DOCUMENT RESUME

ED 440 511 EC 307 801

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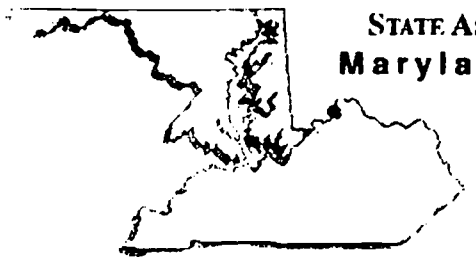
TITLE Characteristics of Students Who Participate in Kentucky's Testing System under Various Conditions. State Assessment Series, Maryland/Kentucky Report 4.

INSTITUTION National Center on Educational Outcomes, Minneapolis, MN.; Kentucky State Dept. of Education, Frankfort. Bureau of Vocational Education.

SPONS AGENCY Special Education Programs (ED/OSERS), Washington, DC.
PUB DATE 1999-08-00
NOTE 27p.
CONTRACT H023F50008
AVAILABLE FROM NCEO Publications Office, 350 Elliott Hall, 75 E. River Road, Minneapolis, MN 55455 ($8). Tel: 612-624-8561; Fax: 612-624-0879; Web site: http://www.coled.umn.edu/nceo.
PUB TYPE Reports - Research (143)
EDRS PRICE MF01/PC02 Plus Postage.
DESCRIPTORS Accountability; Black Students; *Disabilities; *Educational Assessment; Elementary Secondary Education; *Outcomes of Education; Racial Differences; Sex Differences; Standardized Tests; State Programs; *Student Participation; Tables (Data); White Students
IDENTIFIERS African Americans; European Americans; *Kentucky; Kentucky Instructional Results Information System; *Testing Accommodations (Disabilities)

ABSTRACT

This study used data from the Kentucky Instructional Results Information System (KIRIS) to evaluate the participation of students with disabilities in the state's comprehensive assessment system. Data on students in grades 4, 8, and 11 during the academic years 1994-1995 through 1996-1997 were collected and analyzed. Results are reported in terms of the following factors: (1) characteristics of students receiving accommodations (70 percent were male, 85 percent European American, 12 percent African American, and 88 to 95 percent had a disability); (2) characteristics of typical students participating in KIRIS with accommodations (most were European American males with a specific learning disability); (3) rates at which groups participate in KIRIS with accommodations (African Americans were more likely than European Americans to receive an accommodation although European Americans with disabilities were more likely than African Americans with disabilities to receive accommodations); and (4) which accommodations are used, and by whom (the most common accommodation was oral reading of the assessment and the least common was use of an interpreter). A concluding section notes trends such as greater use of accommodations in grade 4 than in grades 8 or 11 and greater use of accommodations in 1996-1997 than in previous years. Thirteen tables detail the study's findings. (DB)



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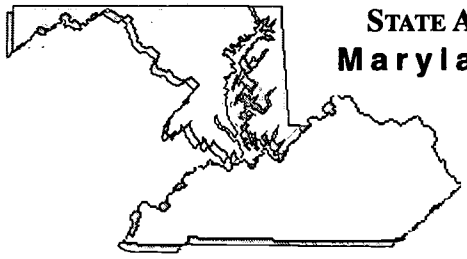

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Characteristics of Students Who Participate in Kentucky's Testing System Under Various Conditions

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August 1999

The Maryland-Kentucky-NCEO Assessment Project encompasses a comprehensive array of research studies on assessment accommodations and alternate assessment approaches that facilitate inclusion of all students in statewide assessment programs. The planned research program include:

- comparative studies involving a qualitative examination of the assessment systems in Kentucky and Maryland;
- studies that involve secondary analyses of existing data bases to address critical technical and implementation issues in the assessment of students with disabilities; and
- experimental field studies that involve the collection of new data to address several technical issues crucial to the development and modification of state assessment policies.

This project is supported, in part, by a grant to the Maryland State Department of Education from the U.S. Department of Education, Office of Special Education Programs (Grant #H023F50008). Opinions expressed herein do not necessarily reflect those of the U.S. Department of Education or Offices within it.

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Overview

During the past 10 years state departments of education increased their focus on results-based educational accountability. All but one state currently has specified standards that students, schools, and school districts are required to meet (American Federation of Teachers, 1997). Nearly all states are developing or using existing or customized assessments to ascertain the degree to which these entities are meeting established achievement standards. States are relying primarily on assessment results in their accountability systems.

The shift in focus to assessment and accountability has generated considerable debate about how students with disabilities should be included in such a system. The debate was quelled to some degree by federal acts and initiatives such as Goals 2000, the Improving America's Schools Act (IASA), and the Individuals with Disabilities Education Act (IDEA). Goals 2000 says that the national education goals are for all students, including students with disabilities. IASA refers to standards for *all* students and requires that states evaluate Title I programs using state assessment data. These data must include students with disabilities and disaggregate their performance when reporting to the federal agency.

The reauthorization of the Individuals with Disabilities Education Act (IDEA) in 1997 required that, beginning July 1, 1998, students with disabilities must participate in statewide assessment systems. As a condition of eligibility for federal funds, states are required to have policies and procedures to ensure that students with disabilities are included in general state and district-wide assessment programs, with appropriate accommodations where necessary. These policies undoubtedly will have an impact on the ways in which most states conduct their assessment programs.

States have traditionally excluded students with disabilities from their assessment systems. In contrast, some states (e.g., Maryland and Kentucky) have established track records of including students with disabilities in their assessment systems. Many state personnel, district superintendents, and others involved in state testing programs are looking to these states for information. One of the things they want to know is what kinds of students participate in their assessment systems, with and without accommodations. Another question often asked is about the kinds of accommodations used by students with various disabilities.

There are several reasons why including students with disabilities in state assessment systems is important beyond the obvious reason of meeting a federal mandate. Nationally, students with disabilities comprise about 10% of the K-12 student population. As with the other 90% of students, they have the right to all the opportunities, challenges, and rewards a public education can offer. Schools, districts, and states should be held as accountable for educating students with disabilities as they are for educating students without disabilities. The mechanism by which

these education entities are held accountable typically is through demonstrating progress toward well-defined standards. In most situations these standards are equally valid for students with disabilities as for those without (see Thurlow, Ysseldyke, Gutman, & Geenen, 1998). As such, students with disabilities should participate in the testing system to ensure that educational opportunities and resources offered in preparation for testing are afforded to students with disabilities.

Thurlow, Elliott, and Ysseldyke (1998) identified many reasons for wanting students with disabilities to participate in district or state assessments. In addition to meeting legal requirements, their participation helps us get an accurate and complete picture of education, and it keeps students with disabilities in the picture when policy decisions are made, especially system reform decisions, which are often related to the allocation of resources. Also, assessment information is used to make comparisons among school systems. To the extent that students with disabilities are excluded, erroneous comparisons result. Participation of all students helps avoid unintended consequences of exclusion, such as grade retention and referrals to special education. Allington and McGill-Franzen (1992) showed that both consequences are possible – implementation of high stakes assessments in New York resulted in both increased retention of students at grade level and increased referral of students to special education. Finally, participation in assessments facilitates high expectations for student performance. When students with disabilities are excluded from testing, it reflects a belief that they are not able to meet the expectations represented in the test. We lower the standards that students are expected to meet if we exclude them from standards-based assessment systems.

Kentucky is noteworthy for its efforts to ensure that its accountability system and its assessments are inclusive of all students. This intent is carried out through its design of a comprehensive system of accountability in which all students count in high stakes school accountability measures and in which participation in the regular assessment is maximized through policies about the use of accommodations. One result was the Kentucky Instructional Results Information System (KIRIS), which was designed to measure progress toward goals (Academic Expectations) using a variety of formats (Ysseldyke, Thurlow, Erickson, Gabrys, Haigh, Trimble, & Gong, 1996). Because of Kentucky's comprehensive system for including all students in its accountability system, it provides an excellent source of information about what happens when all students count.

The purposes of this study are three-fold. First, we wanted a picture of the characteristics of students who participate in Kentucky's testing system with and without accommodations. For example, of those students who received an accommodation, what percent were male and what percent were female? What percent of the students had a documented disability versus being on a 504 plan? Or, within a particular disability cluster, what percent are from the ethnic majority and what percent are from an ethnic minority group?

A second purpose of this study was to examine relative participation rates in KIRIS with and without an accommodation for students with various demographic characteristics. For example, what percent of males versus females received an accommodation? Analyses conducted in this manner allow us to determine directly whether certain groups of students tend to be over-represented among those receiving accommodations.

The final purpose of the study was to determine what accommodations or combinations of accommodations are used most often by students with various disabilities. For example, how many students with emotional/behavioral disabilities had the test read to them? This information can help other states anticipate the rates at which accommodations will be needed who will need them. Information about the kinds and frequency of various accommodations will also assist states in developing accommodations and in determining those accommodations on which they should focus more time, talent, and money.

It is important to clarify the distinction between the type of information derived when one uses the percent of *category by group* method and the percent of *group by category* method. Both approaches are useful, but they are useful for different purposes. When results are not correctly couched within the approach used, erroneous conclusions may result. The first approach is used when one wants to describe the composition of a program (in this case the composition of students taking KIRIS with an accommodation). Using this approach we can describe the general make up of the student body taking KIRIS with accommodations. For example, we can determine whether more are white males with emotional behavioral disorder or whether more are white females with mild mental retardation. These data are useful for determining the typical population using accommodations. The second approach, the percent of group by category, involves describing the use of accommodations by particular groups. For example, of those students with learning disabilities, how many have used accommodations and how many have not? This approach is particularly useful when a researcher, policymaker, or administrator wants to determine whether a given group is being over-represented in a particular program (in this case, using accommodations).

The analyses in this study were guided by a set of research questions that have been the topic of discussion among many educators, researchers, and state agency personnel. The first set of questions pertain to the characteristics of students receiving accommodations. (All are presented in the percent of *category by group* form). The category includes those students who received at least one accommodation, whereas the groups include gender, ethnicity, and having an IEP or a 504 plan. We also report the percent of students receiving at least one accommodation who are classified into one of a variety of disability clusters (e.g. emotional behavioral, mild mental retardation, or specific learning disability). In addition, we further subdivided gender into ethnic subcategories of European American and African American.

Analyses also were conducted to determine whether there was over-representation of various groups in the category of students receiving accommodations. These analyses are of the form percent of *group by category*. For example, we may want to know the percent of males vs. percent of females who took KIRIS with an accommodation. If a greater percent of males than females took KIRIS with an accommodation, then males would be considered to be over-represented in the accommodation category. Specifically, we evaluated over-representation of students by gender, ethnicity, ethnicity within gender, disability clusters, and gender and ethnicity within disability clusters.

In the last set of analyses we report the percent of students classified into various disability clusters who used specific kinds of accommodations. In these analyses we are reporting on the percent of group by category, where disability clusters are the groups, and the categories are the most common accommodations or combinations of accommodations or combinations of accommodations.

Method

Participants

We used extant data gathered on students in grades 4, 8, and 11 who participated in KIRIS during the academic years 1994-95, 1995-96, and 1996-97 (see Table 1). The data files used in this study excluded those students in these grades who did not participate in KIRIS during a given year; these are the students who participated in Kentucky's alternate portfolio.

In all three grades, most of the students (about 88%) were European-American (see Table 2). About 10% were African-American, and less than 2% were from other ethnic groups. There was a slightly greater percentage of males than females (51% vs. 49%) for all years and grades, except grade 11 in 1995-96 and 1996-97 (see Table 3).

Table 1. Number of Students in Grades 4, 8, and 11 Who Took KIRIS Each Year

Year	Grade 4	Grade 8	Grade 11
1994-1995	49,422	51,181	41,303
1995-1996	47,725	50,664	41,354
1996-1997	47,333	49,959	41,177

Table 2. Number and Percentage of African American, European American and Other Students in Grades 4, 8, and 11 Who Took KIRIS Each Year

Year	Grade 4 Number (Percent)	Grade 8 Number (Percent)	Grade 11 Number (Percent)
1994-1995			
African American	4,208 (8.5)	4,420 (8.6)	3,217 (7.8)
European American	42,501 (86.0)	44,160 (86.3)	35,648 (86.3)
Other	2,713 (5.5)	2,601 (5.1)	2,438 (5.9)
1995-1996			
African American	4,751 (10.0)	4,693 (9.3)	3,551 (8.6)
European American	41,812 (87.6)	44,488 (87.8)	36,458 (88.2)
Other	1,162 (2.4)	1,483 (2.9)	1,345 (3.3)
1996-1997			
African American	4,534 (9.6)	4,509 (9.0)	3,374 (8.2)
European American	40,925 (86.5)	43,324 (86.7)	35,829 (87.0)
Other	1,874 (4.0)	2,126 (4.3)	1,974 (4.8)

Table 3. Number and Percentage of Female and Male Students in Grades 4, 8, and 11 Who Took KIRIS Each Year

Year	Grade 4 Number (Percent)	Grade 8 Number (Percent)	Grade 11 Number (Percent)
1994-1995			
Female	23,615 (48.0)	24,750 (48.6)	19,708 (49.1)
Male	25,539 (52.0)	26,143 (51.4)	20,427 (50.9)
1995-1996			
Female	23,007 (48.3)	24,602 (48.8)	20,911 (50.7)
Male	24,625 (51.7)	25,861 (51.2)	20,372 (49.3)
1996-1997			
Female	23,058 (48.7)	24,276 (48.6)	20,921 (50.8)
Male	24,248 (51.3)	25,660 (51.4)	20,223 (49.2)

The percentage of students with disabilities receiving special education services (students with IEPs) and students having 504 plans decreased from the grade 4 to grade 11 (see Table 4). In 4th grade, approximately 10% of the students participating in KIRIS had an IEP, while about 1% had a 504 plan. By 8th grade only 8% of the students had an IEP and less than 0.5% had a 504 plan. And by 11th grade, the percentage of students with IEPs dropped to 5%, and the percentage of students with 504 plans dropped to 0.2%.

In Table 5, we summarize the number of students taking the test in each of three years by the disability category and grade. These provide the context for information on, for example, the kinds of students who receive accommodations. The large differences in the rates of different disabilities within special education are reflected in Kentucky's test participation data.

Table 4. Number and Percentage of IEP and 504 Students in Grades 4, 8, and 11 Who Took KIRIS Each Year

Year	Grade 4 Number (Percent)		Grade 8 Number (Percent)		Grade 11 Number (Percent)	
1994-1995						
Students with Disabilities	4,884	(9.9)	4,072	(8.0)	2,017	(4.9)
1995-1996						
Students with IEPs	4,886	(10.2)	4,094	(8.1)	2,136	(5.2)
504 Plan Students	560	(1.2)	222	(0.4)	77	(0.2)
1996-1997						
Students with IEPs	5,338	(11.3)	4,228	(8.5)	1,994	(4.8)
504 Plan Students	625	(1.3)	269	(0.5)	84	(0.2)

As is evident in Table 5, mild mental retardation and specific learning disabilities are by far the most common disability categories across all grade levels. Next common categories are emotional/behavioral disabilities. The remaining categories occur at fairly low rates, with the exception of communication disorders and other health disabilities in 4th grade, which occur at a rate nearly equal to emotional/behavioral disabilities. In fact, from grade 4 to grade 8, it appears that communication disorders and other health disabilities are the only categories with rates that decrease. By grade 11 the rates for all disability categories drop.

There are also large differences in the rates of males and females and majority and minority students. In Table 6 we list the number of male and female students in each grade and year that had a disability documented in the data file. There are three consistent differences obvious from this table. First, a far greater number of Kentucky males than females have documented disabilities. The ratio is approximately two males to every female. Second, there are more students with disabilities in 4th grade than in either 8th or 11th grade. The number of students with disabilities drops consistently from elementary to junior high to high school. Third, the number of students with disabilities appears to be increasing across the years for students in 4th and 8th grade. This trend is true for both males and females. For 11th grade students it appears that somewhat fewer students have documented disabilities in the most recent year of testing.

In Table 7, we show the number of European Americans and African Americans who had a documented disability. The number of European Americans steadily increased between 1995 and 1997 for students in grades 4 and 8. During the same period the number of African Americans also increased, but at a slower rate. In grade 11 the number of European Americans and African Americans with disabilities remained stable.

Table 5. Number of Students in Various Disability Categories in Grades 4, 8, and 11 Who Took KIRIS Each Year

Year	Grade 4	Grade 8	Grade 11
1994-1995			
Autism	8	2	2
Communication Disorder	602	64	13
Deaf/Blind	6	3	6
Emotional/Behavioral	322	404	116
Functional Mental Retardation	29	38	61
Hearing Impairment	84	50	68
Mild Mental Retardation	1,331	1,215	586
Multiple Disability	30	28	21
Other Health Impairment	152	56	12
Physical Disability	36	34	17
Specific Learning Disability	2,190	2,123	1,058
Traumatic Brain Injury	2	12	11
Visual Impairment	58	40	45
1995-1996			
Autism	8	3	2
Communication Disorder	556	54	10
Deaf/Blind	3	6	6
Emotional/Behavioral	319	443	109
Functional Mental Retardation	24	26	27
Hearing Impairment	52	67	32
Mild Mental Retardation	1,288	1,246	661
Multiple Disability	152	50	41
Other Health Impairment	212	84	23
Physical Disability	35	37	18
Specific Learning Disability	2,171	2,017	1,074
Traumatic Brain Injury	7	12	13
Visual Impairment	36	35	59
1996-1997			
Autism	11	4	3
Communication Disorder	643	52	6
Deaf/Blind	1	4	5
Emotional/Behavioral	322	455	142
Functional Mental Retardation	25	21	22
Hearing Impairment	46	49	47
Mild Mental Retardation	1,345	1,256	576
Multiple Disability	72	32	22
Other Health Impairment	322	146	39
Physical Disability	45	33	26
Specific Learning Disability	2,278	2,041	1,035
Traumatic Brain Injury	13	9	9
Visual Impairment	37	33	30

Table 6. Number and Percentage of Female and Male Students with Disabilities in Grades 4, 8, and 11 Who Took KIRIS Each Year

Year	Grade 4 Number (Percent)	Grade 8 Number (Percent)	Grade 11 Number (Percent)
1994-1995			
Female	1,521 (31.3)	1,199 (29.6)	616 (31.0)
Male	3,336 (68.7)	2,854 (70.4)	1,373 (69.0)
1995-1996			
Female	1,500 (30.9)	1,174 (28.9)	636 (30.7)
Male	3,355 (69.1)	2,887 (71.1)	1,438 (69.3)
1996-1997			
Female	1,685 (31.7)	1,194 (28.5)	657 (33.1)
Male	3,636 (68.3)	2,995 (71.5)	1,325 (66.9)

Table 7. Number and Percentage of African American and European AmericanStudents with Disabilities in Grades 4, 8, and 11 Who Took KIRIS Each Year

Year	Grade 4 Number (Percent)	Grade 8 Number (Percent)	Grade 11 Number (Percent)
1994-1995			
African American	636 (13.6)	516 (13.2)	281 (14.5)
European American	4,031 (86.4)	3,385 (86.8)	1,661 (85.5)
1995-1996			
African American	670 (14.0)	546 (13.7)	271 (13.4)
European American	4,106 (86.0)	3,430 (86.3)	1,745 (86.6)
1996-1997			
African American	679 (13.2)	553 (13.7)	260 (13.8)
European American	4,476 (86.8)	3,472 (86.3)	1,624 (86.2)

Procedures

To examine participation data, and data on the use of accommodations, we calculated the percentages. A difficulty encountered in reporting rates of participation of students with disabilities in various testing programs is that there is no consensus about the appropriate numerator or denominator for calculating these rates (Erickson, Thurlow, & Ysseldyke, 1996). Erickson et al. aptly refer to the problem as neglected numerators and drifting denominators. Denominators differ, for example, because schools conduct child count in the fall and testing in the spring. Or, students in set-aside structures like residential schools and schools for the deaf are counted in one district but not another.

Because using a different numerator or denominator in computing rates leads to discrepant results, we calculated percentages under the following conditions:

- When an overall percentage is reported, the denominator was the number of students who participated in KIRIS in that particular grade during that year. The only exception to this was when reporting on the percent of students receiving an accommodation who were either male or female. In this case we excluded records from the denominator that had data missing from the gender field.

- Students classified as having a disability included only those who had a disability documented in the data file. That is, those students with an IEP, but who did not have a disability listed, were excluded from this group. For example, in 1996 there were 399 grade 4 students with an IEP who did not have a disability listed in the data file. These students were placed into the non-disabled group. In addition some students with 504 plans were included in the disabled group because these students also had a disability documented in the data file. In 1997, there were 86 grade 4 students who fit this description.

- All percentages in Tables 8 and 10 are column percentages. In other words, these percentages are of the form percent of *category by group*. All percentages in Tables 9, and 11–13 are row percentages, and are of the form percent of *group by category*. Because students could receive more than one accommodation, values in the rows of Tables 12–13 do not add to 100%.

Results

Characteristics of Students Receiving Accommodations

We were interested in describing the characteristics of students who use an accommodation when they take the state test, and the characteristics of students who do not use an accommodation during the state test (see Table 8). The proportions of males and females participating in KIRIS *without* an accommodation were nearly equal. This was true for each year and for each grade. However, of those participating in KIRIS *with* an accommodation, the majority were males. In fact, approximately 70% of those participating in KIRIS with an accommodation were male. This translates into more than a two to one ratio of males to females. Again, this was true for each year and for each grade.

Also remaining stable across years and grades was the proportion of students in various ethnic groups participating in KIRIS *with* an accommodation. Approximately 85% were European Americans compared to about 12% African Americans and around 1% in other ethnic groups. The remaining 2% had missing data on the ethnicity variable.

Table 8. Percentage of Students in Grades 4, 8, and 11 Who Took KIRIS Each Year With or Without Accommodation by Gender, Ethnicity, and Disability Status

Year	Grade 4		Grade 8		Grade 11	
	NoAcc	Accom	NoAcc	Accom	NoAcc	Accom
1994-1995						
Gender						
Female	49.8	30.7	49.8	29.3	47.8	30.2
Male	50.3	69.3	50.2	70.7	50.3	69.8
Ethnicity						
African American	8.1	12.5	8.5	11.8	7.6	13.0
European American	86.3	83.4	86.3	85.7	86.4	84.3
Other and Unknown	5.6	4.0	5.2	2.5	6.0	2.8
Disability Status						
Disability	1.8	91.6	2.6	94.5	1.8	96.0
No Disability	98.2	8.4	97.4	3.5	98.2	4.0
1995-1996						
Gender						
Female	50.3	30.3	50.1	27.6	51.4	29.5
Male	49.7	69.7	49.9	72.4	48.6	70.5
Ethnicity						
African American	9.5	13.6	9.1	11.5	8.5	11.8
European American	87.9	84.7	87.9	86.1	88.3	85.8
Other and Unknown	2.5	1.7	3.0	2.4	3.3	2.4
Disability Status						
Disability	1.6	86.5	2.6	94.3	1.3	92.8
No Disability	98.4	13.6	97.4	5.7	98.1	7.2
1996-1997						
Gender						
Female	51.0	30.7	50.1	27.4	51.5	32.0
Male	49.0	69.3	49.9	72.6	48.5	68.1
Ethnicity						
African American	9.3	11.6	8.8	12.0	8.0	12.5
European American	86.6	85.6	86.9	84.6	87.1	83.8
Other and Unknown	4.1	2.8	4.3	3.4	4.8	3.8
Disability Status						
Disability	1.9	87.8	2.4	95.6	1.6	96.4
No Disability	98.1	12.2	97.7	4.4	98.4	3.6

Note: The percentages may not add to 100% due to rounding error.

As expected, the overwhelming majority of students not receiving an accommodation were students without disabilities (approximately 98%). This is not an unexpected result given that the vast majority of students (approximately 90%) do not have disabilities. Interestingly, the discrepancy in relative proportions of students with disabilities and students without disabilities participating in KIRIS with an accommodation is not quite as great. At grade 4, about 88% of these students had disabilities. That means approximately 12% of students receiving an accommodation in 4th grade did not have a disability marked on their answer sheets. The proportion of students receiving an accommodation who were not identified as having a disability in the grade 4 data base increased steadily from 9% in 1995 to 15% in 1997. By 8th grade the

proportion of students receiving an accommodation who were not identified as having a disability in the data base dropped to around 5% and remained at that rate in 11th grade. These proportions did not change much across the three years.

Characteristics of Typical Students Participating in KIRIS with Accommodations

One goal of these analyses was to describe the characteristics of students participating in KIRIS who used one or more accommodations. Students receiving an accommodation were classified by gender, ethnicity (European American, African American, Other), and by common disability categories (e.g., emotional/behavioral, mild mental, specific learning disability). In grade 4, communication disorders and other health problems also were included.

In Table 9, we show the characteristics of the students using accommodations who participated in KIRIS for each grade; all categories consuming more than 5% of the total population of students using an accommodation are included. The composition of the students participating in KIRIS with one or more accommodations did not change substantially across grades or years.

Most of the students participating in KIRIS with an accommodation were European American males with a specific learning disability. Other groups of students who comprised a substantial percentage of the group of students participating in KIRIS with an accommodation were European American males with mild mental retardation, European American females with either specific learning disability or mild mental retardation, or students without a documented disability.

For the most part, the composition of students participating in KIRIS with an accommodation within a given grade remained stable across the three year period. The most significant change occurred in grade 4 when there was a substantial increase in the percent of students receiving an accommodation who did not have a documented disability. In grade 12, there was a consistent drop in the proportion of students receiving an accommodation who were European American males with mild mental retardation; at the same time there was a consistent increase in the percent who were European American females with mild mental retardation. Across grades, the most notable difference in the composition of students receiving accommodations was that those without a documented disability were represented in three times as large a proportion in grade 4 as in either grade 8 or grade 11.

Table 9. Percent of Students with Various Demographic Characteristics Comprising Students Using Accommodations in Grades 4, 8, and 11 Who Took KIRIS Each Year

Year	Grade 4	Grade 8	Grade 11
1994-1995			
African American Males with:			
• Specific Learning Disability	4.3	4.0	4.5
European American Females with:			
• Mild Mental Retardation	10.2	11.6	9.8
• Specific Learning Disability	10.6	10.2	10.3
European American Males with:			
• Mild Mental Retardation	16.3	19.1	19.0
• Specific Learning Disability	30.1	32.8	31.8
Other	28.6	22.3	24.6
1995-1996			
African American Males with:			
• Specific Learning Disability	4.4	3.9	5.5
European American Females with:			
• Mild Mental Retardation	9.5	12.5	12.4
• Specific Learning Disability	10.1	8.2	9.7
European American Males with:			
• Mild Mental Retardation	14.7	20.8	18.4
• Specific Learning Disability	31.4	31.3	33.8
Other	29.9	23.2	20.2
1996-1997			
African American Males with:			
• Specific Learning Disability	3.5	4.5	4.6
European American Females with:			
• Mild Mental Retardation	10.3	11.6	12.5
• Specific Learning Disability	10.0	8.6	11.1
European American Males with:			
• Mild Mental Retardation	14.9	20.1	16.3
• Specific Learning Disability	29.8	30.9	30.8
Other	31.4	24.4	24.7

Note: The percentages may not add to 100% due to rounding error.

Rates at which Groups Participate in KIRIS with Accommodations

We wanted to know whether there were differences in the kinds of students who participated in KIRIS using an accommodation. Grade 4 students were more likely than grade 8 students, who, in turn, were more likely than grade 11 students to receive one or more accommodations. Nearly 10% of 4th grade students, compared to 6% of 8th grade students, and about 3% of 11th grade students participated in KIRIS with an accommodation.

The rate of receiving accommodations increased in all three grades from 1995 to 1997. Two percent more 4th grade students in 1997 participated in KIRIS with an accommodation than

those who did so in 1995. In 8th grade, the increase was just under 1%, and in 11th grade, the increase was only 0.2%.

Of the total student population (with and without disabilities) African Americans were more likely than European Americans to receive an accommodation. In grade 4, slightly more than 13% of African Americans participated in KIRIS with an accommodation, compared to just under 10% of European Americans. The difference in the percentage of African Americans and the percentage of European Americans participating in KIRIS with an accommodation was about 2% in 8th grade and about 1.5% in 11th grade. These findings indicate that African Americans were slightly over-represented in the use of accommodations at all three grades.

However, European Americans with disabilities were more likely than African Americans with disabilities to receive accommodations. For example, the percentage of European American students with disabilities receiving accommodations in 8th grade ranged from 71.3% in 1995 to 76.8% in 1997, whereas the percentage of African American students with disabilities who received accommodations in 8th grade ranged from 61.7% in 1996 to 67.2% in 1997. In grades 4 and 11, there was also a greater percentage of the European Americans with disabilities than African Americans with disabilities who received accommodations. The difference in the percentage of the European American population of students with disabilities and the African American population with disabilities receiving one or more accommodations ranged from about 9% in grade 8 to just under 3% in grade 4.

There were also differences in the rates at which students received accommodations within the most common disability categories. Students with emotional/behavioral disabilities were less likely than students with mild mental retardation and students with specific learning disabilities to receive accommodations. In grade 4, an average across the three years of about 75% of students with emotional/behavioral disorders used accommodations when they participated in KIRIS. In contrast, more than 90% of students with either mild mental retardation or specific learning disabilities used accommodations. Even larger differences occurred in 8th and 11th grades between accommodation rates of students with mild mental retardation and students with emotional/behavioral disorders. At both grades 8 and 11 approximately 50% of students with emotional/behavioral disabilities participated in KIRIS with accommodations compared to between 72% and 90% of students with mild mental retardation.

Differences in participation in KIRIS using accommodations also emerged between students when they were grouped according to the incidence of their disability groups. In the 1994-95 academic year, students in the low incidence groups (i.e., those with physical disabilities, autism, severe mental retardation, and other rare disabilities) were less likely to receive an accommodation than students in moderate and high incidence groups. The difference in rates of receiving an

accommodation between the low and moderate incidence groups ranged between 13% for 8th grade students to almost 19% for 4th grade students.

Which Accommodations are Used, and by Whom?

We wanted to know the kinds of accommodations most often used by students with disabilities. And, we wanted to know whether there were certain accommodations or combinations of accommodations that were targeted to students with particular disabilities. There are nearly 50 specific accommodations students with disabilities can use when participating in KIRIS. These accommodations comprise the following six accommodation clusters:

(1) **Oral** – the assessment is read to the student.

(2) **Dictation** – responses are dictated by the student and written down by a scribe.

(3) **Cueing** – the student uses mnemonics, templates, problem solving organizers etc. in a way consistent with daily instruction.

(4) **Paraphrasing** – content of the assessment is paraphrased for the student.

(5) **Interpreter** – the content of the assessment is signed for the student.

(6) **Technological** – a variety of aids used by the student in daily instruction are provided for them on the test.

When indicating accommodations that specific students have used, an "Other" category also can be selected.

In Table 10, we show the rate at which students with disabilities in grades 4, 8, and 11 used accommodations in each of the clusters, across 1995, 1996, and 1997. The most common accommodations used in grade 4 were oral reading of the assessment, having the content of the assessment paraphrased, and being allowed to dictate one's response to a scribe. Over 75% of all students with a disability used the oral reading accommodation, whereas over 50% used the paraphrasing and dictation accommodations.

Although the rate of use of accommodations dropped by grade 8, the use of the dictation accommodation dropped much more than the others. In grade 8, under 20% of the students with disabilities used the dictation accommodation, and under 10% use it in grade 11.

The least common accommodation for all three grades was the use of an interpreter. Interpreters are used primarily by students with hearing impairments or students who were deaf. Because

Table 10. Percentage of Students with Disabilities in Grades 4, 8, and 11 Who Took KIRIS Each Year Using Specific Accommodations

Year	Grade 4	Grade 8	Grade 11
1994-1995			
Oral	74.5	57.5	46.9
Dictation	50.6	14.1	5.3
Cueing	10.2	12.3	10.5
Paraphrasing	50.8	49.3	48.5
Interpretation	2.4	2.7	4.5
Technological	2.8	4.9	5.1
Other	9.0	5.2	5.8
1995-1996			
Oral	76.0	56.7	45.5
Dictation	59.9	18.1	7.4
Cueing	12.2	11.0	7.7
Paraphrasing	55.1	50.6	50.8
Interpretation	2.8	2.8	4.0
Technological	4.0	5.2	6.1
Other	10.3	6.3	4.8
1996-1997			
Oral	70.1	57.6	45.2
Dictation	57.8	16.2	7.4
Cueing	10.0	8.1	7.1
Paraphrasing	50.3	48.7	52.3
Interpretation	1.3	0.8	2.2
Technological	3.4	3.9	4.6
Other	9.3	7.0	7.5

the incidence of these disabilities tends to remain stable across grades, the rate of receiving the interpreter accommodation also remained stable at about 3% across grades.

We next examined the rate at which accommodations or combinations of accommodations were used by students in the various disability clusters (see Tables 11 and 12). Although the most common accommodation varied somewhat by grade, there was consistency across grades in the use of the Paraphrasing and Oral reading combination. The percentage of students receiving this combination increased consistently across grades from 20% in grade 4 to almost 36% in grade 11.

We also found that accommodations were less likely to be given in combination in grades 8 and 11 than in grade 4. In grade 4, three of the four most common accommodations used were actually combinations of accommodations, whereas in grades 8 and 11 only one of three were combinations of accommodations.

Some differences in the types of accommodations given to students within various disability clusters occurred across grades. In grade 4 a greater percent of students with mild mental retardation received the combination of Oral/Paraphrasing/Dictation than did students in the

Table 11. Percentage of Students with Disabilities (by Incidence and Common Categories) in Grades 4, 8, and 11 Who Took KIRIS in 1995 Using Combinations of Accommodations

	No. (%) Rc'd Accomm	Incidence Groups			Common Disabilites		
		Low	Mod	High	Emotion/ Behavior	Mild Mental	Learning Disability
Grade 4							
Oral	490 (12.1)	6.1	12.5	12.7	9.8	13.1	13.1
Oral/Paraphrase	537 (13.2)	6.1	14.0	13.8	12.7	14.3	13.9
Oral/Dictation	815 (20.1)	13.9	21.7	19.9	14.8	23.0	19.8
Oral/Para/Dic	1008 (24.9)	18.4	25.8	25.1	20.3	26.8	25.5
Oral/ Para/Dic/Cue	198 (4.9)	1.2	7.0	3.6	6.8	7.1	3.4
Grade 8							
Paraphrase	259 (9.2)	7.3	8.1	10.4	18.2	6.3	10.4
Oral	578 (20.6)	9.4	21.6	20.8	19.7	22.1	21.0
Oral/Paraphrase	758 (27.0)	11.6	26.4	29.0	29.3	25.0	29.3
Oral/Para/Cue	263 (9.4)	3.6	9.0	10.3	6.1	9.8	9.7
Oral/ Para/Dic	244 (8.7)	13.0	11.2	6.2	8.6	11.9	6.3
Grade 11							
Paraphrase	163 (12.7)	2.8	10.3	16.3	8.9	9.9	16.5
Oral	197 (15.4)	2.8	18.2	15.2	5.4	19.7	15.1
Oral/Paraphrase	422 (32.9)	10.3	38.7	32.1	35.7	38.7	32.3

Table 12. Percentage of Students with Disabilities (by Incidence and Common Categories) in Grades 4, 8, and 11 Who Took KIRIS in 1996 Using Combinations of Accommodations

	No. (%) Rc'd Accomm	Incidence Groups			Common Disabilites		
		Low	Mod	High	Emotion/ Behavior	Mild Mental	Learning Disability
Grade 4							
Oral	334 (8.0)	5.7	7.0	9.1	7.1	6.9	9.3
Oral/Paraphrase	379 (9.1)	6.9	9.2	9.4	7.9	9.4	9.6
Oral/Dictation	856 (20.4)	12.8	22.8	20.4	16.6	24.3	21.1
Oral/Para/Dic	1209 (28.9)	23.9	32.4	27.6	23.3	34.4	28.1
Oral/ Para/Dic/Cue	230 (5.5)	6.4	6.1	4.9	5.9	6.0	4.9
Grade 8							
Paraphrase	305 (10.7)	5.2	7.6	14.5	23.7	4.3	14.5
Oral	476 (16.7)	10.3	17.0	17.2	13.3	17.7	17.1
Oral/Paraphrase	791 (27.7)	15.5	30.5	26.6	19.6	33.0	27.0
Oral/Para/Cue	161 (5.6)	4.1	5.9	5.6	6.4	5.9	5.6
Oral/ Para/Dic	296 (10.4)	13.4	13.7	6.6	3.7	15.8	6.5
Grade 11							
Paraphrase	233 (17.7)	14.3	14.1	20.9	32.1	12.1	21.0
Oral	161 (12.2)	8.3	13.7	11.4	13.2	14.0	11.4
Oral/Paraphrase	480 (36.4)	9.5	38.5	37.9	24.5	40.5	38.0

Table 13. Percentage of Students with Disabilities (by Incidence and Common Categories) in Grades 4, 8, and 11 Who Took KIRIS in 1997 Using Combinations of Accommodations

		Incidence Groups			Common Disabilites		
	No. (%) Rc'd Accomm	Low	Mod	High	Emotion/ Behavior	Mild Mental	Learning Disability
Grade 4							
Oral	461 (10.2)	5.9	9.4	11.9	7.2	9.7	12.7
Oral/Paraphrase	452 (10.0)	8.6	7.3	12.2	8.4	7.2	12.9
Oral/Dictation	1043 (23.0)	18.7	27.5	21.2	23.2	28.3	21.9
Oral/Para/Dic	1246 (27.5)	27.3	31.7	24.7	24.5	32.9	24.9
Oral/ Para/Dic/Cue	239 (5.3)	4.8	6.3	4.7	4.2	6.8	4.9
Grade 5							
Paraphrase	190 (4.2)	6.3	2.6	4.8	9.8	1.0	3.9
Oral	599 (13.1)	6.8	12.5	14.9	10.5	13.1	15.5
Oral/Paraphrase	589 (12.9)	12.0	10.9	14.5	9.8	11.2	14.7
Oral/Dictation	962 (21.1)	19.0	24.1	19.4	19.7	25.2	19.6
Oral/Para/Dic	1005 (22.0)	18.4	25.4	20.4	15.4	27.5	20.6
Oral/ Para/Dic/Cue	150 (3.3)	3.0	3.9	2.9	3.3	3.8	3.0
Grade 7							
Paraphrase	313 (9.4)	6.8	7.0	12.0	13.9	5.1	11.5
Oral	708 (21.2)	13.6	22.2	21.6	23.1	22.4	21.9
Oral/Paraphrase	878 (26.3)	20.1	26.1	27.6	22.1	27.1	27.7
Oral/Para/Cue	105 (3.1)	3.0	3.2	3.1	1.3	3.7	3.2
Oral/Dictation	244 (7.3)	8.0	7.4	7.1	6.9	7.6	7.3
Oral/ Para/Dic	427 (12.8)	9.5	17.4	9.1	10.6	18.9	9.1
Grade 8							
Paraphrase	416 (13.5)	13.7	9.5	17.1	22.5	7.0	16.9
Oral	710 (23.0)	17.5	23.3	23.5	17.6	24.6	23.7
Oral/Paraphrase	784 (25.4)	13.3	27.0	25.8	17.2	29.1	25.8
Oral/Para/Cue	151 (4.9)	3.4	4.6	5.4	5.3	4.6	5.4
Oral/Dictation	160 (5.2)	5.1	5.8	4.6	4.0	5.9	4.6
Oral/ Para/Dic	280 (9.1)	5.6	11.8	7.1	7.5	12.3	7.1
Grade 11							
Paraphrase	283 (20.9)	8.7	18.4	25.3	25.0	17.8	25.3
Oral	194 (14.3)	4.0	16.2	14.8	15.8	16.5	14.8
Oral/Paraphrase	410 (30.3)	16.7	34.0	29.9	26.3	34.7	29.9

Note: Low = autism deaf/blind multiple disability, physical disability, other health, traumatic brain injury, hearing impaired, and visual.
Medium = emotional/behavioral, mild mental, and functional mental.
High = communication, and specific learning.

other two common disability groups (emotional/behavioral and learning disability). Also, grade 4 students with low incidence disabilities and students with emotional behavioral disabilities were less likely to get the Oral/Dictation combination than were students in the other disability clusters.

In grades 8 and 11, students with low incidence disabilities were substantially less likely than students with moderate and high incidence disabilities to receive the Oral/Paraphrasing combination. Interestingly, the most common accommodation for students in grades 8 and 11 with emotional/behavioral disabilities was having the content of the test paraphrased; whereas in grade 4 the most common accommodation for this group was the combination of Oral/ Paraphrase/ Dictation.

Discussion

In this paper, we have (1) described the characteristics of students who participate in KIRIS with an accommodation, (2) compared the rates of receiving accommodations among students with various characteristics such as gender, ethnicity, and category of disability, and (3) identified the most common accommodations and combinations of accommodations, describing the rate at which students within various disability categories used them. Findings from these efforts reveal several important implications about accommodating students with disabilities during general state and district assessments.

First, we found that the percentages of students receiving accommodations vary with demographic and disability categories. To the same extent, the percentages are influenced by their rates of the characteristics in the overall student population in Kentucky. Thus, one would expect that the vast majority of students who used an accommodation would be European Americans, since 90% of the students in Kentucky are of European American background. To determine whether different groups are over- or under-represented in those using accommodations, we also examined the proportion of students within each demographic category that participated in KIRIS with an accommodation. Not all that surprising was the fact that, of students receiving an accommodation, over twice as many were male as female. Given that twice as many males as females have a disability, this result was expected. Likewise, most of the students receiving an accommodation were European American, followed by African American, and then by the other ethnic groups. This finding mirrors the rates of European Americans, African Americans, and other ethnic groups in Kentucky's K-12 student population.

A more interesting picture emerges when the characteristics of students receiving accommodation are disaggregated into those students with and without a disability. In 4th grade around 12% of the population of students receiving an accommodation were students without a disability code,

compared to only 5% in grades 8 and 11. The fact that many more students "without disabilities" used an accommodation in grade 4 than in grades 8 or 11 is curious. It was noted earlier that some students with an IEP did not have a disability documented in the file. It could be that more 4th grade students with an IEP and requiring an accommodation simply did not have their disability documented on the test form as compared to students in the other grades. We found some evidence supporting this conjecture. In 1996 there were 399 students in 4th grade coded as having an IEP but not coded with one of the 13 federal disability categories, compared to 196 in 8th grade 229 in 11th grade. Since students with 504 plans were eligible for accommodations, but do not have a classified disability, a greater number of students with 504 plans in 4th grade than in either 8th or 11th could account for this discrepancy. In 1996 there were 560 4th grade students with a 504 plan compared to 221 in 8th grade and only 77 in 11th grade. Why more students in 4th grade have a 504 plan is still uncertain.

When the data are described in terms of the relative rates at which students with various characteristics participated in KIRIS with or without an accommodation, other noteworthy findings emerged. For example a greater proportion of African American students in all three grades receive an accommodation than European American students. It appears that this discrepancy could be accounted for, in part, by the fact that a greater proportion African American than European American students are classified with a disability. Oddly, of those students with a documented disability, there was a greater proportion of European American than African American receiving an accommodation. Some of the discrepancy may be due to clerical errors. That is, a greater percentage of African American than European American students with a disability showed up in the data file without one. However, there is no reason to assume that the data sheets for African American students should be any less reliable than those for European American. It appears that this can be attributed largely to the differences observed in the relative rate of African Americans and European Americans with emotional/behavioral disabilities using accommodations. European Americans with emotional/behavioral disabilities were substantially more likely than African Americans to use accommodations. It will be important for the state to explore these apparent discrepancies further. If they continue, the need may exist for some type of decision-making form or process to help decision makers identify appropriate accommodations in an unbiased manner.

One of the more obvious findings in this study was that the percent of students with and without a documented disability using accommodations was substantially large in 4th grade than in either 8th or 11th grade. It may be that IEPs for 4th graders are more likely to include provisions for classroom accommodations. Because students can use a particular test accommodation only if that accommodation is documented in their IEP, a greater proportion of 4th grade students would be eligible to receive an accommodation. It may be that a greater proportion of 8th and 11th grade students with disabilities who have provisions for classroom accommodations documented on their IEP simply prefer to take the exam without an accommodation. Also, the

importance of peer relationships in the upper grades might result in students with disabilities feeling more awkward about using accommodations, and therefore, they decide to opt out of the possibility of using accommodations during testing.

Another important finding is that the rate of accommodation use increased steadily in all three grades across the three academic years. Among students without a disability documented in the data base, the rate of using accommodations has doubled in three years. While most of these students are students with 504 plans, not all are. Despite the small increase in the absolute number of students receiving an accommodation, the consistency of the gain across years and grades suggests that test administrators may be more flexible in their criteria for providing accommodations. Or perhaps they are simply better at identifying those students (e.g. students with 504 plans) who are eligible for receiving an accommodation and ensuring that they do.

The reasons why a greater proportion of students with disabilities used accommodations in 1996-97 than in previous years are not clear. For one thing, students are being identified as having disabilities at a greater rate. For example, in 4th grade the proportion of the population of students identified as students with disabilities increased from 9.6% to 10.5%. However, this only helps to explain why a greater proportion of the population used accommodations, not why a greater proportion of students with disabilities used accommodations. One possibility is that IEP teams are becoming more aware of the benefits accommodations have for students with disabilities, therefore classroom accommodations and subsequently testing accommodations are provided at a greater rate for students with disabilities. Or perhaps, fewer students with disabilities are opting to take the test without accommodations. Students with disabilities have a choice of whether to take the test with or without an accommodation. There is a general assumption that students with disabilities who use accommodations perform better than students with disabilities not using accommodations (a presumption not necessarily supported by research; see Trimble, 1998). This could be a powerful reason for districts to ensure that greater proportions of their students with disabilities receive an accommodation. And, it may be the reason for such liberal use of some of the more controversial accommodations, such as paraphrasing, oral reading, or some combination of the two.

This research and its findings demonstrate the importance of states and districts conducting further explorations of the results of their testing programs. Information about who is and who is not using accommodations provide insights into decision-making practices that may have been undetected without further exploration. Furthermore, this type of research can point out issues surrounding how data are collected, such as the data on student disability. The variability in these data may point to the need to have special education teachers independently code every student who receives special education services, and then later merge the two data bases. Similar approaches to documentation of accommodations that are recommended and used would do

much to move forward our knowledge about how best to make decisions about the use of accommodations.

The results of Kentucky's efforts to include all students in its assessments and accountability systems, and the state's willingness to analyze its data so that other states and districts can learn from the results of Kentucky's efforts, is to be applauded. This report reflects just one of many efforts to improve the ways in which we include students with disabilities in educational systems.

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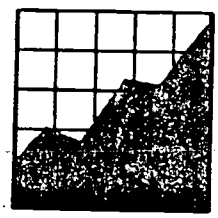

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