

Comparison of CATS Scores and Library Media Report  
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**ANALYSIS DESIGN AND LIMITATIONS**

This analysis is based on a body of measurement data provided by the Kentucky Department of Education. The Library Media Report (1999-2000) contained data from 1123 schools that filled out the annual questionnaire. The CATS Test Report (1999) listed 1231 schools although only 1191 had data for the current testing period (index 99). The CATS Test Report was assumed to be the sampling frame, and for this analysis a sample based on the top and bottom quintile was selected from that.

The CATS test results were divided into three groups, elementary, middle and high school, then ranked in descending order based on the index score for 1999. Those schools without test scores for index 99 were not ranked, however they were included in the overall count of schools at that schooling level.

After the ranking at each schooling level was determined, the schools in the top 20% and bottom 20% of each schooling level were chosen to be part of the sample. This approach was taken since the top and bottom quintiles account for a large proportion of the variability in the data.

This is an overview of the sampling frame and the sample:

School Level	#/ Schools on CATS Test Report	#/schools in	
		Top Quintile	Bottom Quintile
Primary/Elementary	807	161	161
Middle	224	44	44
High	200	40	40

The analysis has these limitations:

- The results of the CATS Test Report are assumed to be stable, consistent and valid.
- The measures on the Library Media Report are assumed to be reliable. These data are self reported and could be subject to several limitations. However, the questions appear to reduce ambiguity and the scales used are simple and direct.
- This is a preliminary analysis seeking to determine if there are easily visible trends and differences between schools performing in the top and bottom of CATS testing. More complete analysis, using the full sampling frame and more complex statistical tests could yield more results.
- This analysis compares what the library media centers in schools in the top and bottom test result ranges are doing. This analysis is not able to draw causation, but rather reports on what practices and characteristics seem prevalent among the different groups of schools studied. To determine causation, further field observation would be necessary.

## The Analysis

“**Top**” is used to refer to the quintile with the schools that scored among the top 20% of the CATS test results.

“**Bottom**” is used to refer to the quintile with the schools that scored among the bottom 20% of the CATS test results.

“**School Level**” refers to the groups Elementary/Primary Schools, Middle Schools, and High Schools.

**1. STLP:** Schools in the top are much more likely to have Student Technology Leadership Programs than those in the bottom. This is particularly pronounced among secondary schools (middle & high schools). Among the secondary schools, more than 70% of the top schools have STLP, while only about half (56% middle, 49% high) of those in bottom have STLP. Among elementary schools this trend is not as noticeable; half of the top schools have STLP and 45% of the bottom schools have STLP.

### **2. Library Media Specialist demographics:**

LMS #1: Among middle and high schools, the LMS in the top schools tended to have fewer years experience (at least 9% less) in the LMC and in education than those LMS in the bottom schools. Among elementary school LMS the pattern is just the opposite.

Among elementary and high school LMC, membership in Kentucky Library Association/Kentucky School Media Association tends to be more prevalent in the top schools than those in the bottom schools.

**3. STC:** The majority of LMS do not serve as school technology coordinators, and the proportion of those that do is about equal among all school levels and quintiles.

### **4. Expenditures/Appropriations:**

Appropriations are recommended to equal or exceed 20% of instructional monies per pupil. Among elementary and secondary schools in both the top and bottom ranges, less than half the schools reach this level.

### **5. Collection Statistics:**

Generally, the top schools at all levels share the characteristic that they have a higher level of technology to offer students than the bottom schools.

Comparison of the collections at top schools to the collections at bottom schools:

- LMCs at top schools report having more computers with WAN Internet access – at the secondary level top schools report almost three times as many computers.
- LMCs at top schools report having more online databases and subscriptions (although there is still only a limited number of schools that offer this even among the top)
- LMCs at top schools report having more video cassettes
- LMCs at top schools report having more audio CDs
- LMCs at top schools report having more drivers on the network
- LMCs at top schools report having more laser disc players (although this technology is still not prevalent)

- LMCs at top schools report having more VCRs
  - LMCs at top schools report having more access to film video and multimedia
- However, the bottom schools consistently reported having more computer software for the KETS standard computer than the top schools did.

**7. Big Six:** Nearly two-thirds of all schools at either the top or bottom provide information literacy through the Big Six. However, among top schools at the middle and high school level, Big Six is far more likely to be used to provide information literacy than at the bottom schools. It is particularly prevalent among middle schools in the top group (85%).

**8. Paid clerical assistance:** Nearly two-thirds of the top elementary schools and middle schools, and more than four-fifths of the top high schools had paid clerical assistance. In contrast, only about half of the bottom elementary and high schools had paid assistance. In both these cases, the top schools were far more likely to have paid clerical assistance than the bottom schools. The middle school pattern was somewhat different with nearly three-fourths of the bottom schools having paid assistance, which is more than among the top schools.

**9. Flexible scheduling:** Results at the primary level: The top schools are more likely to have flexible access, by more than a third more than the bottom schools (43% top, 29% bottom). Most of those schools that have flexible access do so everyday. However, only about a half of those with flexible access offer it all day.

**10. Evaluation of LMS & LMC:** Library media criteria are used to evaluate LMS at most schools however there is a marked difference between top and bottom schools at the middle and high school levels (middle schools: 88% top vs. 72% bottom; high schools: 83% top vs. 69% bottom). The differential on this measure between top and bottom schools at the elementary level followed the same pattern but did not display as profound a difference.

Library media specialists were also asked if the results of the LMC evaluation were incorporated into the consolidated plan. Among secondary schools (middle and high) top ranked schools were more likely than bottom schools to incorporate the LMC evaluation results in the consolidated plan (secondary schools: 66% of top schools include these results in the consolidated plan while about 55% of bottom schools include it in the consolidated plan).

### Implications for the Library Media Program

Although the data does not confirm the findings of Lance's study, Impact of School Library Media Centers on Academic Achievement, it does indicate that students with access to stronger library media collections perform better on the Kentucky Core Content Test - CATS. (Commonwealth Accountability Testing System.)

This analysis also indicates that students with access to technology and the ability to use technology perform better on the Test.

Students who have had more formal training in the information literacy process (e.g. Big Six) appear to achieve more academically. This finding suggests that the AASL Information Literacy Standards for Student Learning should also have a positive impact on student achievement.

Flexible scheduling for the library media center is a characteristic of the top scoring elementary schools. This indicates that students have more access to information and an information mediator (the library media specialist) than those students enrolled in schools without flexible scheduling in the library media center.

Library media specialists who remain current with technology advances and who are involved in professional associations are more likely to administer library media programs that positively impact student achievement.

The entire school community must cooperatively strive to improve student learning. This includes collaborating with the library media specialist to provide an effective library media program which favorably impacts student achievement.