

PENNSSTATE



The Role of Institutional Research in Implementing First-Year Seminars

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Michael J. Dooris
Director, Planning Research and Assessment
mjd1@psu.edu

Daniel P. Nugent
Management Information Associate
dpn3@psu.edu

Center for Quality and Planning
405 Old Main
University Park, PA 16802

814-863-8721
www.psu.edu/president/cqi

Abstract

In 1999-2000, Penn State implemented a first-year seminar requirement for all incoming baccalaureate freshmen, in all majors, at all Penn State campuses. This paper describes the role that institutional research played through three stages of the process:

- early committee deliberations;*
- implementation of the new program;*
- support and development of the program.*

Student and faculty focus groups and surveys have provided mostly positive feedback about the seminars, along with some insights into opportunities for refinement and improvement. Analyses of non-obtrusive data such as transcript files and registrar's databases have been an especially efficient and powerful way to answer questions about how the new requirement has been enacted – To what extent are students fulfilling the requirement? Through which courses? For how many credits? In which colleges? – and so on.

At Penn State, we have emphasized relatively pragmatic analyses (such as how the curriculum is being enacted) more than classic assessment approaches (such as pre- and post-tests), for two reasons. First, the challenges of conducting valid and reliable assessments of cognitive and affective gains, or educational outcomes, are substantial, especially for campus IR staffs juggling multiple responsibilities with limited resources of time, staffing, money, and expertise. Second, a persuasive research literature has demonstrated that first-year seminars do constitute good practice. Therefore, our own efforts have mostly been directed toward developing, supporting, and strengthening a program that faculty and administrators believe is a good idea. We suspect that these probably are legitimate considerations for many of our colleagues in institutional research offices at other campuses, as well.

Introduction

Beginning in 1999-2000, Penn State University initiated one of the nation's most ambitious first-year seminar efforts when it enacted a university-wide first-year seminar requirement for all new incoming baccalaureate students. Institutional research was involved in all phases of the design, implementation, and assessment of the first-year seminar program. This paper draws from that experience to illustrate how institutional researchers can contribute to this type of curricular change.

Origins of the First-Year Seminar Program at Penn State

The first-year seminar program at Penn State was part of a larger change in general education at the university. In December 1997, Penn State's Faculty Senate adopted the recommendations of a special committee, which had been working for over a year to develop a new general education curriculum (Penn State, Fall 1997).

Some of the changes in the general education package were more substantial and challenging than others, but in total, the adjustments were significant. The committee presented ten recommendations (all of which the Faculty Senate ultimately accepted) with the goal of enhancing curricular flexibility, emphasizing high quality, fostering opportunities for experimentation and building assessment into the curricular process. Among the committee's recommendations were the inclusion of active learning elements in all general education courses and the identification of key competencies. The committee also recommended the restructuring of requirements for health and physical

education and for foreign languages. (More detailed information is available at Penn State's general education website, <http://www.psu.edu/oue/gened/>.) The hallmark of the new general education curriculum was the establishment of a first-year seminar requirement for all incoming baccalaureate students.

Members of the general education committee certainly drew on their own experiences and ideas in developing their report, but more objective information from qualitative and quantitative analyses was also important at all stages of the process: in initial explorations into alternatives and possibilities, through the implementation of curricular changes, to the assessment of the new program (Dooris and Blood, 2001).

The Role of Institutional Research

Institutional research supported the committee with data from many sources throughout the three stages of early deliberation, program implementation, and program support and continuation.

Early Deliberations about a First-Year Seminar Program

Early in the discussion process, institutional research helped confirm the desirability of some type of program along the lines of a first-year seminar. For example, committee members learned from transcript analyses that 55 percent of general education student credit hours were earned in classes of 100 or more students and that freshmen and sophomores were disproportionately likely to be enrolled in large classes. Attendance studies revealed that student absenteeism was strongly and positively correlated to class size; alumni and student surveys highlighted a need for students to better see the linkages between general

education with studies in the major, especially early in the college experience. Several colleges within the Penn State system were already using elective first-year seminars and data were available from the assessment of these existing programs. The literature on undergraduate education and on first-year seminars as well as benchmark information on practices at other colleges (not all of which were in Penn State's normal research university peer group) was also helpful.

First-Year Seminar Implementation

Institutional research also played a very useful role during the implementation stage.

The actual creation of a first-year seminar program is a significant undertaking for any institution; it is especially ambitious for an institution as large and organizationally complex as Penn State. Each year Penn State enrolls about 12,000 new first-year students on its 24 campuses. It has 17 undergraduate degree-granting colleges that offer majors in 232 undergraduate programs. Every college or university is, of course, unique – but institutional research can help faculty, staff, and administrators at any institution decide whether and how a major curricular change can, as a practical matter, be designed and implemented in the context of practical and specific organizational considerations.

In Penn State's situation, the general education committee was interested in proposing a university-wide requirement, but had doubts about whether the university would be able to overcome some very significant obstacles. Institutional research helped address these doubts by developing information on

factors such as existing patterns of faculty instructional assignment; curricular requirements (credit loads, course sequencing) of different majors; estimated numbers and costs of additional small sections; and physical facility constraints—that is, the number, size, and availability of classrooms.

Taking such factors into consideration, the committee decided that an institution-wide program could work if it combined a university-wide philosophy with considerable college, campus, and departmental flexibility.

University-Wide Approach

The most important university-wide aspect is the fact that there is a Penn State first-year seminar requirement that applies to all entering baccalaureate freshmen, in every academic program of the university and at every campus. We believe Penn State is the only large research university in the nation with such an institution-wide provision. Also, the seminars are all credit-bearing, all taught by regular full-time faculty with at least three years teaching experience at Penn State, and all limited to twenty students per section.

College and Department Flexibility

While the program has strong university-wide common threads, the first-year seminar is nonetheless as varied and individual as Penn State's many colleges, campuses, and departments.

For example, the first-year seminar courses range from one to three credits. Most students take a seminar in the college in which they are enrolled, but they may select from a wide array of courses, and satisfaction of the requirement is portable. Colleges, departments and campuses design and offer

their own courses and have considerable autonomy as to the content and structure of the offerings. In recognition of the difficulty in implementing a university-wide program to serve 12,000 students, the Faculty Senate and the University administration specified a two-year transition period between acceptance of the recommendations in 1997, and enactment of the first-year seminar requirement for freshmen entering in the Summer and Fall of 1999.

Assessment of the Program

Institutional researchers have been and remain involved in assessment of the first-year program, and in reporting results annually to the Faculty Senate and to the deans' council.

Consistent with the idea that assessment should be designed into a new program, one of the ten recommendations of the general education committee in fact called for systematic assessment of general education. As a result, the Faculty Senate and the university administration appointed a nine-member General Education Assessment Interest Group. That group identified the assessment of first-year seminars as its first task; it helped to guide much of the institutional research described in this paper.

The Need for Footprint Assessment

First-year seminar programs are frequently asked to prove their value; this theme threads throughout the publications of South Carolina's highly regarded National Resource Center for the First-Year Experience.

There is often a temptation to focus such assessments on the most conceptually interesting research questions about gains, cognitive and affective

outcomes, and the like, but every college or university should probably first ask, “To what extent is this institution actually enacting its supposed curricular requirements? What is the *footprint* of programs, in terms of offerings and course-taking patterns?” Information about course offerings and student enrollment patterns are prerequisite to an evaluation of the strengths and weaknesses of a program. This is particularly true in the case of Penn State, given the myriad of first-year seminar implementation models among the individual colleges and campuses. Fortunately for institutional researchers, data about these patterns are available unobtrusively from transcript data, registrar’s files, and the like. Increasingly, at many colleges and universities, such data can be accessed fairly easily from a central data warehouse.

The Penn State Data Warehouse

In 1994, Penn State began development of a university-wide data warehouse. The aim of the data warehouse was to simplify *ad hoc* access to the most widely used administrative data.

The data warehouse has since grown to approximately 100 tables in more than a dozen databases housing just under 100 million records. Data are transferred from the legacy systems on a regular schedule. These data are non-modifiable and represent a snapshot of time-fixed data. The Penn State data warehouse provides a convenient and consistent source of institutional data and allows for *ad hoc* inquiries as well as extensive analysis.

Using the data warehouse – specifically the data available in the university’s official enrollment, term course master, and transcript files – we were

able to describe how the first-year seminar requirement had been enacted. For example, by the end of the 1999-2000 academic year, 93 percent of the first-time enrolled freshmen who returned as sophomores had completed the first-year seminar requirement. There were 764 sections of 234 different courses offered to satisfy the requirement. The sizes of the sections ranged from 14 to 25, with most sections within the desired maximum size of 20 students. The large majority (81 percent) of the courses were offered for one credit, eight percent of the courses were offered for two credits, and 11 percent of the courses were offered for three credits.

Concerns over the university's ability to implement such a significant curriculum change were eased, since these data also showed that more than enough first-year seminar places were available to serve the needs of the student population. The data also have helped to guide the development of procedures to handle situations in which a student does not satisfy the requirement in his or her freshman year.

Student and Faculty Views on the First-Year Seminar Program

Penn State relied largely on faculty and student focus groups and student surveys in gauging the impact of the first-year seminar program and in identifying areas where improvement is needed.

Faculty Focus Group Results. Faculty focus groups representing ten colleges and four campus locations provided feedback that was mostly positive. A strong message was that it is desirable to allow faculty to be creative with the content and structure of their individual first-year seminars while still ensuring

that common objectives are addressed. Almost all the faculty members expressed a desire to teach a first-year seminar again.

Student Focus Group and Survey Results. Focus groups were conducted with students from six colleges and four locations, and approximately 500 freshmen who had completed or were currently enrolled in first-year seminars were surveyed via written instruments. As with the faculty feedback, student reactions were largely positive. Students especially liked the small class sizes, which created opportunities for interaction both with faculty and with other students, many of whom were also enrolled in their other courses. Students identified time management skills, academic content, career knowledge of major and field and enhancement of library and Internet or computer skills as the most important things they learned in the first-year seminar.

Surveys also found that almost half of the respondents felt that their first-year seminar resulted in their becoming engaged in the climate of learning at Penn State, being oriented to high expectations and demanding workload of academic life, and seeing a connection between the first-year seminar and their potential major. 35 percent of survey respondents felt that interacting with their first-year seminar instructor “added to the quality of their first year experiences” (Penn State, 2001).

While there were no strong negative comments, student feedback did indicate some areas for improvement in the program. Students who had completed a compressed seminar reported that too much material was covered in too short a time. Students who had not taken the seminar in their first

semester felt that they should have take it then. Students felt that they should have been informed earlier about the array of first-year seminar choices available to them across the university.

Conceptual, Methodological, and Practical Considerations

Higher education now has about two decades of substantive, large-scale experience with first-year seminars, and with the assessment of those programs. Because this paper focuses on the assessment aspects of Penn State's program, it is worth at least briefly discussing what the university did – and did not do – in the context of that broader, national experience.

Penn State's basic approach was essentially pragmatic. The faculty and administration strongly believed in the value of first-year seminars. They also felt assessment was important – but primarily to help create, implement, and continually improve a program that is fundamentally a good idea (versus, for example, to contribute to the scholarly literature on the topic, or to explore a subject of mostly academic interest). In this respect, Penn State was not very different from most colleges and universities. John Gardner, for example, has observed that the freshmen seminar movement has mostly been directed toward developing programs that work, and only secondarily to developing elaborate evaluations of those programs (Gardner, 2001).

We believe that this is a very sensible bias for individual institutions, because the broad picture that has emerged from two decades of work is quite clear.

First-Year Seminars as Good Practice

First-year seminars constitute good practice. A compendium of studies from 50 colleges and universities provides evidence from institutions of all sizes, missions, and selectivity: “Retention rates improve, grades improve, students’ internal locus of control increases, participation in extracurricular activities and the use of campus services both increase, and students begin to clarify their short- and long-term goals. Most importantly, graduation rates increase” (Barefoot, 1998, p. xi).

Reviews of numerous studies have shown that the first six weeks of the freshman year are the critical determinant of ultimate graduation (Erickson and Strommer, 1991). The evidence also shows that first-year seminars are an effective method for initiating students to higher education, helping them to make a successful transition from high school (Leamson, 1999). Upcraft and Gardner’s (1989, pp. 4-11) review found that freshmen seminars enrich opportunities for student involvement – vital to freshman success – and that there is “conclusive evidence...that the freshman seminar is a very powerful way of enhancing freshman success.”

The Measurement Challenges

Looking at the issue of evaluating excellence in undergraduate education, Ernest Pascarella (2001) recently reviewed some of the significant methodological challenges to validly and reliably measuring quality, excellence, or success. How would an institution decide what outcomes to measure? What particular set of competencies, activities, and accomplishments can be attributed

to the undergraduate experience? How does a study control for out-of-class or out-of-college experiences? How does a study control for differences in student ability? And so on.

Our strong suspicion is that few campus institutional research practitioners – while juggling multiple responsibilities with limited resources – have the time, money, staff, and psychometric expertise to overcome these research design challenges on a realistic schedule.

Emphasize Good Practice

Bluntly put, at some level choices must be made between the sort of pragmatic implementation-oriented assessment that Penn State has emphasized, and more classic assessment approaches: pre-test/post-test, quasi-experimental designs, outcome measurements, and so on.

Interestingly – because he was not writing about the assessment of first-year seminars or about institutional research – Pascarella did suggest an approach which is very consistent with most of Penn State’s institutional research on first-year seminars. In brief, Pascarella suggested a focus upon the practices and processes that are known to be linked to important cognitive and noncognitive outcomes. He wrote, “the assumption here, and it is not an unreasonable one, is that an excellent undergraduate education is most likely to occur at those colleges and universities that maximize good practices” (Pascarella, 2001, p. 22).

John Gardner has noted that first-year seminars are “the most studied and assessed course genre in American higher education history” (1998, p. xiii). It is

important for institutional researchers to take this observation seriously, and to help their respective campuses take advantage of the collective wisdom that higher education has accumulated.

In short, first-year seminars are a good idea. Peter Ewell suggested (2001) that researchers continually ask themselves two concrete, core questions: “What happened?” and “What mattered?” We believe that is useful, wise, and legitimate advice for practitioners involved in institutional research on first-year seminars.

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