Student Analytics and the Longitudinal Evaluation of Language Programs

Peter Ecke

University of Arizona

eckep@email.arizona.edu

http://www.researchgate.net/profile/Peter_Ecke/

- Acknowledgments:
  - Alexander Ganz
  - Rachel Walker, Alan Eby
  - GATs in the BLP

Objectives

- Long-term internal evaluation of a language program
- Use of enrollment and survey data
- Help with program improvement, educational effectiveness, and even program survival (Norris, 2009)

Initial reflection: Our programs over time:
Being on a long and winding road
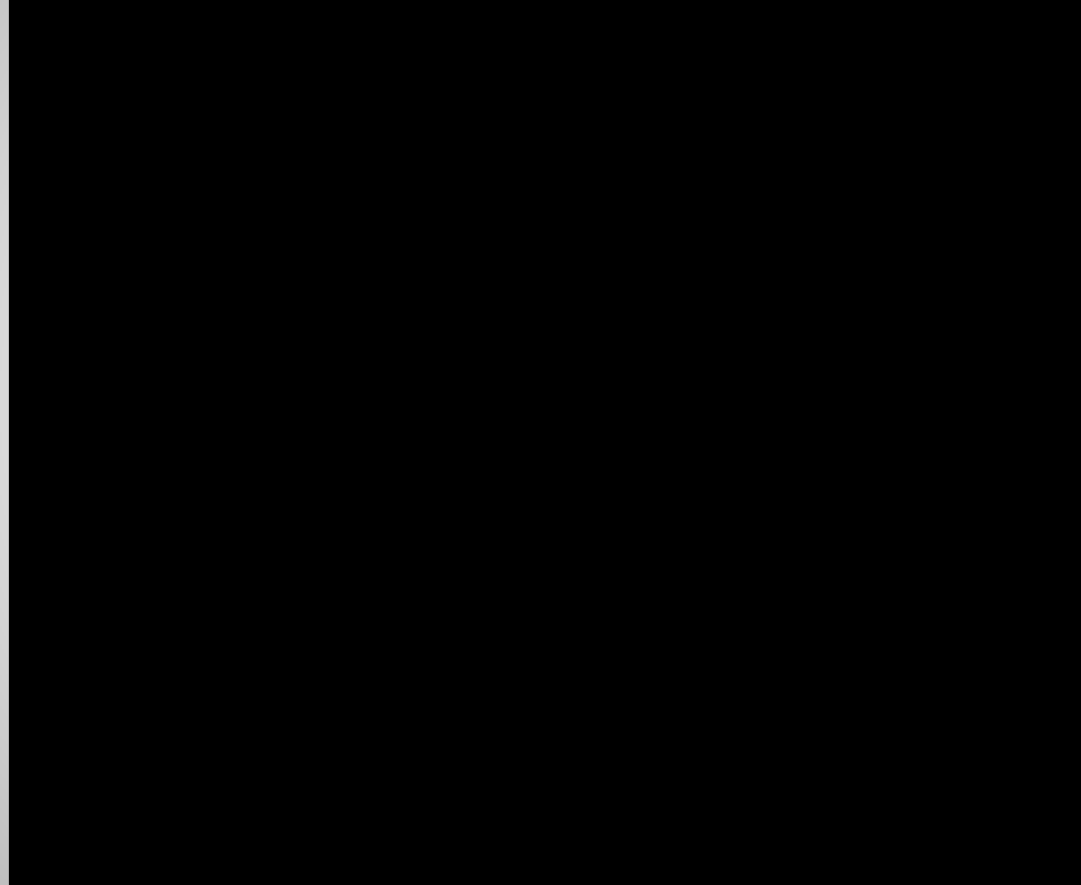
Student analytics:

(1) the collection and analysis of relevant data and

(2) the usage of data-based findings to guide informed decision-making

- to better understand and evaluate short- and long-term program trends

- to address four challenges to language programs:

Four challenges

1) the long-term tracking and monitoring of student enrollments and their meaningful interpretation, taking into account both internal (institutional, departmental) and external (regional, national) data

2) the identification of potential issues of the program as well as subsequent intervention to resolve problems and improve program components (e.g., enrollment slumps, course scheduling, unclear course titles, and contents of under-enrolled courses)

Four challenges

3) the establishment of student profiles of relevance for program planning and design
   (e.g., students' motives and interests, background languages, and major and minor areas of study)

4) keeping track of individual students' career paths,
   including main achievements during their course of study and after completion of the language and culture program

1: Tracking and interpreting student enrollments

(Criterion to make decisions about the continuation, curtailing, or closure of programs, to react to negative trends and problems)

- Take context into account
  - Enrollments at the institutional, regional, and national levels (Furman, Goldberg & Lusin, 2010; Rhodes & Pufahl, 2010; ACTFL, 2010)
  - For meaningful interpretation
- Example from our basic language program (BLP) (first four semesters) in German at the Univ. of Arizona (UA)
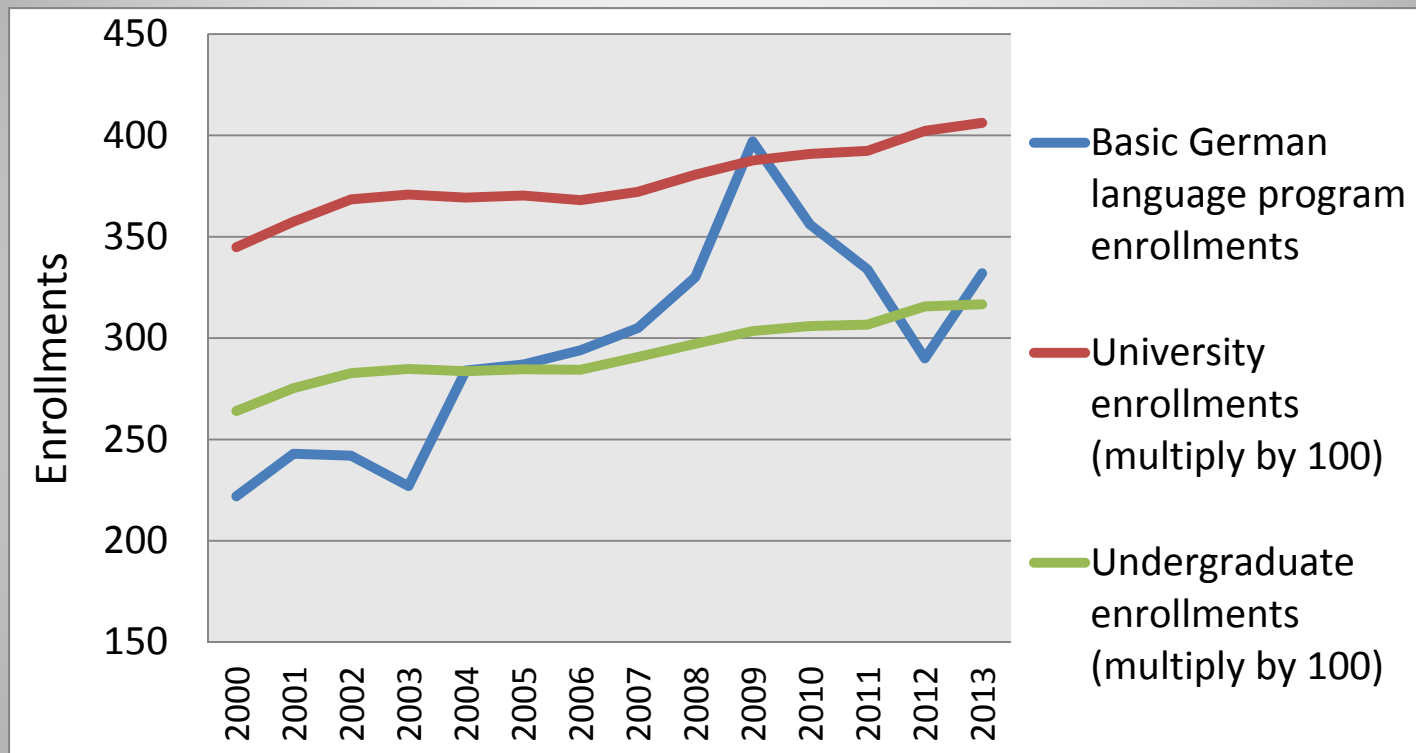
Figure 1. Number of students enrolled in the basic German language program in fall and spring semesters 2000 - 2013
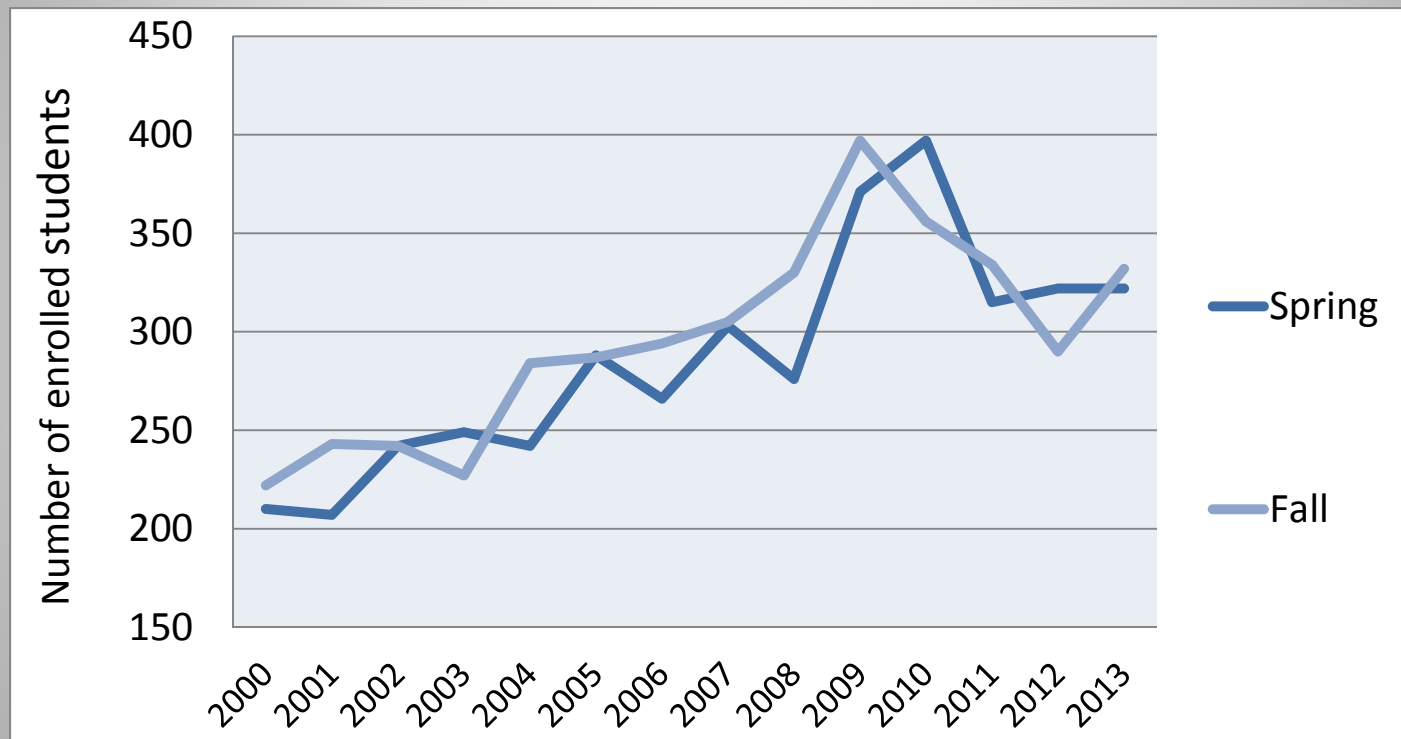
- 49% increase (from 222 in 2000 to 331 in 2013), impressive growth, healthy program (?)

- The data by themselves are relatively meaningless
- To better assess program health
  - Compare program enrollments with institutional enrollments and
  - Regional and national enrollments

Figure 2. Overall enrollments at the University, undergraduate enrollments at the University and enrollments in the basic German language program in fall semesters 2000 - 2013

Correlation r = 0.74 (p < .01) with undergraduate enrollments, 54% of variation
Correlation r = 0.7 (p < .01) with university enrollments, 49% of variation in BLP enrollments

Figure 3. Number of students enrolled in first-semester courses in the basic German language program in fall and spring semesters 2000 - 2013
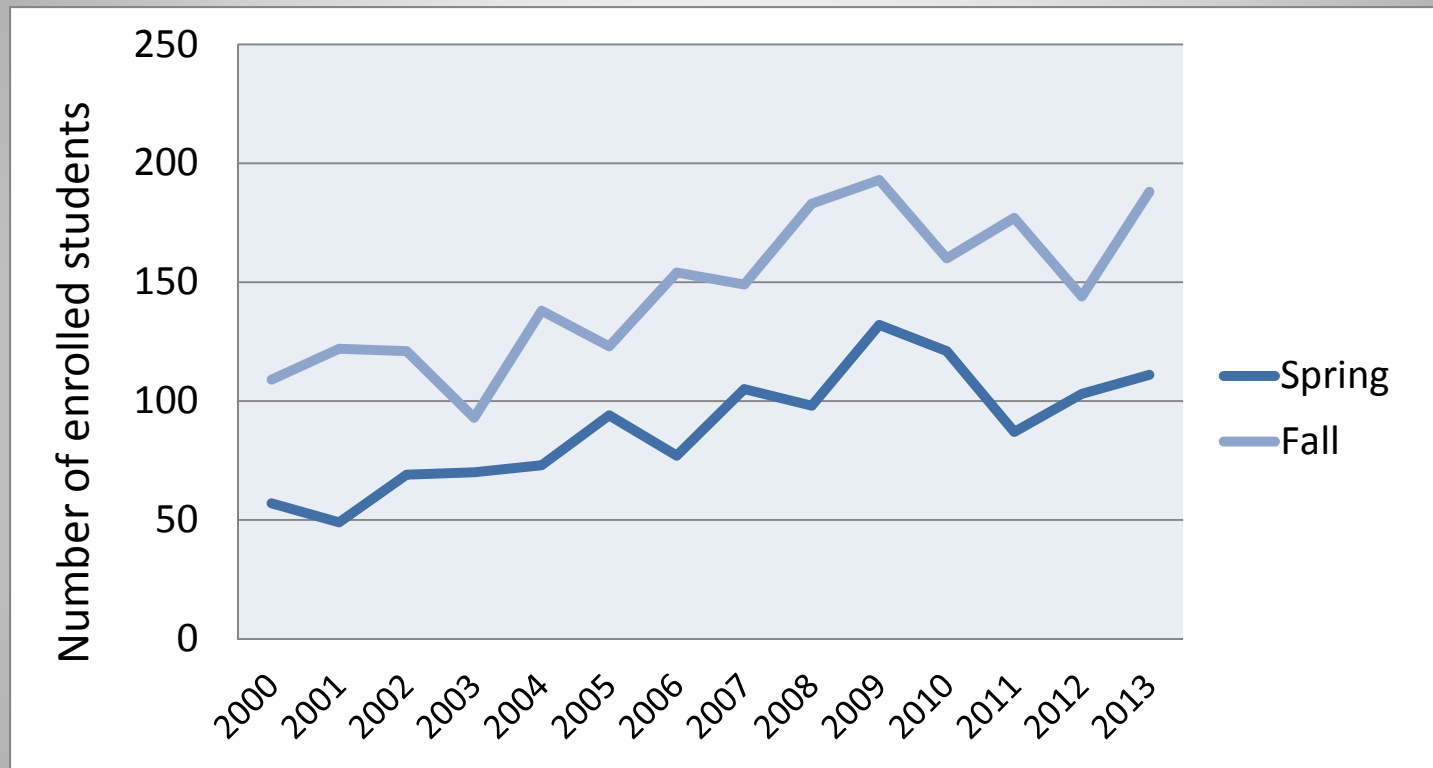
Increase by 72% from fall 2000 to fall 2013, higher than overall program enrollment increase of 49%

Figure 4. German 101 enrollments in the BLP and new freshmen enrollments at the university (in hundreds) in fall semesters 2000-2013
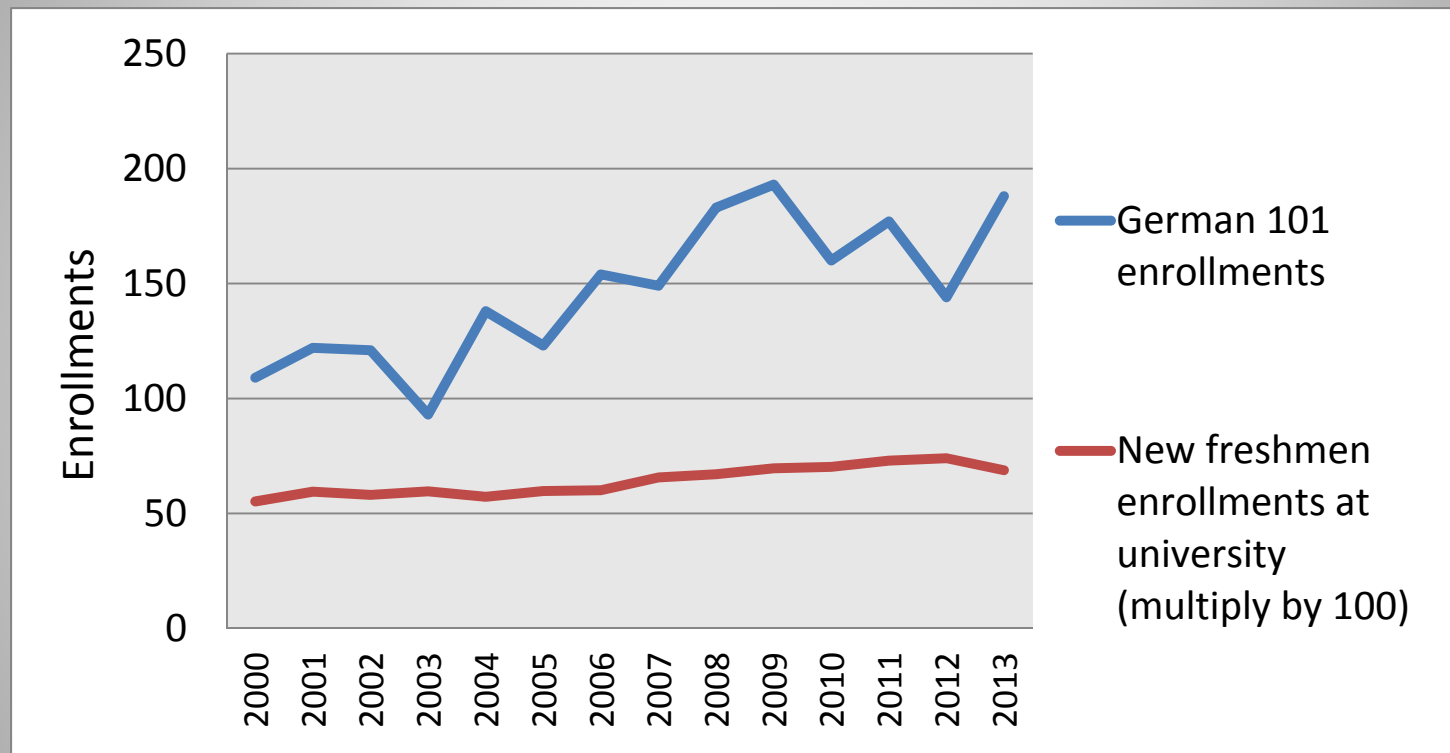
Correlation r = 0.73, accounting for 54% of variation in GER 101 enrollments

Comparison of BLP enrollments with enrollment trends at the national level

- Total numbers of students enrolled in German at US colleges increased by 5.8% from 91,100 in 2002 to 96,349 in 2009 (Furman et al., 2010).

- Fall semester enrollments in our BLP increased by a substantial 64% from 242 in 2002 to 397 in 2009.

- Higher growth rate in the BLP compared to the national rate.

- Valuable comparative data in an external program review.

2. Identifying potential issues and subsequent intervention

Figure 1. Number of students enrolled in the basic German language program in fall and spring semesters 2000 - 2013
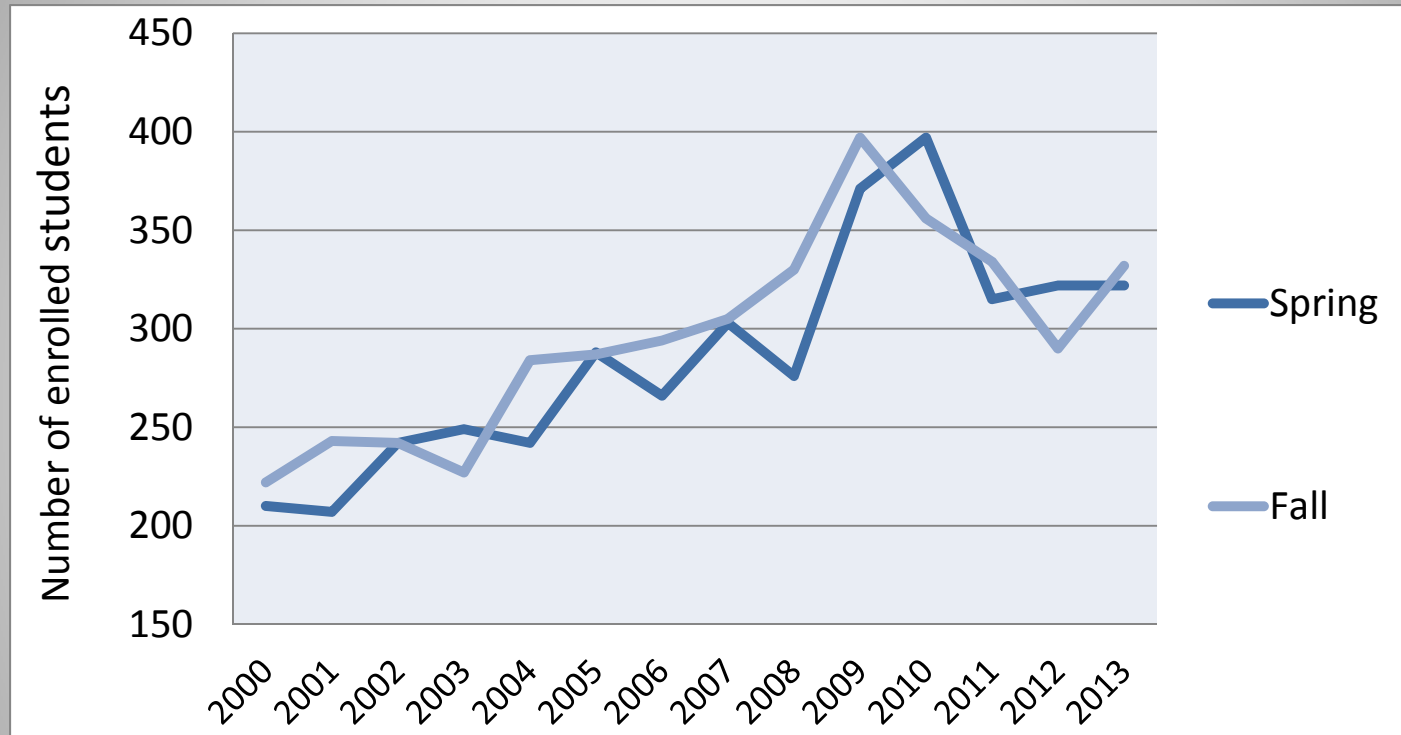
- Considerable variation, substantial decline in enrollments 2010-2012
- Potential causes and measures taken to reverse the trend

Factors that could have contributed to the enrollment decrease

1) A temporary decline in growth of incoming freshmen in the fall of 2010 (which we know from institutional enrollment data);

2) A decrease in the number of high schools that offer German in the region and state (as documented by ACTFL (2010), Rhodes & Pufahl (2010) and findings from our internally administered student background questionnaires that show that students report prior knowledge of German less frequently in recent years);

3) A disproportionate increase in enrollments in Chinese at the institution and in the region (ACTFL, 2010; Furman et al., 2010; Rhodes & Pufahl, 2010);

Factors that could have contributed to the enrollment decrease

4) Increased efforts by colleagues to recruit students into competing language programs, (e.g., during the orientation week);

5) A comparatively high price tag of the instructional package ($340) required for German 101 (and used in the following two semesters).

We responded by:

- increasing efforts to recruit students during orientation and through social networking sites,

- negotiating a custom-made instructional package with the publisher in 2012, which brought down the price from $340 to $120,

- continued efforts for program articulation and through outreach events, such as campus visits of high-school students.

- Enrollments started to rise again in 2013, but it is unclear whether any of the measures have impacted enrollment growth.

3. Establishing student profiles relevant for program planning

- Institutional data are valuable but limited.
- Custom-designed surveys to
  - gain insights about students,
  - Identify/resolve problems,
  - track program development over time

Example
Student background questionnaire (history)

- Paper-based version given in courses at the beginning of each semester since 2003

- A digital format implemented in 2010
  (using the university's Google Apps system)

Student background questionnaire (objectives)

- Provide instructors with relevant information about students
- Identify students who had not been placed in the appropriate course
- Enhance individualization and teaching based on students' needs and interests
- Compile student data as part of a continuous internal evaluation of the BLP
  - Detect meaningful patterns and trends that may affect the Department as a whole

Student background questionnaire (content)

- Information about students' year of study, major(s)/minor(s)

- Previous experience with languages

- Self-rated proficiency in first and second languages

- Motives for the study of German
  (18 items rated on a 4-point Likert scale, based on Sinka & Zachau, 2005)

- Specific learning objectives

  (Questionnaire copy available in Ecke & Ganz, in press)

Student Motives

Figure 5. Mean scores assigned by BLP students for motives to enroll in German classes
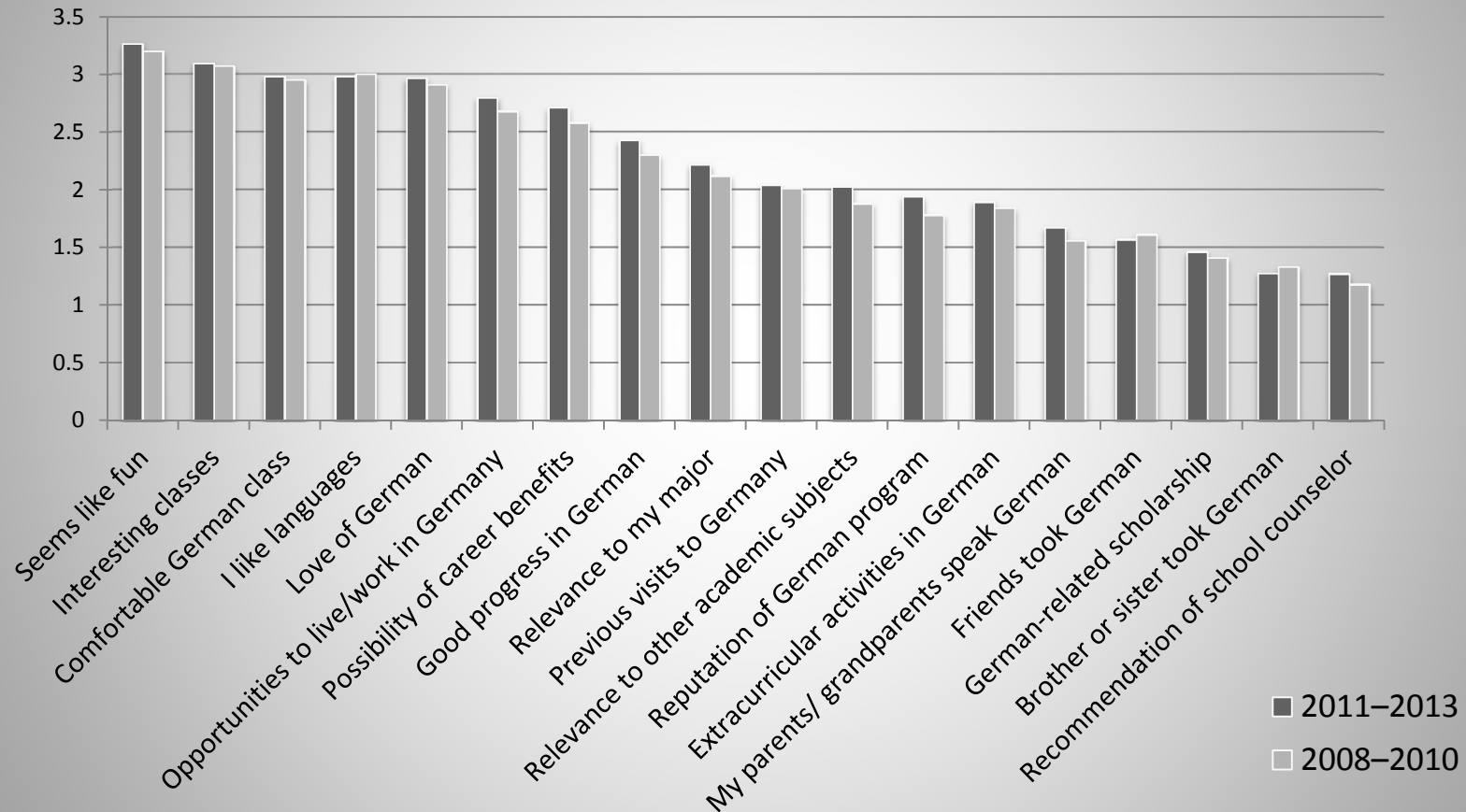
Note. Rated on a scale from 1 (not very important) to 4 (very important)
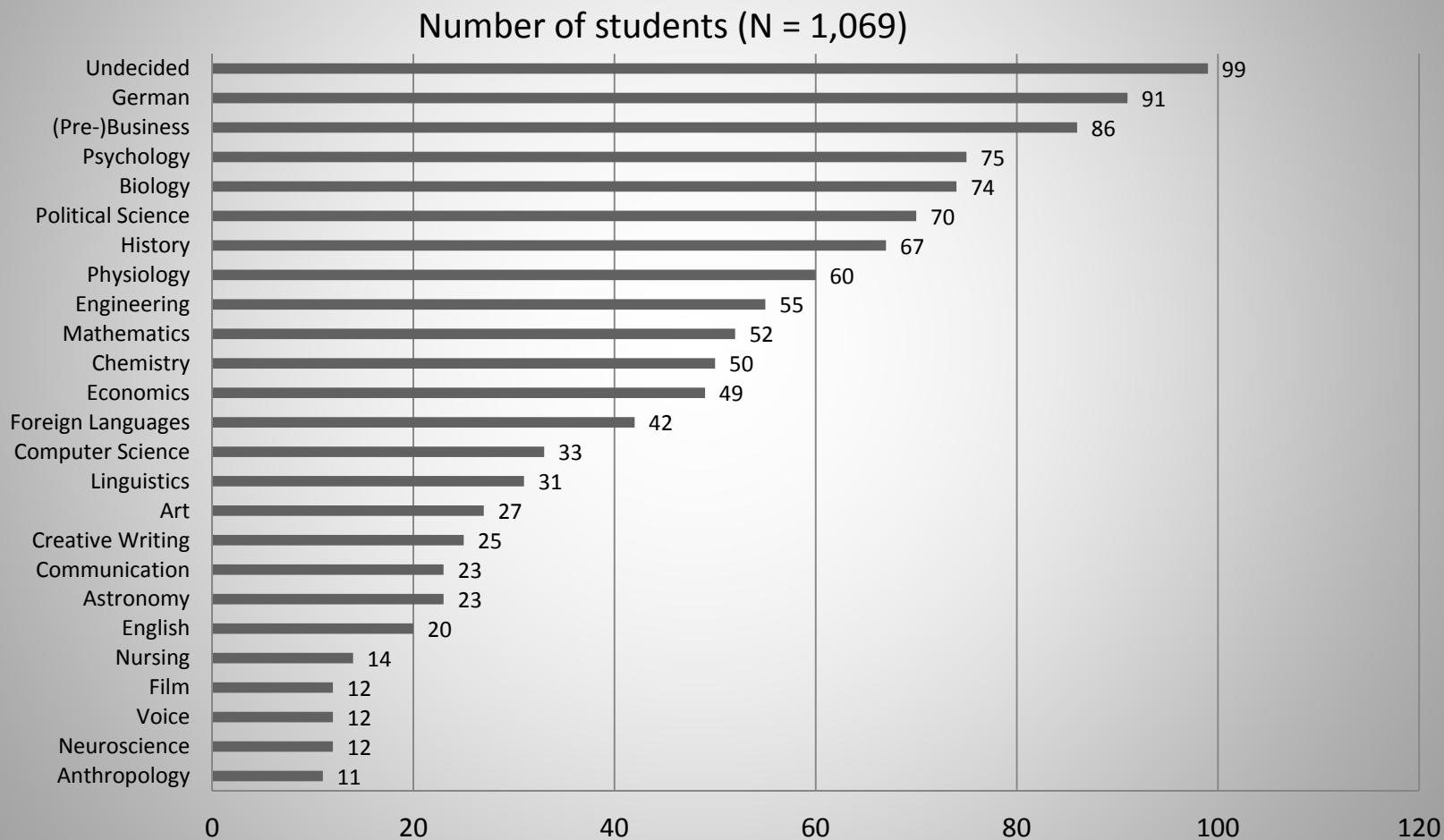
Language Background

- Fewer students reported prior experience with German (in recent years):
  - in 2006: 47.5%
  - in 2008: 29.4%
  - in 2010: 26.1%

  This corroborates research findings (ACTFL, 2010, Rhodes & Pufahl, 2010) and our data on enrollment growth rates in 1st year vs. overall enrollments.

Majors and Minors

Figure 7. The most frequently reported major and minor areas of study by students enrolled in the BLP (fall 2011 - fall 2013)

Number of students (N = 1,069)

Area of study	Number of students
Undecided	99
German	91
(Pre-)Business	86
Psychology	75
Biology	74
Political Science	70
History	67
Physiology	60
Engineering	55
Mathematics	52
Chemistry	50
Economics	49
Foreign Languages	42
Computer Science	33
Linguistics	31
Art	27
Creative Writing	25
Communication	23
Astronomy	23
English	20
Nursing	14
Film	12
Voice	12
Neuroscience	12
Anthropology	11

4. Keeping track of students' career paths and achievements

- Students' success in their careers is an increasingly important criterion for program evaluation.
- Success during study and after program completion
- Tracking (select) undergraduate students in the BLP who
  - become majors and minors
  - are accepted into graduate programs
  - participate in study abroad programs
  - demonstrate special achievements (e.g., scholarship awards, job placement)

- Tracking graduate students and adjunct instructors who teach in the BLP with respect to
  - ratings of overall teaching effectiveness (in course evaluations)
  - nomination for teaching awards
  - job placement (in schools, organizations, and businesses)
  - acceptance into doctoral programs
  - assignment as assistants to the director, as teachers in study abroad programs, and other special assignments
- Alumni web page and social media sites
  - for student tracking, student recruitment and reflection

Conclusion

- We attempted to illustrate with examples from our program how potentially relevant data can be collected, and how the meaningful interpretation of data may contribute to program evaluation and informed decision making to improve the program.

- We hope that the 4 challenges, outlined earlier, may help to guide others in their efforts to use student analytics and collect useful data about their programs over time.

Thank you!

References

- American Council on the Teaching of Foreign Languages (ACTFL). (2010). *Foreign language enrollments in K-12 public schools: Are students prepared for a global society?* Alexandria, VA: Author.

- Andress, R., James, C. J., Jurasek, B., Lalande II, J. F., Lovik, T. A., Lund, D., Stoyak, D. P., Tatlock, L., & Wipf, J. A. (2002). Maintaining the momentum from high school to college: Report and recommendations. *Die Unterrichtspraxis / Teaching German, 35,* 1–14.

- Ecke, P. (2011). The state of German in the United States: A statistical portrait and a call for teachers. *German as a Foreign Language, 12,* 55–83.

- Ecke, P. & Ganz, A. (in press). Student analytics as part of the longitudinal evaluation of language programs. In N. Mills & J. Norris (Eds.), Innovation and accountability in foreign language program evaluation (pp. 62-82). Boston: Heinle, Cengage Learning.

- Furman, N., Goldberg, D., & Lusin, N. (2010). *Enrollments in languages other than English in United States institutions of higher education, fall 2009. The Modern Language Association of America*. Retrieved from http://www.mla.org/pdf/2009_enrollment_survey.pdf

- Norris, J. M. (2009). Understanding and improving language education through program evaluation: Introduction to the special issue. *Language Teaching Research, 13*(1), 7–13.

- Rhodes, N. C., & Pufahl, I. (2010). *Foreign language teaching in U.S. schools: Results of a national survey*. Washington, DC: Center for Applied Linguistics.

- Sinka, M. M., & Zachau, R. (2005). An articulation study of post-secondary German students: Results, implications, and suggestions. In C. M. Barrette & K. Paesani (Eds.), *Language program articulation: Developing a theoretical foundation* (pp. 94–108). Boston, MA: Thomson Heinle.

Student Analytics and the Longitudinal Evaluation of Language Programs

Peter Ecke

University of Arizona

eckep@email.arizona.edu

http://www.researchgate.net/profile/Peter_Ecke/

Language Program Evaluation Symposium
Harvard University, October 31, 2014