Recommended Library Contributions to STEM Retention Based on an LIS Interpretation of the Landmark Study, Talking about Leaving: Why Students Leave the Sciences

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The method being employed in this study is a secondary analysis of qualitative data, which is a reanalysis of data that was previously collected to answer a different research question. In this case, the interview data originally collected by Seymour and Hewitt and published in their seminal work is being analyzed from the information literacy perspective to examine questions about library intervention in STEM retention.

The study is based on over 330 interview excerpts from a larger study conducted by Seymour and Hewitt. In the original study, over 330 students were interviewed on seven varied campuses about their experiences with academic libraries.

In this study, over 330 students were interviewed on seven varied campuses about the factors that contributed to their decision to switch out of STEM majors. Fifty-five percent of the students were switchers and 45% were non-switchers. All semi-structured interview excerpts were coded to identify all the multiple factors that led to or aided in switching, and 19 factors in STEM education that caused concern for both switchers and non-switcher Status and one of the factors in switching decisions, as defined by Seymour and Hewitt (SH factors, see also Appendix). The final step was to determine whether an SH factor and the related common problems fall within the roles of academic librarians. This was accomplished by mapping the common problems to one or more of the Principles and Performance Indicators described in ACRL’s “Standards for Libraries in Higher Education” (6, see also Appendix). The final step was to determine whether an SH factor and the related common problems fall within the roles of academic librarians. This was accomplished by mapping the common problems to one or more of the Principles and Performance Indicators described in ACRL’s “Standards for Libraries in Higher Education” (6, see also Appendix). The final step was to determine whether an SH factor and the related common problems fall within the roles of academic librarians. This was accomplished by mapping the common problems to one or more of the Principles and Performance Indicators described in ACRL’s “Standards for Libraries in Higher Education” (6, see also Appendix). The final step was to determine whether an SH factor and the related common problems fall within the roles of academic librarians. This was accomplished by mapping the common problems to one or more of the Principles and Performance Indicators described in ACRL’s “Standards for Libraries in Higher Education” (6, see also Appendix).

Table 1. Method:

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<thead>
<tr>
<th>Step</th>
<th>Method</th>
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<tr>
<td>1.</td>
<td>Data analysis and coding using NVivo.</td>
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<td>2.</td>
<td>Identification of core concepts.</td>
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<td>3.</td>
<td>Development of patterns and categories.</td>
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<td>4.</td>
<td>Analysis of relationships between concepts and categories.</td>
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The top nine SH factors contributing to switching decisions among STEM undergraduates fall into three or more of the ACRL’s Principles for academic librarians. The SH factors, common problems, and Performance Indicators suggested these activities in the areas of Collections, Discovery, and External Relations would improve STEM retention:

- Collect materials that present STEM topics in an engaging and relevant way.
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The principles of Educational Role and Professional Values and their associated performance indicators suggest that academic librarians would most effectively improve library programs by working with other colleges and universities, and with academic librarians to improve STEM retention.

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4. Ibid, 401.