

July 2014

Teaching Information Literacy is the Key to Academic Achievement: The Success Story of Oregon Library Media Programs

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Recommended Citation

Curry Lance, K., & Rodney, M. J. (2014). Teaching Information Literacy is the Key to Academic Achievement: The Success Story of Oregon Library Media Programs. *OLA Quarterly*, 7(2), 21-22. <http://dx.doi.org/10.7710/1093-7374.1584>

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OLA Quarterly is an official publication of the Oregon Library Association | ISSN 1093-7374

Teaching Information Literacy is the Key to Academic Achievement:

The Success Story of Oregon School Library Media Programs

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- In Oregon, school library media programs account for three to five percent of the variation in reading test scores.
- The only variables considered that exert greater influence on test scores are those external to the school.
- The impact of library media programs outweighs that of most other school variables at most school levels.

These findings are the fruits of a year-long study of Oregon's school library media (LM) programs involving about 500 elementary, middle, and high schools throughout the state. The Oregon findings echo those of recent similar studies conducted by three different research teams in five other states: Alaska, Colorado, Massachusetts, Pennsylvania, and Texas. The full report is available from the Oregon State Library and accessible from the Oregon Education Media Association's Web site. That document describes the data and methodologies involved, and explains the series of statistical analyses that yielded the results summarized here. "Success stories" from Oregon LM specialists, classroom teachers, and administrators are included.

A school's LM program is one of many elements affecting the level of academic achievement by its students. Other school conditions that influence student achievement include the teacher-pupil ratio, the "professionalism" of teachers (i.e., their levels of education, experience and compensation), and total per pupil expenditures. Characteristics of the community also influence

student performance on reading tests. Most influential are the poverty level (e.g., the percentage of students eligible for the National School Lunch Program), the racial/ethnic composition of the student body, and the level of educational attainment among adults in the community (i.e., the percentage of adults age 25 and over who graduated from high school). All of these variables were taken into account in assessing the impact of school LM programs on academic achievement in Oregon. What follows is a brief summary of the major findings.

Elementary Schools

A series of statistical analyses indicates that 60 percent of the variation in fifth grade reading scores is explained by a combination of two powerful community conditions: poverty and adult educational attainment. In Oregon elementary schools where the percentage of schoolchildren from poor homes is lower, and where the percentage of adults in the community who graduated from high school is higher, reading scores are higher.

After these socioeconomic considerations, the most powerful predictor of academic achievement is the level of development of the elementary school's LM program. Four percent of the variation in fifth grade reading scores is explained by the levels at which the LM program is staffed, stocked, and funded. Test scores rise with the level of total LM staffing, including both professional and support staff per 100 students. Scores also rise with the size of the LM collection, particularly print volumes per student and magazine subscriptions per 100 students, and per pupil spending on this collection.

At the elementary level, the impact of Oregon LM programs exceeds that of the community's racial/ethnic makeup. Less than two percent of the variation in fifth grade reading scores is explained by the percentage of students belonging to minority groups. When all of these elements are taken into account, an elementary school's total per-pupil spending, teacher-pupil ratio, and the "professionalism" of its teachers exert negligible effects on student performance.

Middle Schools

Similar analyses yielded similar findings for Oregon's middle schools. Poverty is overwhelmingly the most powerful predictor of success on tests, accounting for almost 60 percent of test score variation alone. Another 10 percent is explained by the combination of a lower percentage of minority students in the school and a higher percentage of adult high school graduates in the community. The LM program alone explains three percent of the variation in eighth grade reading scores. After these elements are taken into account, neither total per-pupil spending nor teacher-pupil ratio explains any additional variation in reading scores at Oregon middle schools.

High Schools

At this school level, it was not possible to separate some issues in a single analysis. The first analysis indicated that the combination of poverty among schoolchildren and their racial/ethnic distribution overwhelmed all other

variables. A second analysis found that adult educational attainment outweighed and masked the effects of all school characteristics, including the LM program. A third analysis, excluding all three potent community variables, found that the two strongest predictors of tenth grade reading scores were teacher-pupil ratio, explaining eight percent of test score variation, and LM program development, explaining another five percent.

Information Resources

Both directly and indirectly, the information resources made available by LM programs contribute to academic achievement by students. The most direct effects are exerted by print collections (elementary), magazine subscriptions (high school), and interlibrary loans received (middle school).

Technology and LMS Usage

Computers in library media centers (LMC) extend the reach of students and teachers beyond the local collection. In addition, computers throughout the school that are networked to information resources extend the reach of the LM program beyond the walls of the LMC. The positive role of technology in Oregon LM programs is clear at all school levels.

Technology allows students and teachers to utilize the LMC's services without physically visiting. Yet, on-site LMC usage still exerts a positive impact on academic achievement at all levels. At the elementary level, individual visits and group visits for information literacy instruction stand out. At middle and high school levels, group visits to LMCs are positively linked to reading scores. Both information resources and technology exert additional indirect effects in combination with LMC usage. Visits to LMCs have a more potent effect on academic achievement when they involve utilization of both traditional print and non-print collections and electronic access to information.

Library Media Expenditures


The budgets of Oregon LM programs—like the budgets of their counterparts nationwide—tend to be restricted to the funds spent on information resources and, sometimes, technology. At elementary and middle school levels, the impact of budgets is felt only indirectly via the resources they purchase. At the high school level, however, spending on both print materials and electronic access to information is linked directly with tenth grade reading scores.

Library Media Staff and Their Activities

The positive impact on academic achievement of Oregon LM programs does not happen spontaneously. Their information resources, technology and budgets do not appear out of nowhere, or by the accidental convergence of separate actions by individual teachers and administrators. Data indicates that strong LM programs require someone who has been trained to bring together the pieces of the puzzle—information resources, technology,

and collegial, collaborative relationships with teachers and administrators. Even the usage of LMCs does not occur spontaneously or at the initiative of individual students or teachers alone. Someone trained and experienced at creating such usage and making it count academically tends to be present where usage is high.

All of the pieces of the LM program puzzle can be traced to professional LM specialists and support staff and their activities. The more these staff people are involved in activities that contribute to teaching and learning, information access and delivery, and program administration, the higher the reading scores of students in their schools.

For more on the importance of LM programs to student success refer to the studies listed below. 

References

Baughman J, 2000. School Libraries and MCAS Scores: A paper presented at a symposium sponsored by the Graduate School of Library and Information Science. Simmons College, Boston. Available:

<http://www.simmons.edu/~baughman/mcas-school-libraries/>

Curry Lance K., Hamilton-Pennell C., Rodney M. J., and Petersen L., 1999. *Information Empowered: The School Librarian as an Agent of Academic Achievement*. Alaska State Library, Juneau. Available:

<http://www.library.state.ak.us/dev/infoemxs.pdf>

Curry Lance K., Rodney M. J., and Hamilton-Pennell C., 2000. *How School Librarians Help Kids Achieve Standards—The Second Colorado Study*. Colorado State Library, Denver. Available:

<http://www.lrs.org/documents/lmcstudies/CO/execsumm.pdf>

Curry Lance K., Rodney M. J., and Hamilton-Pennell C., 2000. *Measuring Up to Standards: The Impact of School Library Programs & Information Literacy in Pennsylvania Schools*. Pennsylvania Department of Education, Office of Commonwealth Libraries, Scranton. Available:

http://www.statelibrary.state.pa.us/PDF_files/measuringup.pdf

Oregon Educational Media Association, 2001. Oregon Educational Media Association. Available:

<http://www.oema.net/>