How to Research and Analyze Disproportionate Impact Data

ASCCC Student Equity and Success Regional Meeting
American River College
September 26, 2014
Overview

• What is equity?
• What is disproportionate impact?
• What is required for the State Student Equity Plan?
• How can the student equity data be shared?
• Goal: Develop, implement, and evaluate a student equity plan

• Definition: Occurs “though environments in which each person...has a reasonable chance to fully develop his or her potential...” (Title 5 Section 66010.2c) regardless of race, gender, age, disability, or economic circumstances

• Meaning: Determine whether historically underrepresented groups have equal opportunity for access, success and transfer
Equality vs. Equity

**Equality** = *Sameness*
GIVING EVERYONE THE SAME THING → It only works if everyone starts from the same place

**Equity** = *Fairness*
ACCESS to SAME OPPORTUNITIES → We must first ensure equity before we can enjoy equality
Goal: Analyze whether disproportionate impact occurs across specific outcome measures

Definition: “A condition where access to key resources and support or academic success may be hampered by inequitable practices, policies and approaches to student support or instructional practices affecting a specific group.” (CCCCO Student Equity Plan template, 2014)

Meaning: Whether certain student groups experience the same outcomes at different rates
Disproportionate Impact

• How determined: 1) identify the number of students for each subgroup, 2) identify the number of students for each subgroup who achieved the outcome of interest

• Example:

<table>
<thead>
<tr>
<th>Subgroup Cohorts</th>
<th>Subgroup Cohort achieving outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Students</td>
<td></td>
</tr>
</tbody>
</table>
Proportionality Index

• Definition: Compares the percentage of a disaggregated subgroup in an initial cohort to its own percentage in the resultant outcome group.

• Meaning: Outcome percentage/Cohort percentage
Proportionality Index

Example:

Students

Subgroup Cohort

Subgroup cohort achieving outcome

Subgroup Percentage

Subgroup outcome percentage

Proportionality Index

<table>
<thead>
<tr>
<th></th>
<th>Subgroup outcome %</th>
<th>Subgroup outcome %</th>
<th>Proportionality Index</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>.41</td>
<td>.38</td>
<td>.93</td>
</tr>
<tr>
<td></td>
<td>.25</td>
<td>.38</td>
<td>1.52</td>
</tr>
<tr>
<td></td>
<td>.33</td>
<td>.25</td>
<td>.76</td>
</tr>
</tbody>
</table>

Subgroup divided by all students

Subgroup outcome divided by all students

Students achieving outcome:

3 RED, 3 GREEN, 2 BLUE = 8

Academic Senate for California Community Colleges

Leadership, Empowerment, Voice.
Proportionality Index

Calculation:

- Each subgroup cohort divided by all students to determine subgroup percentage rate
- Each subgroup cohort achievement outcome divided by all students achieving outcome to determine subgroup outcome percentage rate
- Divide subgroup percentage rate by subgroup outcome percentage rate

Index Scores

Underrepresentation 1.0 Equity Overrepresentation
Proportionality Index

• Advantage:
  • Easy to calculate
  • Allows for discussion about where disproportionate impact occurs

• Disadvantage:
  • Does not specify at what point disproportionate impact occurs
80% Index

• Context: Equal Employment Opportunity Commission (EEOC); used in Title VII enforcement by federal government (part of the 1964 Civil Rights Act)

• Definition: A selection rate for any race, sex, or ethnic group which is less than four-fifths (4/5) (or 80%) of the rate for the group with the highest rate will generally be regarded as evidence of disparate impact, while a greater than four-fifths rate will generally not be regarded as evidence of disparate impact.
80% Index

• Meaning: Percentage of each disaggregated subgroup attaining an outcome/percentage attained by the reference subgroup
80% Index

Example:

- Students

<table>
<thead>
<tr>
<th>Subgroup Cohort</th>
<th>Subgroup cohort achieving outcome</th>
</tr>
</thead>
<tbody>
<tr>
<td>Outcome Rate</td>
<td>80% Index</td>
</tr>
<tr>
<td>0.60</td>
<td>0.90</td>
</tr>
<tr>
<td>0.67</td>
<td>1.0</td>
</tr>
<tr>
<td>0.50</td>
<td>0.75</td>
</tr>
</tbody>
</table>

GREEN is the reference group

80% Index
Subgroup Outcome Rate divided by Reference Group Outcome Rate
80% Index

• Calculation:
  • Each subgroup cohort achieving outcome divided by respective subgroup cohort
  • Identify reference group by comparing the outcome rates among the subgroups
    – Highest subgroup cohort outcome rate is reference group
  • Divide outcome rate of other subgroups with the reference group outcome rate
  • Less than 80% is considered disproportionate impact
80% Index

• Advantage:
  • Provides a cutoff point of 80% to consider disproportionate impact

• Disadvantage:
  • Can be subject to sampling error if sample size is small in that it cannot be determined if disproportionate impact truly exists or if the results are due to chance
  • Having a set cutoff point can limit discussion regarding about disproportionate impact
Student Equity Plan Data

• Data required for the state plan:
  • Access
  • Course Completion
  • ESL and Basic Skills Completion
  • Degree and Certificate Completion
  • Transfer

• Each indicator to be disaggregated by:
  • Age, Ethnicity, Gender
  • Disability, Income
  • Foster Youth, Veteran
Student Equity Plan Data Sources

- **CCCCO DataMart**
  - Access (student demographics)
  - Course Completion
  - Basic Skills Tracker
  - Transfer Velocity
- **CCCCO Student Success Scorecard**
  - Access (student demographics)
  - Basic Skills/Remedial Progress
  - Transfer
- MIS Data via Data on Demand
- Additional Data Sources
  - US Census
  - California Department of Finance
  - Internal college data/records
  - Your friendly campus or district research office 😊
Presenting the Data

San Diego Mesa College Equity Dashboard 2014

<table>
<thead>
<tr>
<th>Access/Success Indicator</th>
<th>Gender</th>
<th>Ethnicity</th>
<th>Age</th>
<th>DSPS Status</th>
<th>Economically Disadvantaged</th>
<th>Veteran</th>
<th>Foster Youth</th>
</tr>
</thead>
<tbody>
<tr>
<td>Access</td>
<td>●</td>
<td>*</td>
<td>--</td>
<td>--</td>
<td>--</td>
<td>●</td>
<td>--</td>
</tr>
<tr>
<td>Course Retention</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Course Success</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
</tr>
<tr>
<td>Remedial English</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>**</td>
</tr>
<tr>
<td>Remedial Math</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>**</td>
</tr>
<tr>
<td>Remedial ESL</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>**</td>
</tr>
<tr>
<td>Degree Completion</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>**</td>
</tr>
<tr>
<td>Transfer</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>●</td>
<td>**</td>
</tr>
</tbody>
</table>

*College student population was more diverse than the surrounding service area (City of San Diego)

**Small number of cases (fewer than 10 cases in the original cohort) or data not available

<table>
<thead>
<tr>
<th>Red</th>
<th>At least one proportionality index below .80</th>
</tr>
</thead>
<tbody>
<tr>
<td>Yellow</td>
<td>At least one proportionality index between .80 and .89</td>
</tr>
<tr>
<td>Green</td>
<td>All proportionality indices above .90</td>
</tr>
</tbody>
</table>

Visuals can be helpful in digesting large amounts of data

Courtesy of Brianna Hays
Campus Based Researcher
San Diego Mesa College
Presenting the Plan

One page summary highlights important findings; reviews goals and activities
Summary

• Both proportionality and 80% index are recommended by Chancellor’s Office to help measure disproportionate impact

• College to determine disproportionate impact when using proportionality index

• College to comment on each indicator and accompanying analysis—then identify goals, activities and expected outcomes especially if there is disproportionate impact identified
For Consideration

• Make the Student Equity Plan meaningful at the local level
• Collection of initial reactions, second-level questions, and suggestions for investigating and addressing each area of disproportionate impact
• Conduct further investigation on student groups unique to your population
• Sustained discussion and engagement
Thank you!