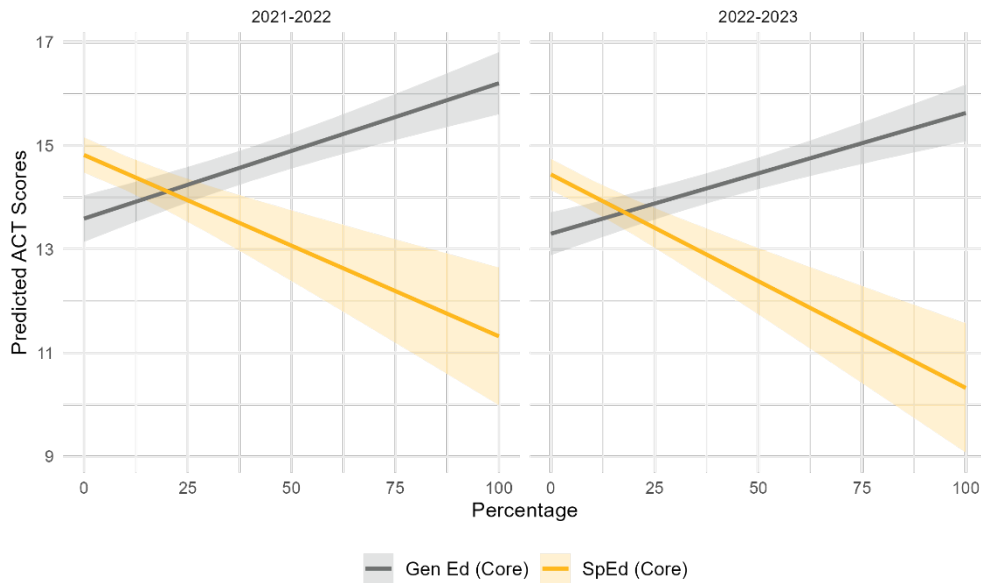
Inclusion and Academic Achievement

As described in the analytic approach section, to examine the relationship between inclusion in Gen Ed settings—specifically core curriculum classes—and academic performance (RQ3), we analyzed three measures of student achievement: ACT, UA +, and DLM scores. These analyses focused on relevant grade levels during the 2021–2022 and 2022–2023 academic years. Multilevel regression models were employed to account for the nested structure of the data (students within schools), providing more accurate estimates of the relationships. All models controlled for the achievement test score from the previous year, placement level, and key demographic variables, including race/ethnicity, ELL (English-language learner) status, eligibility for free or reduced-price lunch, gender, and age, to minimize confounding factors and better isolate the effects of inclusion on academic performance.

Inclusion and ACT Scores

Figure 12 shows how the percentage of classes in the core curriculum predicts ACT scores for 11th graders in 2021–2022 and 2022–2023. The results are consistent across both years: more time in Gen Ed core classes is linked to higher predicted ACT scores, while more time in SpEd core classes is linked to lower scores. A 25% increase in Gen Ed core time corresponds to about a 0.5-point ACT score increase, a statistically significant relationship even after accounting for prior scores, placement level, and demographics. These findings suggest a small but meaningful link between Gen Ed inclusion and academic achievement.

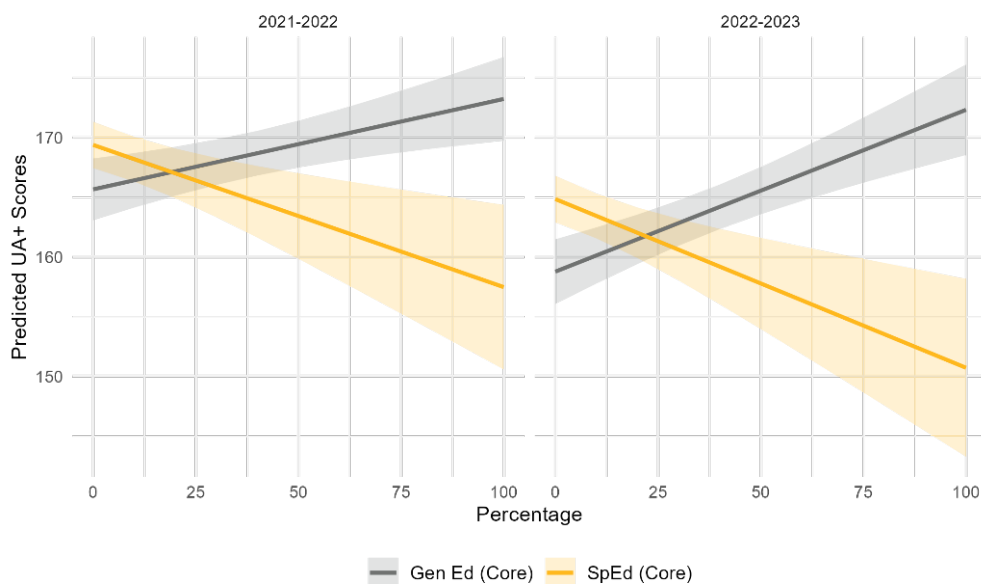
Figure 12: Predicted ACT Scores



Inclusion and UA + Scores

Figure 13 illustrates the predicted UA+ scores for 10th graders in the 2021–2022 and 2022–2023 academic years. Similar to the ACT findings, a higher percentage of time spent in Gen Ed core curriculum classes is associated with higher predicted UA+ scores, while a higher percentage of time spent in SpEd core curriculum classes is associated with lower predicted UA+ scores. The effect size indicates that a 25% increase in time spent in Gen Ed core curriculum corresponds to an approximate 3-point increase in predicted UA+ scores. This relationship is statistically significant, even when controlling for prior year’s score, placement level, and demographic factors. These results reinforce the connection between inclusion in the Gen Ed-core curriculum and academic performance, as measured by UA+ scores.

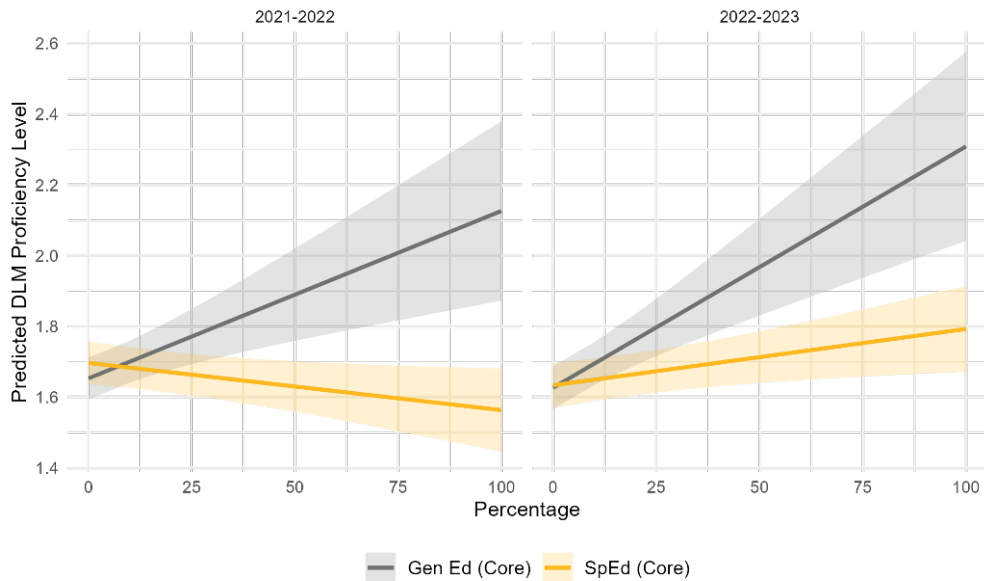
Figure 13: Predicted UA + Scores



Inclusion and DLM Scores

The findings for the effect of Gen Ed core curriculum on DLM scores were consistent and aligned with those observed for ACT and UA+ scores. In both the 2021–2022 and 2022–2023 academic years, a higher percentage of time spent in Gen Ed core curriculum classes was associated with higher predicted DLM scores (Figure 14). Specifically, a 25% increase in time spent in Gen Ed core curriculum corresponded to an approximate 0.1-point increase in predicted DLM scores (on the 1-4 DLM scale). However, the findings related to SpEd core curriculum were less consistent. In 2021–2022, a higher percentage of time spent in SpEd core curriculum was associated with lower predicted DLM scores, while in 2022–2023, the pattern reversed, with a higher percentage of time spent in SpEd core curriculum linked to higher predicted DLM scores. This inconsistency may be related to the unique characteristics of the sample used in these models, as students who take the DLM assessment differ from other students with disabilities in terms of needs and educational experiences. Additionally, caution should be exercised in interpreting these results because the outcome measure for DLM scores, based on proficiency levels (1–4), may not be ideal for regression analyses due to its limited range.

Figure 14: Predicted DLM Scores



4 | Discussion

This UEPC study examines the inclusion of students receiving special education services in Gen Ed classrooms, focusing on their participation in Gen Ed and SpEd classes for both core curriculum and non-core subjects. It investigates how inclusion varies by placement levels, grade levels, school years, and disability categories, providing a comprehensive overview of the classroom experiences of students in grades 7–11 in Utah schools. Additionally, the study evaluates the relationship between these inclusion patterns and academic performance, using ACT, UA+, and DLM scores as achievement measures.

Summary of Findings

The findings highlight meaningful patterns in the classroom experiences of students with special education needs. Students' time in Gen Ed and SpEd classes varied significantly by placement levels, grade levels, school years, and disability categories. Placement levels were strongly aligned with students' time in the Gen Ed curriculum (core and non-core), although the differences between placement levels were slightly less pronounced in higher grades and more recent school years. Special education students in higher grades tended to spend less time in core curriculum classes (both Gen Ed and SpEd) generally and more time in non-core classes. This reflects curriculum offerings and graduation requirements changes, including required credits for core vs non-core classes as students progress through grade levels.⁷ From 2016 to 2023, the percentage of time students spent in Gen Ed classes increased slightly, while time spent in SpEd classes showed a modest decline, indicating gradual shifts toward greater inclusion.

An analysis of disability categories revealed significant variations in classroom inclusion. Students with speech/language impairments, hearing impairments, and visual impairments spent a greater proportion of time in Gen Ed classrooms, while students with intellectual disabilities, multiple disabilities, and deafblindness spent more time in SpEd environments. Furthermore, the interaction between placement level and disability category highlighted distinct patterns. For instance, students with speech/language impairments showed a sharp decline in the percentage of time spent in SpEd-core curriculum as placement levels increased, indicating that placement level carries a great deal of weight for inclusion in Gen Ed for students with the speech/language disability. In contrast, students with intellectual disabilities demonstrated relatively consistent time spent in SpEd-core curriculum across placement levels, suggesting that placement level carries less weight for inclusion for these students. These findings emphasize the combined impact of disability category and placement level on inclusionary practices, indicating that a student's disability category significantly shapes the relationship between placement and curriculum type.

The analysis of academic outcomes further demonstrated that higher percentages of time in Gen Ed core curriculum classes were associated with modestly improved ACT, UA+, and DLM scores. Conversely, higher percentages of time in SpEd-core classes were generally associated with lower scores, though this relationship was less consistent for DLM outcomes. These findings suggest that

⁷ See general minimum graduation requirements provided by the Utah State Board of Education at <https://schools.utah.gov/curr/graduationrequirements>. Local education agencies may exceed state minimum requirements for graduation.

inclusion in Gen Ed core settings may support better academic performance, highlighting the potential academic benefits of inclusionary practices for students receiving special education services.

Implications of Findings

The findings emphasize the potential benefits of inclusionary practices in promoting equitable educational opportunities for students with disabilities. The statistically significant association between time spent in Gen Ed core classes and higher academic achievement outcomes suggests that access to Gen Ed curricula can support improved academic performance for these students. However, it is important to acknowledge that this study is observational, not experimental. While the analyses controlled for prior year achievement scores, placement levels, and demographic factors, unmeasured confounding variables (e.g., aspects of academic ability not captured by prior test scores or placement levels) may still influence the results. As such, these findings should be interpreted with caution, and the positive association between Gen Ed core inclusion and achievement outcomes should not be assumed to indicate causation.

Although the results suggest that Gen Ed core inclusion is associated with higher academic performance for students with disabilities, this study does not imply that all students should be placed in Gen Ed environments. Teachers in Gen Ed settings may feel underprepared to accommodate the diverse needs of students with disabilities or may struggle to effectively address a wide range of skill levels within the same classroom. Providing adequate training, resources, and support for Gen Ed teachers is essential to ensure successful inclusion.

The increasing trend of inclusion in Gen Ed classrooms observed in recent years in Utah aligns with the state's efforts to serve students with disabilities in the least restrictive environment, striving to provide educational settings that best meet each student's needs. However, it is also important to consider that other factors may contribute to or hinder this trend. For example, there have been efforts by USBE to increase high-quality practices for inclusion such as Utah's Portrait of Meaningful Inclusion for Students with Disabilities, and address conditions necessary to facilitate inclusion (e.g., leadership, fostering collaborative engagement among teachers in SpEd and Gen Ed) (Acree et al., 2023). In addition, the lack of resources for inclusion, including the availability of qualified educators, time for co-planning, or other supports (e.g., paraprofessionals, adaptive technology), could limit successful inclusion opportunities for students with disabilities. This study highlights the need for an intentional approach to inclusion that forefronts the individual needs of students combined with targeted resource allocations.

Considerations

To support inclusionary practices, schools should consider strategies for increasing access to Gen Ed core classrooms for students with disabilities. However, given the correlational nature of this study, it is important to approach such recommendations with caution. Future research, including randomized control trials or quasi-experimental (e.g., matching) approaches, could more directly assess the cause-effect relationship between inclusion and academic outcomes, providing additional evidence to guide policy and practice.

Given the current study, it may be helpful for schools and districts to receive annual reports of academic outcomes related to inclusion, which may help with the discovery and diffusion of strengths in this area and provide opportunities for improvement. This type of information may offer schools a chance to prioritize additional resources and instructional support to help students in lower placement levels transition into more inclusive settings. This might include co-teaching models, paraprofessionals, or targeted interventions to address specific learning needs. We encourage continued efforts for educators and IEP teams to receive professional learning to better understand the potential benefits of inclusion and to implement strategies that foster meaningful participation in Gen Ed environments, including opportunities for collaboration between the Gen Ed and SpEd teachers. However, these efforts should be guided by evidence to ensure that inclusionary practices genuinely benefit all students and do not unintentionally create challenges, such as overburdening Gen Ed teachers or failing to meet the individual needs of students with disabilities.

Regular monitoring and evaluation of inclusionary efforts are essential to align placement decisions with the state's and IDEA's principles and to identify areas for improvement. Future studies may continue to evaluate inclusion practices and outcomes to ensure that students with disabilities receive the support they need to thrive. Additionally, future research could explore whether certain subgroups of students benefit more—or less—from Gen Ed inclusion. For example, testing for interactions between prior achievement scores and Gen Ed core percentages could help identify whether students with particularly low prior scores derive the same benefits as their peers or might be better served in specialized environments. Moreover, while this study distinguishes Gen Ed inclusion between core and non-core classes, future research could delve into more detailed inclusionary practices within these categories. For example, exploring differences in inclusion between specific core subjects, such as math and social studies, or among non-core subjects like art and physical education, could offer deeper insights into the nuances of inclusionary practices. Furthermore, as inclusionary efforts continue to evolve, future research could explore qualitative aspects of inclusion and examine long-term outcomes (e.g., post-school outcomes) and outcomes beyond academic performance. Finally, fostering leadership and collaboration among teachers, administrators, families, and policymakers is critical for creating and sustaining inclusive educational environments that address the diverse needs of all students. This collaborative approach should continue to emphasize flexibility, allowing decisions to be tailored to individual students rather than applying a one-size-fits-all model of inclusion.

Limitations

While this study provides valuable insights into the inclusionary practices and academic outcomes of students receiving special education services, several limitations should be noted. First, the study is observational, not experimental, which limits our ability to infer causation between inclusion in Gen Ed classrooms and academic performance. Although we controlled for prior achievement scores, placement levels, and demographic factors, unmeasured confounding variables may still influence the observed relationships. For instance, factors such as teacher quality, school resources, or parental involvement could play a role in both inclusionary practices and student outcomes.

Second, the measures of inclusion used in this study were based on the percentage of time students spent in different types of classrooms. While this provides a broad view of inclusionary practices, it does not capture qualitative aspects of the educational experience, such as the quality of instruction, peer interactions, or access to appropriate supports in Gen Ed classrooms. Additionally, our analysis

relied on administrative data, which may not fully reflect the nuances of placement decisions or students' individual needs.

Finally, the analysis of academic outcomes was limited by the availability and nature of the assessment data. For ACT and UA+ scores, the use of composite scores provided a useful summary measure but may not capture subject-specific variations in performance. For DLM scores, the reliance on proficiency levels (1–4) instead of raw scores constrained the precision of the analyses, particularly given the limited range of the outcome measure.

Conclusion

This study provides valuable insights into the inclusion of students receiving special education services in Utah schools. The findings highlight the potential academic benefits of inclusion in Gen Ed classrooms while identifying areas where further progress is needed. By prioritizing inclusionary practices, providing targeted support, and fostering collaboration, schools can create equitable learning environments that empower all students to succeed.

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Appendix A: Examples of Four Curriculum Types

(Note: These are examples only and do not represent an exhaustive list of classes in each category.)

Table 4: Examples of Four Curriculum Types

	Core		Non-core	
Gen Ed	08020000010	<i>Biology</i>	02010000060	<i>Art Foundation</i>
	08040000010	<i>Earth Science</i>	03070000011	<i>Spanish</i>
	06020000020	<i>English</i>	04010000001	<i>Health Education</i>
	07080000090	<i>Secondary Math</i>	32020000170	<i>Digital Literacy</i>
	09050000030	<i>US History</i>	04020000030	<i>Fitness for Life</i>
	06020000050	<i>Language Arts</i>	39010000001	<i>College & Career</i>
SpEd	06020023020	<i>English (SpEd)</i>	23010000200	<i>Applied Skills</i>
	07080023070	<i>Math (SpEd)</i>	23010000120	<i>Study Skills</i>
	08020023010	<i>Biology (SpEd)</i>	04020023080	<i>Adapted PE</i>
	09050023050	<i>US History (SpEd)</i>	04010023010	<i>Health Education</i>
	09050023090	<i>World Civilization (SpEd)</i>	22010023008	<i>Life Skills</i>
	08042323010	<i>Earth Science (SpEd)</i>	23010000420	<i>Job Training</i>

Appendix B: Example Schedule and Calculation of Percentages

Table 5: Example Enrollment Schedule for an 11th Grade Student in 2015-2016 Academic Year

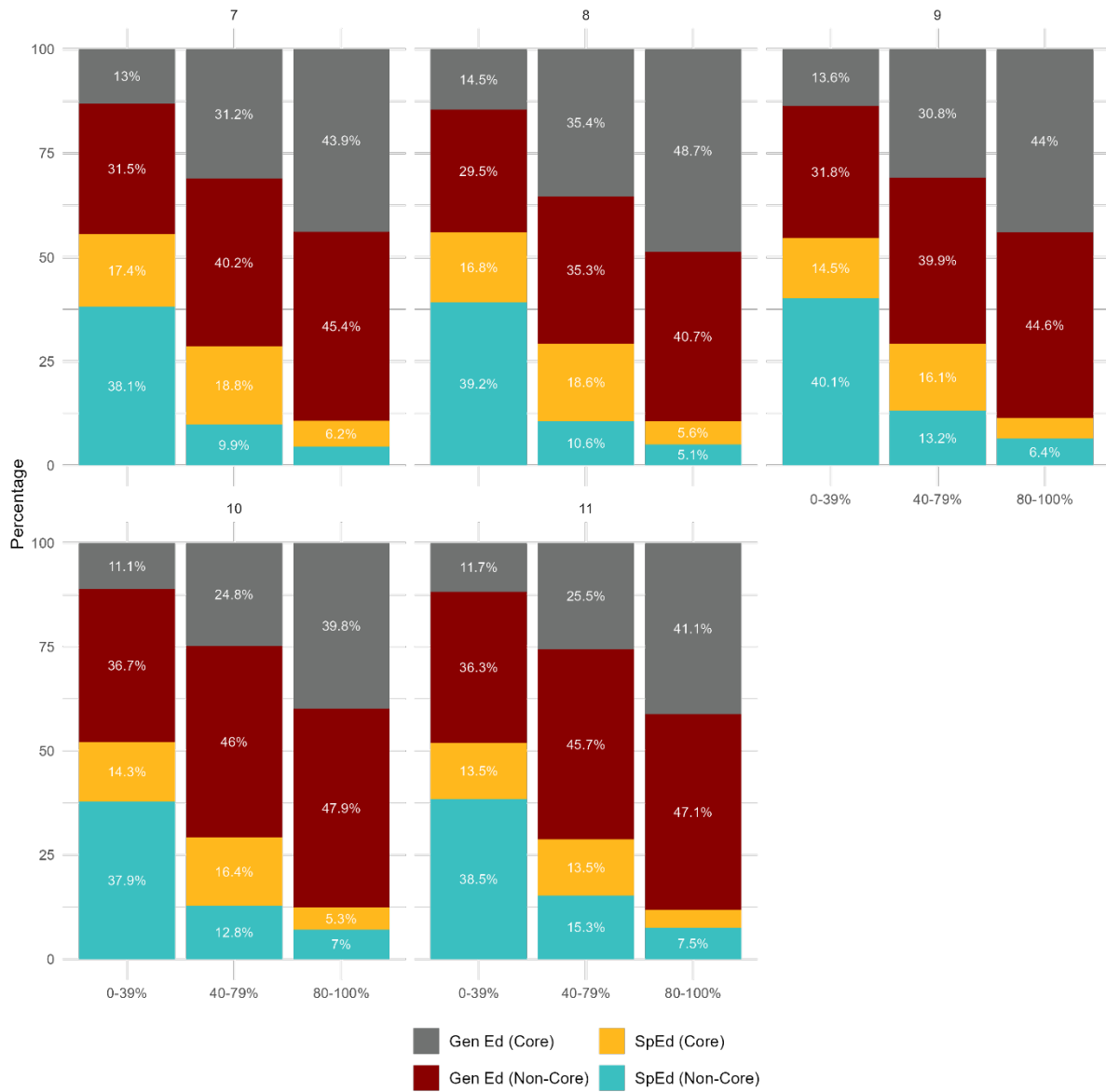
Class	Semester	Curriculum Type
<i>US History</i>	1	Gen Ed Core
<i>Secondary Math</i>	1	Gen Ed Core
<i>Food And Nutrition</i>	1	Gen Ed Noncore
<i>Financial Literacy</i>	1	Gen Ed Noncore
<i>Vehicle Technology</i>	1	Gen Ed Noncore
<i>Agriculture</i>	1	Gen Ed Noncore
<i>Woodworking</i>	1	Gen Ed Noncore
<i>English 11 (SpEd)</i>	1	SpEd Core
<i>US History</i>	2	Gen Ed Core
<i>Secondary Math</i>	2	Gen Ed Core
<i>Art & Graphic Design</i>	2	Gen Ed Noncore
<i>Pottery</i>	2	Gen Ed Noncore
<i>Agriculture</i>	2	Gen Ed Noncore
<i>Commercial & Advertisement</i>	2	Gen Ed Noncore
<i>English 11 (SpEd)</i>	2	SpEd Core
<i>Adapted Physical Education</i>	2	Sped-Noncore

Table 6: Example Calculation of Curriculum Type Percentages

Curriculum Type	Number of Classes Taken	Percentage of Total Classes
Gen Ed-Core	4	$(4 \div 16) \times 100 = 25\%$
Gen Ed-Noncore	9	$(9 \div 16) \times 100 = 56\%$
SpEd-Core	2	$(2 \div 16) \times 100 = 13\%$
SpEd-Noncore	1	$(1 \div 16) \times 100 = 6\%$
Total	16	100%

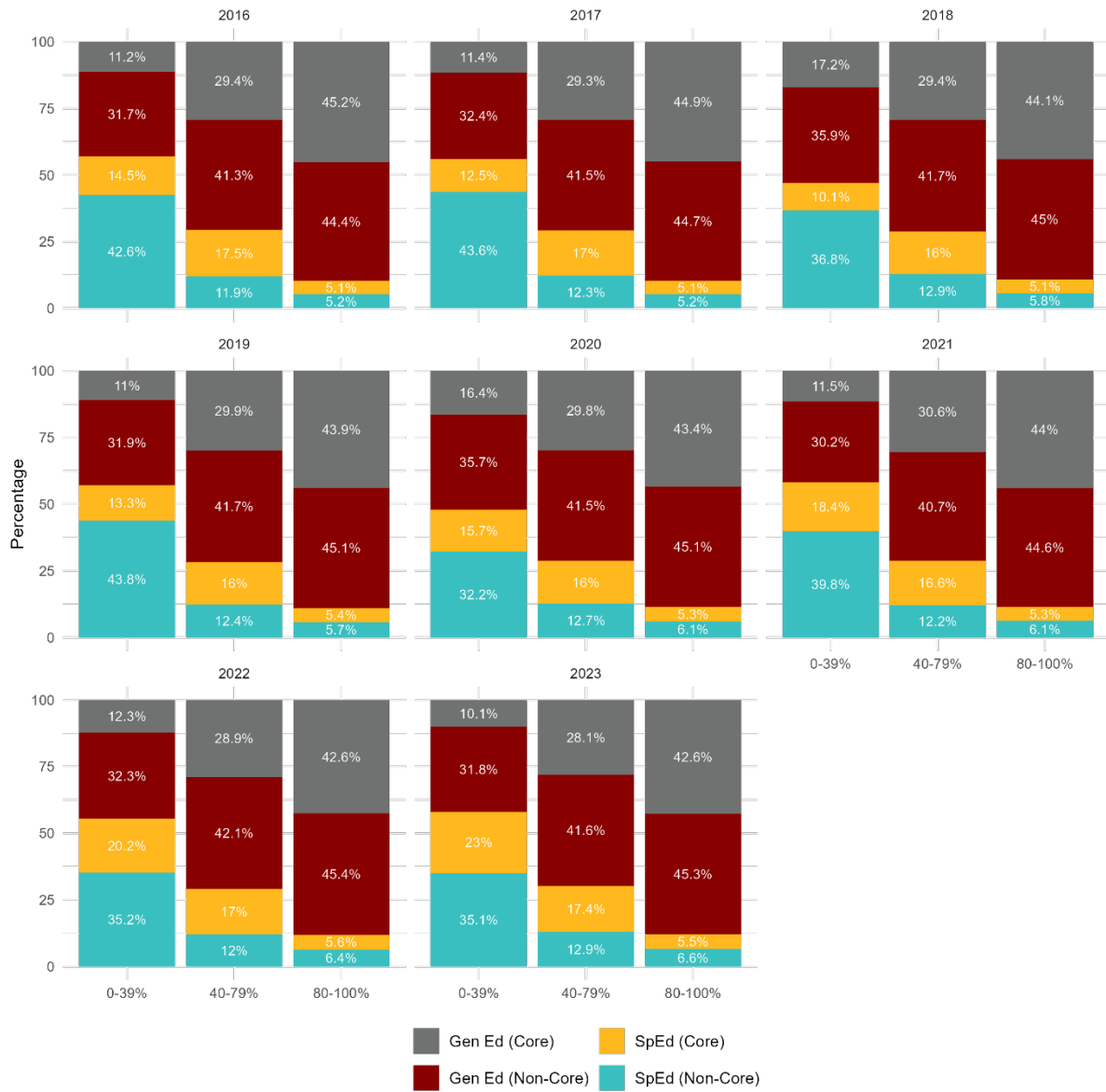
Appendix C: Interaction among Curriculum Types, Placement Level, and Grade Level

Figure 15: Interaction among Curriculum Types, Placement Level, and Grade Level



Appendix D: Interaction among Curriculum Types, Placement Level, and School Year

Figure 16: Interaction among Curriculum Types, Placement Level, and School Year



Appendix E: Interaction among Curriculum Types, Placement Level, and Disability Category

Figure 17: Interaction among Curriculum Types, Placement Level, and Disability Category

