**School Rankings and Student Demographics: An Investigation into the Fraser Institute School Reports**

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### Introduction

**School Choice**

- School choice is the ability for parents to select which school they want their child to attend. In theory, it allows parents to choose the ‘best’ school for their child.
- Advocates for school choice model argue that competition between schools will improve educational change and encourage schools to be more productive (Hoxby, 2003).
- Critics argue that school choice policies increases social and racial differences, providing greater opportunities for affluent, Eurocentric students (Leithwood, 2001).
- In America, school choice ideology has lead to charter schools and voucher programs, while in Canada it has manifested as the publication of assessment results and school rankings (Froese-Germain, 2004).

**Fraser Rankings**

- Each year, the Fraser Institute publishes the Report Card on British Columbia’s Elementary Schools, in which schools are rated and ranked according to ‘achievement and effectiveness’ (Report Card on British Columbia’s Elementary Schools, 2010).
- The Institute has been criticized for constructing indicators of school effectiveness without actually visiting schools or talking with educational stakeholders (Corbett, 2008).
- High rankings have been associated with private schools that serve affluent students who speak English as a first language (Shaker, 2004).
- A strong relationship between school rank and parental education levels has been established (Ercikan, 2004). A large correlation has also been found between ranking and parental income (Nagy, 2004).
- The rankings show unstable trends; school change is a slow, reiterative process, yet individual school ranks can jump hundreds of places between years. Instability of rankings suggests that they are not a valid indicator of enduring school qualities; such as effectiveness (Nagy, 2004).

### Research Questions

- How do student demographics affect the Fraser Institute’s elementary school rankings?
  - What is the effect of average parental income and proportion of English as a Second Language (ESL) students on the rating?

### Methods

**Sample:** 75 schools from the Vancouver School District were rated by the 2010 Fraser Institute elementary school report.

**School Rankings:** Range of 0.0 to 10.0

**Average Parental income and percentage of ESL students data was categorized:**

<table>
<thead>
<tr>
<th>Average Parental Income</th>
<th>Percentage of ESL students</th>
</tr>
</thead>
<tbody>
<tr>
<td>High $100,000 or more</td>
<td>Category 3</td>
</tr>
<tr>
<td>High 40% or more</td>
<td>Category 3</td>
</tr>
<tr>
<td>Middle $50,000 to $99,999</td>
<td>Category 2</td>
</tr>
<tr>
<td>Middle 20-39%</td>
<td>Category 2</td>
</tr>
<tr>
<td>Low 0 to $49,999</td>
<td>Category 1</td>
</tr>
<tr>
<td>Low 0-19%</td>
<td>Category 1</td>
</tr>
</tbody>
</table>

**Figure 1:** Variable Groups

**Two Way ANOVA**

<table>
<thead>
<tr>
<th>Source</th>
<th>Sum of Squares</th>
<th>df</th>
<th>Mean Square</th>
<th>F-value</th>
<th>Sig.</th>
</tr>
</thead>
<tbody>
<tr>
<td>Between Groups</td>
<td>1387.3</td>
<td>4</td>
<td>346.8</td>
<td>3.72</td>
<td>0.021</td>
</tr>
<tr>
<td>Within Groups</td>
<td>4230.2</td>
<td>180</td>
<td>23.5</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Total</td>
<td>5617.5</td>
<td>184</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Interpretation of Output:**
- Levene’s Test – Significant (no violation of the assumpton of homogeneity of variance)
- Interaction effect = Not Significant (no significant difference in the effect of income on rating for ESL groups)
- Main effect = Significant effects for income and ESL groups

**Post-Hoc Tests =** Tukey Honestly Significant Difference (HSD) test indicates that the low groups (1) differ significantly from the middle and high groups (2 & 3)

### Results

**Figure 2:** Variable Groups

**Figure 3:** Spread of Rating for ESL Groups

**Figure 4:** Spread of Rating for Income Groups

### Literature Cited


### Conclusion

- Average parental income and percentage of ESL students have a statistically significant effect on school rating. The percentage of ESL students has a stronger effect on rating, than the parental income.
- The Tukey HSD test indicates that the mean rating for low income schools or low ESL schools are significantly different than other income and ESL groups. This indicates that the ratings increase the stratification between social groups.
- If the student demographics such as parental income or first language orientation, can show an ‘effect’ on this rating, how legitimate of an educational indicator can it be?