



Summer 2006, Vol. 8, No. 3

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Current Issue

TABLE OF CONTENTS

[Overview](#)

[From the Editor](#)

[Fostering Student Learning and Success through First-Year Programs](#)

[Creating Common Ground: Common Reading and the First Year of College](#)

[Evaluating Quality of Engagement in Hampshire College's First-Year Plan](#)

[From "My Course" to "Our Program": Collective Responsibility for First-Year Student Success](#)

[First-Year Seminars Increase Persistence and Retention: A Summary of the Evidence from How College Affects Students](#)

[First-Year Reflections](#)

Peer Review

First-Year Seminars Increase Persistence and Retention: A Summary of the Evidence from How College Affects Students

By: Kathleen Goodman and Ernest T. Pascarella

First-year seminars have become ubiquitous in the past two decades, finding homes in institutions of every type and size. We believe that these programs are vital for our students' achievement, yet the research documenting positive outcomes of first-year seminars is still in its inaugural stage. A review of relevant studies synthesized in the first and second volumes of Ernest Pascarella and Patrick Terenzini's *How College Affects Students* (1991; 2005) provides an overview of the current research and indication of a research agenda for the future.

Among the changes between the first and second volumes of *How College Affects Students* is the increase in the number of research studies about first-year seminars. When the first volume was published in 1991, the trend to focus the needs of students in their first undergraduate year through various programs had existed for fewer than twenty years, and there were few research projects to review. By the time the 2005 volume rolled off the press, Pascarella and Terenzini had been able to synthesize a considerable amount of research focused on first-year seminars. They found substantial evidence indicating that first-year programs increase persistence from the first to second year of college.

Pascarella and Terenzini observed that first-year seminars vary greatly in form and function across institutions. Yet these seminars have become quite prevalent and can be found at 95 percent of four-year institutions in the United States. The element that is most common to first-year seminars is a regularly scheduled meeting time with a specific instructor for new students. Elements that vary include the frequency and duration of class meeting times; content, pedagogy, and structure; credit hours and grading; and whether the course is required or an elective. The common goal of first-year seminars is to increase academic performance and persistence through academic and social integration. The long-term goal is increased degree attainment.

Persistence and Retention

Studies of first- to second-year persistence dominate the research, which has multiplied since the late 1980s. For example, the University of South Carolina–Columbia found that students who participated in their first-year seminar between 1973 and 1996 were more likely to persist into their sophomore year than students who did not participate in the seminar. The

differences were statistically significant for fifteen of the twenty-three years.

Several other studies of the relationship between first-year seminar participation and first- to second-year persistence found similar results.

While statistical significance tells us that it is unlikely these results would be found by chance, effect size can be a more useful indicator because it measures the magnitude of a result. Two studies at single institutions specifically matched first-year seminar participants on characteristics such as gender, ethnicity, high school achievement, and admissions test scores, which allowed Pascarella and Terenzini to measure the effect size of the seminar impact. They found that the chance of participants returning for a second year of college was 7 percentage points greater than for nonparticipants. Another study, based on random assignment of students to first-year seminars, found that re-enrollment for the second year of college was 13 percentage points higher for the seminar participants.

Through a synthesis of more than forty additional studies, Pascarella and Terenzini found that first-year seminar participants are more likely to graduate within four years than nonparticipants. The estimated effect size indicates an advantage of 5 to 15 percentage points for the students who take the seminars. However, a note of caution is warranted regarding these results because none of these studies controlled for students' precollege characteristics. Factors such as grades, commitment to education, and educational attainment of parents are likely to be confounded with the effects of participating in the seminar. When precollege characteristics are controlled for, the magnitude of advantage tends to shrink, although it does not entirely disappear.

One method of controlling for precollege characteristics is to match both seminar participant and nonparticipant groups on these characteristics. Studies that employed this method conclude that participation in first-year seminars for undergraduate students does promote persistence into the second year and beyond. Another way to control for precollege characteristics is by using various statistical procedures. Studies introducing controls using these methods also concluded that first-year seminar participation has a statistically reliable positive influence on persistence and degree attainment.

A third method of controlling for precollege characteristics is to employ a true experimental research design in which participants are randomly assigned to "treatment" groups. In this case, the "treatment" is the first-year seminar. Random assignment into a seminar or non-seminar condition creates two groups that should be similar in all respects except for their participation or nonparticipation in the first-year seminar. Thus, one can reasonably conclude that any statistically reliable differences found between the two groups can be attributed to participation in the seminar. Researchers at the University of Maryland, College Park used a true experimental design to study the impact of seminar participation during four semesters. They concluded that first-year seminar participants were significantly more likely to persist than similar students who did not participate in the seminar.

Who Benefits from First-Year Seminars?

Educational research is often concerned with "conditional effects"—do different types of students benefit from a program

or service differently? The weight of evidence suggests that first-year seminars have provided positive benefits to all kinds of students and that such seminars are a good all-purpose intervention to increase persistence from first to second year. Evidence indicates that students who have benefited from participation in first-year seminars include both males and females; both minority and majority students; students of various ages; students from various majors; students living on or off campus; and regularly admitted students and at-risk students.

The research on first-year seminars has also found positive outcomes in addition to persistence and retention. For example, several studies have concluded that students who participate in first-year seminars experience more frequent and meaningful interactions with faculty and with other students. Other investigations indicate that participants become more involved in cocurricular activities, while still others show an increased level of satisfaction with the college experience. Academically, students who participate in first-year seminars have more positive perceptions of themselves as learners. They also achieve higher grades in college.

Suggestions for Future Research

There is still important work to be done if we are to fully understand the impact of first-year seminars on student persistence and retention. Research design, in particular, will be of crucial importance in future inquiry. In order to estimate the true impact or value-added of first-year seminars, the influence on persistence that is attributable to actual participation (versus nonparticipation) in the seminar must be separated from the influence of the individual characteristics of the students.

True experiments in which students are randomly assigned to participation or nonparticipation in first-year seminars are, unequivocally, the best way to accomplish this. However, it is frequently the case that conducting experiments in which students are randomly assigned to different experiences in college is neither practical nor desirable. The next best approach is to employ a longitudinal research design that uses statistical procedures to “control” for students’ precollege characteristics (e.g. measured ability, high school grades, socioeconomic status, and degree aspirations) that might confound the relationship between participation in a first-year seminar and subsequent persistence.

Although some of the studies conducted so far have employed variations on this design, the design used by the typical study in the existing body of research has been discernibly weaker. These kinds of longitudinal studies are, admittedly, more difficult and time-consuming to conduct than either cross-sectional investigations or investigations that do not take student precollege characteristics into account. Yet if we wish to create a credible body of evidence about the benefits of first-year seminars, there is simply no substitute for longitudinal investigations. A good example of a recent study that controls for students’ precollege characteristics is the cross-institutional survey of first-year seminars conducted by Stephen Porter and Randy Swing (2006), which estimates the impact of specific seminar components on intent to persist.

The body of research on first-year seminars has expanded considerably over the past fifteen years, providing substantial evidence that persistence and degree attainment has increased

as first-year seminars have been implemented. Evidence also suggests that first-year seminars have benefits for students, irrespective of differences in gender, ethnicity, age, major, and the like. The seminars may encourage additional positive outcomes, including increased student–faculty interaction, increased involvement in cocurricular activities, and increased academic satisfaction. Yet there is still a need for additional research to clarify whether first-year seminars can be causally linked to various desirable outcomes. In this regard, we have suggested the crucial importance of longitudinal designs in future research.

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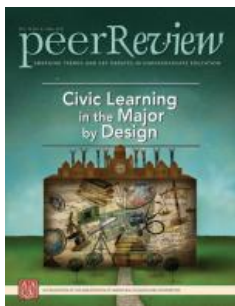
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