Relativity of assessment within a modular assessment system in higher education: The case of New Zealand's NZQA Framework.

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Measuring Success?

Course pass rates by level and year enrolment started

Measuring Success?

The 10 highest and the 10 lowest course pass rates by narrow field of study – for courses started in 2005

### Measuring Success?

<table>
<thead>
<tr>
<th>Year started</th>
<th>First year attrition rate</th>
<th>Certificate and diploma completion rate by year of study</th>
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<tbody>
<tr>
<td>1998</td>
<td>49%</td>
<td>18%  23%  26%  27%  28%  29%</td>
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<td>53%</td>
<td>17%  23%  26%  27%</td>
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<tr>
<td>2001</td>
<td>50%</td>
<td>14%  24%  27%</td>
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<td>2002</td>
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<td>18%  30%</td>
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Measuring Success?

Passing courses and qualifications – for students starting qualifications in 2001

- Percentage of all courses enrolled in between 2001 and 2005 that were passed
- Percentage gaining a qualification at this level after five years
- Percentage passing all courses but not gaining a qualification at this level after five years

Measuring Success?

<table>
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<tr>
<th>Question</th>
<th>Reason</th>
</tr>
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<tbody>
<tr>
<td>Measuring student success by completion alone?</td>
<td>Not good enough since the completion rate within five years from enrolment is around 30%</td>
</tr>
<tr>
<td>Measuring GPA for non-completers?</td>
<td>Not a fair measure since GPA is a measure of quality only but cannot measure quantity (i.e., number of credits gained).</td>
</tr>
<tr>
<td>Comparing the total number of credits gained?</td>
<td>Not applicable since students could have enrolled in and leave a program at any time.</td>
</tr>
<tr>
<td>No data were available on previous credits acquired so some of the completions were related to previous studies</td>
<td></td>
</tr>
</tbody>
</table>
Measuring Success: Assumptions

- The more courses a student has successfully completed the more likely he/she is to gain a qualification.
- The longer the time a student was enrolled the more likely he/she is to gain a qualification (in comparison to other students in the same program).
- The higher the GPA the more likely the student is to gain a qualification.
- The longer the time a student had between the end of enrolment (T2) and the end of follow up (T3) the more likely he/she is to gain qualification (based on the ability to complete unfinished tasks or re-seat exams).
Measuring Success: The Success Value

<table>
<thead>
<tr>
<th>GPA (modified to z-scores)</th>
<th>Completion:</th>
</tr>
</thead>
<tbody>
<tr>
<td>0-Failure,</td>
<td>0-Did not complete</td>
</tr>
<tr>
<td>1-Achieved/ Pass;</td>
<td>1-Complete</td>
</tr>
<tr>
<td>2-Merit,</td>
<td></td>
</tr>
<tr>
<td>3-Excellence</td>
<td></td>
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</table>

A logistic regression model measuring the proportional effect on completion of:
- Time
- GPA
- No. of Credits

(Values of each student was compared to the mean value of the completers)

Success Value (SV)
The overall relative weighted values of Time, GPA and No. of Credits, modified to z-scores within each program
(in comparison to the mean values of the completers)
Linear regression results (beta) for **Success Value**
(within programmes that offered courses at both Diploma and Certificate levels)

- **Technology of Engineering**
- **Services**
- **Marketing**
- **Administration**
- **Hospitality or Tourism**
- **Sports**
- **Other programs**
- **Carpentry**
- **Arts**
- **Language skills**
- **Diploma**
- **Polytechnic student**
- **Wage or salary employee**
- **PTE student**
- **Unemployed or beneficiary**
- **Age at start**
- **School qualification**
- **SES**
- **Male**
- **Other ethnicity**
- **Asian**
- **Pasifika**
- **Maori**

**Ref: Accounting or Banking**

**Ref: Certificate**

**Ref: secondary school student**

**Ref: Pakeha**
Success Value by ethnicity by completion
Success Value by secondary school qualification by type of tertiary qualification by completion.

Did not complete

Completed

Secondary school qualification

Type of qualification

Certificate

Diploma
Student distribution by clusters by ethnicity

- **Pakeha**: Complete, High SV (45.9%), Not complete, High SV (2.00%), Not complete, Low SV (4.00%), Complete, Low SV (4.2%)
- **Maori**: Complete, High SV (52.0%), Not complete, High SV (13.5%), Not complete, Low SV (3.0%), Complete, Low SV (4.3%)
- **Pacific**: Complete, High SV (52.5%), Not complete, High SV (4.3%), Not complete, Low SV (3.0%), Complete, Low SV (3.2%)
- **Asian**: Complete, High SV (42.5%), Not complete, High SV (28.0%), Not complete, Low SV (3.2%), Complete, Low SV (3.5%)
- **Other**: Complete, High SV (48.9%), Not complete, High SV (23.0%), Not complete, Low SV (3.5%), Complete, Low SV (3.5%)
Students distribution across programs by four clusters (Diploma)
Students distribution across programs by four clusters (Certificate)
Summary and Conclusions

• There is a major challenge to measure student success in non-degree programmes within the current system.
• Measuring the Success Value is an effective method to measure student success across programmes and institutions within a modular teaching and assessment system.
• Special attention needs to be made to students with high SV who did not qualify.
What next?

"Asking the right question is more important than giving the right answer."

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