

# Using University Level Data for Institutional Research

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## Abstract

We illustrate how Institutional Researchers have access to institutional level data, instruments, tools and expertise to assist departments in answering questions regarding teaching and learning.

## University level data sources

**1) NCEA** {univ. entrance exam}  
List of credits students have taken in subject domains, awarded at Excellence, Merit or Achieved levels.

**2) University entrance status**

- NCEA
- Adult Entry (open for age 20+)
- Special Admissions options

**3) Student enrolments numbers in papers and programmes**

**4) Student grades in papers**

**5) Student engagement surveys** (e.g., AUSSE, NSSE and so on)

- Year 1
- Year 3

**6) Teaching and course surveys**

- By course
- By instructor

**7) Destination surveys (CEQ), employer surveys, accreditation reviews** (e.g. AACSB, IPENZ)

## POSSIBILITIES Department/Programme Queries

### How well are our students prepared?

- What secondary pathways do they take?
- Which pathways / subjects should we advise high school students to take?
- Are prerequisites needed?

### What are student experiences in their curricula?

- How are they performing?
- Are our assessments too easy/hard?
- Are the courses taught?
- Are students engaged?

### How are students progressing?

- Are there obstacles in the curriculum?
- How many students will we retain in second year?
- How long does it take students to complete a degree?

### How are students doing after graduation?

- What jobs do they have?
- Are they satisfied with their education?
- Are their employers satisfied with their education?

## Examples of data usage

### Use 1) and 4)

- to correlate student grades with specific pathways (e.g., grades in first year biology as a function of the amount of biology and chemistry taken in high school)
- employ "best 80" calculation to determine entry into programmes (Hattie et al.)

Enrolment projection: Use 1), 2) and 3) to project enrolments in papers

Grade variability: Use 4) for the same students at the same level to determine relative grading standards across the university

Student engagement: Use 5) and 6) to identify and disseminate best practices in the university and identify sources that may inhibit student retention

Use 7) combination with 5) and 6) explore alignment and connections between teaching, learning outcomes and professional expectations

## Challenges

- Data integrity, confidentiality and maintenance – data gathered for institutional purposes are not always up to date (e.g., NCEA maintenance patches) and some data (e.g., teacher surveys) are considered confidential information. Clear policies are required concerning data ownership, custodianship, maintenance and access.
- Reliability and generalizability of data due, for example, to low response rates (e.g., AUSSE).
- Ethics of research – if institutional researchers or departments want to publicise results, this requires human ethics oversight.

## References

James, A., Montelle, C., and Williams, P. (2008). From lessons to lectures: NCEA mathematics results and first-year mathematics performance. *International Journal of Mathematical Education in Science and Technology*, 39(8), 1037-1050.

Luan, J., & Zhao, C-M. (2006). Practicing data mining for enrollment management and beyond. *New Directions for Institutional Research*, 131, 117-122.

Serban, A. M. (2002). Knowledge management: The "fifth face" of institutional research. *New Directions for Institutional Research*, 113, 105-111.

Shulruf, B., Hattie, J., & Tumen, S. (2008). The predictability of enrolment and first-year university results from secondary school performance: The New Zealand National Certificate of Educational Achievement. *Studies in Higher Education* 33(6), 685-98.