Web-based Educational Systems

Instructional Architect (IA)

• A tool for collecting and reusing online learning resources
• Utah-based
• Outreach program in New York and Michigan

Exploratorium Learning Resources Collection (ELRC)

• A digital library of over 700 science activities and instructional resources
• Based on a hands-on museum in California

Highlights

• Collect geo-referenced data for two web-based educational systems.
• Map geo-referenced data with public demographic datasets.
• Conduct statistical analyses of these relationships to highlight significance predictor variables.

Procedure

1. Track web metrics using Google Analytics.
2. Collect geo-referenced visits data.
3. Join and map geo-referenced data with public demographic datasets.
4. Analyze the association between the two.

Databases

Geo-referenced data
- IA’s Google Analytics report
- ELRC’s Google Analytics report

Demographic data
- Per capita income
- Median family income
- Number of schools
- Number of school districts
- Population

Visits from the Contiguous US

- Both groups were successful in local dissemination activities.
- The ELRC also showed more widespread U.S. visitors.

Mapping Data

Number of school districts

Median family income

<table>
<thead>
<tr>
<th>Population</th>
<th>School districts</th>
<th>Per capita income</th>
</tr>
</thead>
<tbody>
<tr>
<td>IA</td>
<td>190.18</td>
<td>.000</td>
</tr>
<tr>
<td>ELRC</td>
<td>71.36</td>
<td>.006</td>
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</table>

Population density significantly predicted number of online visitors.
Per capita income also significantly predicted number of online visitors. This may be a function of the amount of resources (e.g., computers) available in the local schools and communities.

This material is based in part upon work supported by the National Science Foundation under Grant Numbers 1047035 & 1046274. Any opinions, findings, and conclusions or recommendations expressed in this material are those of the authors and do not necessarily reflect the views of the National Science Foundation.