

“But I Learned All This In High School”: Understanding Why Students Drop Core Courses

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ABSTRACT: *This study examines student attrition in core curriculum courses in one institution of higher education in Texas. The focus on core curriculum courses is important because students regularly report that they studied the material in high school and they often wonder why they must study it again. Despite the alleged exposure to the material, students still drop core courses at high levels when intuitively one thinks that they would thrive in a course on a subject they have already studied. The present research builds upon limited previous research on student attrition and finds that students who are more actively engaged in courses tend to stay in the course and earn higher grades. While the findings are not surprising, they are instructive and can lead to the development of strategies for helping students persevere in core courses.*

Higher education institutions in the United States continually confront the problem of student attrition: those students who drop out of an academic program or completely withdraw from a university or college before earning a degree. This research examines student attrition in courses identified as part of a university's core, or general, education requirement. Many students complain about having to take these courses because they say they have studied the same subjects in high school. A college instructor might argue that already knowing the material would give a student an advantage, but many students still drop out of core courses. This paper poses a simple query: “Why do students drop core courses?”

Research on student attrition from higher education institutions has long been a subject of keen interest for academic administrators and practitioners. When students drop out of a college or university, there is a financial loss to the institution as well as a loss of potential to society. Administrators at colleges and universities work diligently to find and implement methods to reduce student attrition. Much of this work focuses on developing programs to keep students at an institution or in a specific academic program, rather than looking at the attrition in a particular course or type of courses.

This essay first briefly examines the problems caused by student attrition and considers the theories developed to explain the phenomenon. I then turn to describing the methodology used to understand the reasons why students drop core courses at West Texas A&M University. Finally, the paper concludes with a discussion of how one can use the findings uncovered by the pres-

ent research to limit the amount of student attrition in core courses.

Student Attrition, Its Causes, and Its Solutions

Student attrition is not a new problem. Kelly, Kendrick, Newgent, and Lucas (2007) report that the national rate of students leaving public colleges and universities has remained constant, “amounting to about 45% over the course of the last one hundred years” (p. 1021). In one study, Tinto (1982) reports that student attrition after the freshman year was 19% for category one universities. Raley (2007) frames the statistics in terms of college completion:

Graduation rates at public four-year colleges and universities hover at around 40% of entering students. Their private counterparts fare only slightly better; 57% of their newly minted freshmen go on to graduate. Two-year public colleges have a worse record, graduating fewer than 30% of their students. The record has not improved in three decades, although more people attend college now than in the past. (p. 74)

Researchers have worked for many decades to understand the reasons for the high number of student departures from college or university study (Raley, 2007). While much of this scholarship has focused on complete withdrawal, the theories developed by this research can inform an examination of student attrition in a particu-

lar course or type of courses. The Center for the Study of College Student Retention's (2008) website usefully summarizes the major retention and attrition theories. Probably the first research seeking reasons for college student retention is McNeely (1938). A largely descriptive study, it examined the many factors in college student retention. Summerskill (1962) marks the beginning of a renewed interest in the study of attrition in the 1960s, finding evidence that the reason why some students stay in school while others leave is closely related to personality differences.

The rich body of research on college student persistence and attrition has resulted in several key theoretical frameworks. Probably the most well known among researchers is Tinto's (1975; 1993; 1997; 1998) Theory of Student Integration. Tinto posits that students who are academically and socially integrated into a college environment are more likely to persist in their education. He argued that college dropout

is an outcome of a longitudinal process of interactions between the individual and the academic and social systems of the institution (peers, faculty, administration) with such experience coming to bear on the individual's commitment to college completion and commitment to the institution.
(Tinto 1975, p.94)

In his later work, Tinto (1998) found that the classroom dynamics affected student persistence. He advocated shared, collaborative learning among students.

Bean and Metzner (1985; Bean, 1990) extended Tinto's theory into an adult (nontraditional) student persistence theory, positing that adult students are not as concerned about the social environment of an institution, but are more focused on the academic program. While campus students look to peers and faculty for support, commuting adult students rely on networks outside of the institution (Bean & Metzner, 1985; Bean, 1990).

The increased availability of online learning has raised the specter of student attrition even higher. Online learning is certainly a convenient way to educate people, but it has suffered from a number of problems and concerns. Among these is the high rate of student attrition, measured as a decrease in the number of enrolled students (Yukselturk & Inan, 2006; O'Brien & Renner, 2002; Oblender, 2002). Because of the apparently high dropout rates in online education, a significant amount of research has been conducted on attrition in online courses. Morgan and Tam (1999) argue that three main approaches have been taken in try-

ing to uncover and understand the reasons for student attrition in distance education. One approach predicts dropout by looking at student characteristics such as age, gender, employment status, and previous education (Belawati, 1998; Parker, 1999; Xenos, Pierrakeas, & Pintelas, 2002; Pierrakeas, Xenos, Panagiotakopoulos, & Vergidis, 2004). The second approach examines the features and format of the courses that possibly affect student dropouts (Woodley & Parlett, 1983; Garland, 1993; Frankola, 2001; Fozdar, Kumar, & Kannan, 2006). Finally, "the third approach to the explanation of drop-out is to ask the students themselves for the reasons behind their decision" (Morgan & Tam, 1999, p.99). This approach has been effective in determining reasons for student attrition in a number of studies (Boshier, 1973; Cross, 1981; Parker, 1999; Xenos, Pierrakeas, & Pintelas, 2002; Vergidis & Panagiotakopoulos, 2002; Rausch, Cordero, & Usleston, 2003).

Morgan and Tam (1999) assess the research and determine four categories of persistence barriers. Situational barriers are changes in a student's life circumstances. Institutional barriers are difficulties with the institution and can include admission requirements, course pacing, and student support. Student characteristics such as attitude and motivation form the dispositional barriers. Epistemological barriers are those that stem from the course material and contents (Morgan & Tam 1999).

Rovai (2003) builds a model of online student persistence combining the Tinto (1975) and the Bean and Metzner (1985) models. Rovai argues that his composite model offers a more complete explanation of why adult students stay in an online course or program. His model adds to the previous models by including measures of the skills needed by online students (Cole, 2000; Rowntree, 1995), the unique needs of distance education students (Workman & Stenard, 1996), and the need to align teaching and learning styles (Grow, 1996). According to Rovai (2003), student persistence "results from the interaction of student characteristics and skills prior to admission and external and internal factors affecting students after admission (Patterson, 2007, p. 29).

Rausch, Cordero, and Usleston (2003) identify an attitudinal component as a significant explanation for student attrition in online classes. The researchers find that students who are "actively engaged" in their courses are more likely to complete the course. The present research builds on this study by considering the role of active engagement in the decision-making process of students in both the online and traditional face-to-face environments. The hypothesis that actively engaged students are

more likely to complete a core curriculum course as well as earn a better grade is tested using data collected from a survey of students in core courses.

The Student Survey

A survey of students in History 1301 (United States History I) and 1302 (United States History II) and Political Science 2305 (American National Government) and 2306 (American State and Local Government) was conducted in two waves during the Spring and Fall semesters in 2007. In the first wave, students who dropped the identified courses from the 12th class day through the last day to drop a course were contacted by email and provided with a link to the survey instrument. Students who completed the courses were contacted at the end of the semester and asked to complete the survey. The 20-question survey instrument that formed the core of the survey was drawn from Wallace and Clariana (2000). The survey questions appear in the appendix. The surveys for both groups were identical except that the students who dropped were asked to respond to an open-ended question: Why did you drop the course? Students who completed the course were asked to comment on any special strategies they used in completing the course.

The survey was sent to 139 students in both semesters who dropped one of the four courses under examination. The response rate for the students who dropped one of the courses was 8.6%. The population of dropouts does not include those who withdrew completely from the university as these students probably had different reasons for withdrawing. After the initial email message and two reminder emails, 12 students responded. The response rate is one indicator of why it is difficult to study students who drop courses: they are difficult to reach. The response rate for completers was 8.2% with surveys sent to 3,163 students in both semesters.

The four courses were selected because they form part of the core curriculum determined by state law. Texas Education Code § 51.301 specifies:

Every college and university receiving state support or state aid from public funds shall give a course of instruction in government or political science which includes consideration of the Constitution of the United States and the constitutions of the states, with special emphasis on that of Texas. This course shall have a credit value of not less than six semester hours or its equivalent.

The history requirement outlined by the Texas Education Code § 51.302 is not as specific:

A college or university receiving state support or state aid from public funds may not grant a baccalaureate degree or a lesser degree or academic certificate to any person unless the person has credit for six semester hours or its equivalent in American History. A student is entitled to submit as much as three semester hours of credit or its equivalent in Texas History in partial satisfaction of this requirement.

The courses were also offered in the same department, the Department of History, Political Science, and Criminal Justice, in spring 2007, although by the Fall 2007 semester, the departments had been separated into the Department of Political Science and Criminal Justice and the Department of History and Geography. Finally, the four courses examined in the present research are most likely to include material students encountered in high school, thus provoking the comment, "I learned all this in high school."

Measures

Drop or Complete Course?

The dependent variable in this study is whether or not the student dropped or completed the core course. The data were collected using two different surveys. Students who dropped the course and filled out the "dropped" questionnaire were coded as 1 for dropped. The students who finished the course were coded 0 for not dropped. This dichotomous variable will serve as the dependent variable in the logistic regression analysis presented later.

Active Engagement

Twenty questions drawn from Wallace and Clariana (2000) formed the core of the survey instrument completed by those students who dropped one of the courses as well as those students who completed one of the courses. Respondents were asked to indicate their degree of agreement or disagreement on a 5-point scale. Subjecting the data to a principal components factor analysis yielded six factors. One of the factors, labeled "Active Engagement" is composed of the following statements:

- This course actively engaged me.
- Overall, I considered this to be a high-quality course.
- This course was boring. [Reversed in index]
- Many of the course activities seem useless. [Reversed in index]

- Course assignments were interesting.
- The course assignments are appropriate.
- This course "turned me on!"

Responses to the statements were summed, producing an index of Active Engagement for each respondent. The index has a Cronbach's alpha of .925. The index ranges from 7 to 35, with a higher score indicating a greater sense of engagement.

The other five factors are not considered here.

Other Variables

Respondents were queried about other course-related and demographic information. They had to indicate which of the four courses they dropped or completed. They were asked if the course was taught online or in a traditional face-to-face format. Respondents who completed the course were asked to specify their semester letter grade. Demographic variables include gender and age.

Why Students Drop Core Courses

The twelve responses to the question "Why did you drop this course?" fall into the four categories of persistence barriers recognized by Morgan and Tam (1999).

Situational

- I missed to [sic] much class for medical reasons and did not think that I could pull it out.
- Just had too much stuff going on at one time.
- I did not have time.
- I over loaded myself this semester and that was the class that I was the most behind in.

Dispositional

- Too time consuming with little relevance.
- It was too much reading and I am taking chemo therapy.
- It was too much reading in one week and was very difficult exams. I just couldn't keep up.

Institutional

- Dr. Professor is a complete freak. His/her teaching ability is not as high as it should be for this University. He/she taught useless points about COURSE. He/she also had the image of "I'm better than you and I don't care if you fail my class or not!"
- Because the teacher was awful. I never knew what to study for on the tests. He/she would tell us one thing and then that material wouldn't even be on there.

Epistemological

- Assignments were lengthy and required more time than I had to fulfill them. It was taking me at least 5-6 hours a night to complete my homework for the week. Also, scores on quizzes were only counted if you made a 100, therefore that required more time in taking them more than once. Textbook was hard to follow. I even had my husband, who is an engineer and a COURSE buff, help me with some questions from the book and he could not figure them out either.
- Because the instructor basically said if you can not handle it than [sic] drop the class. He/she wanted the students to be studying COURSE it seemed like 24 hours a day. The test were hard you had to take them until you made a 100% on them. Than the groups that you were in at least my group members never emailed me to [get] together on the group assignments.
- I dropped the class because I felt that the instructor wanted to [sic] much of his/her students. I couldn't keep up with the course work. Vary rarely did I get feedback from my instructor. I talked with his/her assistant more than anything.

The data were further subjected to a series of Analysis of Variance (ANOVA) tests examining the relation between a number of the variables and scores on the Active Engagement index. The findings are instructive but not surprising. Students who dropped a course reported significantly lower Active Engagement scores. The mean score for students who dropped is 16.92, while the completers reported a mean score of 24.49 ($F=17.310$; $p=.0001$).

An examination of the index by grade reveals the following:

A:	26.61
B:	24.49
C:	20.54
DFW (combined because of small numbers):	19.61

The F is 17.40 ($p=.0001$). A post hoc test revealed that the largest significant difference is between the C mean and the mean for the DFW students.

Students in online sections reported higher levels of active engagement. The mean score for the online students is 25.40 while the traditional face-to-face students reported a mean of 23.26 ($F=6.61$; $p=.011$).

Finally, the differences in reported active engagement between the four courses examined was not statistically significant:

Table 1. Determinants of Whether a Student Dropped the Course.

	Estimated logit coefficients (standard errors)
Active Engagement	-.187 [*] (.050)
Age	.053 (.034)
Gender	-.358 (.719)
Summary statistics	
Number of cases	269
-2 Log Likelihood	78.165
Chi-square	16.394 (3df)
Nagelkerke R ²	.204

^{*}=significant at 0.05 level in a two-tailed test

History 1301: 25.17

History 1302: 23.67

Political Science 2305: 23.80

Political Science 2306: 23.91

The reported F is .634 ($p=.594$).

The table displays the results of a logistic regression analysis. Any findings presented here must be considered in light of the fact that only 12 students who dropped the courses under examination responded to the survey. Overall, the model predicts course-dropping behavior reasonably well, with a Nagelkerke R^2 of .204. In addition, 95.3% of the cases are classified correctly. The most striking finding presented in the table is the strength of a student's perceived active engagement in predicting whether a student will drop a course. Recall that a student who dropped a course is coded as 1 and staying the course is coded 0. For this reason the coefficient is negative. One could argue that a student who feels more engaged in the course is less likely to drop it, a finding in line with the ANOVA analyses presented above. No other variables exhibited a statistically significant relationship with the dependent variable.

Discussion and Conclusions

This essay reports on research into the reasons why students drop core courses. While it does not present definitive reasons, the evidence collected here suggests that students who feel actively engaged in their courses are less likely to drop them. This finding should not be

surprising, although it is significant that the survey data analyzed here illustrate this relationship.

The findings reported here, although limited, offer some direction in the search for approaches to retaining students: students are more successful in courses that actively engage them. Interestingly, it appears as though the online sections of the four courses examined in this essay were significantly more engaging than the traditional face-to-face sections. One place we should look for guidance is the online sections. What techniques do the instructors of the online sections use to teach their courses? Could these techniques be adopted in some manner in the face-to-face sections of the same courses?

Of course, the research method employed here did not allow for a measurement of engagement until either the student dropped the course or the course was completed. Completing students were not sent the survey until after many of them had already seen their grades. It is possible that the Active Engagement index is not measuring the actual level of engagement in the course as it is measuring satisfaction with the grade. Additional examination is required in order to more fully understand the role of perceived engagement in attrition decisions.

Future directions for this research involve the inclusion of different courses over several semesters. For example, math courses experience high levels of attrition as well as low grades awarded to students who complete the courses. How do the active engagement measurements differ between the history or political science courses analyzed here compare to the scores of students in math courses? It may be possible to administer the survey at different points in a semester to determine who engaged

students were in the subject matter before taking the course and at various milestones in the semester.

The model presented in this essay is admittedly underspecified. Additional analysis will be necessary to find additional explanatory variables in order to produce a more robust predictive model of attrition behavior.

The important issue to remember is that none of the students who dropped a course reported that they dropped because they already learned "all this in high school." Most dropped for the reasons identified in previous research. It is possible that while many students

recognize similar course content from high school, the content is being taught in a more engaging way. Now we are challenged to find that engaging teaching method to keep students from dropping core courses.

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Appendix

Survey Questions

Scale is 1 (Strongly Disagree) to 5 (Strongly Agree)

1. Course assignments were interesting.
2. I learn best without supervision.
3. I prefer tough courses that really challenge me.
4. Many of the course activities seem useless.
5. I am a self-starter.
6. I always try to outperform other students.
7. The course assignments are appropriate.
8. I usually prepare for exams well in advance.
9. I make sure that other students get my viewpoint.
10. The course was boring.
11. I prefer constant feedback from the teacher.
12. My views contribute little to the quality of the course.
13. I work harder than others to stand out from the crowd.
14. I don't care how others are doing on assignments.
15. I work best under a deadline.
16. This course actively engaged me.
17. Overall, I considered this to be a high quality course.
18. I am usually competitive.
19. I prefer to do assignments my way.
20. This course "turned me on!"

Source: Wallace and Clariana (2000)