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METHODS AND TECHNIQUES

Full-Semester and Abbreviated Summer Courses: An Evaluation of Student Performance

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Faculty and administrators often believe that abbreviated courses are less effective than the same courses taught during a full semester. This study examined student academic performance and course evaluations for identical courses taught during abbreviated summer sessions or during regular semester sessions. Contrary to popular convention, results demonstrated that overall academic performance was similar in summer and full-semester courses. In addition, instructor ratings were comparable for regular semester and summer session courses, with summer courses rated as somewhat more challenging. Results provide empirical evidence that negative beliefs concerning abbreviated courses may be unfounded.

Faculty and administrators often believe that summer courses are less effective than the same courses taught during the regular semester (Daniel, 2000; Kretovics, Crowe, & Hyun, 2005; Scott, 2003), in part due to research showing that retention is typically superior when learning trials are spaced rather than massed (Bjork, 1979; Cuddy & Jacoby, 1982; Dempster, 1988; Glover & Corkill, 1987). Although summer courses include the same number of contact hours with students and cover the same amount of information as a regular semester course, they do so in a fraction of the time. This logic suggests that summer courses are inherently less effective than the same courses taught as full-semester courses and should putatively lead to poorer student performance.

Although there is little research on this topic, a small number of studies investigated the effectiveness of summer or abbreviated courses (see Daniel, 2000, or Seamon, 2004, for reviews). For example, Caskey (1994) studied student performance in algebra and accounting courses taken either in a regular semester or as an abbreviated course. Results showed that course grades did not differ between the two formats. Ray and

Kirkpatrick (1983) evaluated students in a human sexuality course and showed that students in both the abbreviated and full-semester courses exhibited essentially the same performance. Furthermore, Lombardi, Meikamp, and Wienke (1992) demonstrated that education majors actually showed superior performance in abbreviated courses compared to longer course formats.

One potential explanation for equivalent student grades in abbreviated and regular semester courses is that instructors may ease academic rigor due to the compressed summer course schedule. In fact, Allen, Miller, Fisher, and Moriarty (1982) reported that instructors often altered their teaching methods during abbreviated courses (i.e., less likely to lecture, assign a term paper, cover as much material, etc.), a change that makes comparisons between regular semester and abbreviated courses difficult. Thus, instructors teaching summer courses may lower or change standards, resulting in little change or even an increase in student academic performance.

In addition to equivalent academic performance, Scott (1996) demonstrated that students prefer abbreviated courses. Specifically, students reported that summer courses encouraged more focused learning, created a more collegial atmosphere, and fostered more classroom interactions and in-depth discussions than regular semester courses. Although instructors may have reservations concerning the effectiveness of abbreviated courses, the limited amount of previous research shows that these fears may be unfounded. Furthermore, abbreviated courses may provide advantages to students without sacrificing academic performance.

This study addressed three primary weaknesses in the literature. First, few studies have examined psychology courses. In fact, only Ray and Kirkpatrick (1983) specifically compared abbreviated and full-term psychology

courses. Second, few studies have examined the effectiveness of abbreviated courses with younger adults. The majority of existing studies examined abbreviated evening or weekend courses taught in professional degree programs designed for working adults (Wlodkowski, 2003). Third, many studies are poorly controlled as they fail to account for changes in teaching methods for full semester and abbreviated courses.

This study examined student academic performance and teaching evaluations in several psychology courses taught during a 16-week semester or during abbreviated summer sessions. I reduced the possibility that any differences found were due to more relaxed standards during summer courses by keeping constant the instructor, teaching style, number of contact hours, exams, and other assignments for each course.

Method

Participants in this study were 506 students enrolled in several sections of three psychology courses (i.e., Effective Thinking, Memory & Cognition, and Research Methods) at Arizona State University at the West Campus, a medium-sized metropolitan university with approximately 8,000 students. Enrollment at the university consisted of approximately 67% Caucasian, 17% Hispanic, 5% African American, and 4% Asian students (7% of students indicated another race). The same faculty member taught all courses and the content of each course was equivalent for the regular semester and summer sessions. Identical multiple-choice exams and other assignments assessed mastery of course content.

I evaluated 16 sections of three courses: four sessions of Effective Thinking (three during the regular semester and one during the summer session), seven sessions of Memory & Cognition (four during the regular semester and three during the summer session), and five sessions of Research Methods (two during the regular semester and three during the summer session). An evaluation of student cumulative grade point average (GPA) showed

that students enrolled in the regular semester ($M = 3.20$) had higher GPAs compared to students enrolled in the summer courses ($M = 3.07$), $t(468) = 2.03$, $p = .04$.

Results

Course Performance

The primary measure of course performance was students' final course grades (see Table 1). Although extra credit assignments were available for some courses, the grades analyzed excluded extra credit to better equate performance across courses. Cohen's d (1988) provides effect size estimates, where a value of $d = .20$ is small, $d = .50$ is medium, and $d = .80$ is large (Cohen, 1988). Unless otherwise noted, the alpha level was .05 for all statistical tests reported.

A 3 (course) \times 2 (term) between-subjects ANOVA assessed students' final grades. Results revealed a main effect of Course, $F(2, 499) = 3.85$, $MSE = 84.68$, as there were significant differences in the grades received for the different courses. Although potentially interesting, the main effect of Course was not relevant for the purpose of this study, which was to compare summer and regular semester courses. More important, grades were significantly higher for the summer session ($M = 83.1$) compared to the regular semester ($M = 81.1$), $F(1, 499) = 8.01$, $MSE = 84.68$. There was no Course \times Term interaction, $F < 1$.

Additional analyses evaluated the specific types of course assignments responsible for this general advantage for grades in the summer session courses. Analyses indicated that the majority of these comparisons were not statistically reliable. Grades in the Memory & Cognition course, consisting of multiple-choice exams and in-class quizzes, did not yield any statistically reliable differences between the summer session and regular semester, $ps > .15$. Grades in the Effective Thinking course, consisting of daily journal assignments and mul-

Table 1. Mean Course Grades for Each Course for Both Regular and Summer Session Courses

Course	Regular Session		Summer Session		Difference
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Effective Thinking	82.1	11.1	86.0	7.7	+ 3.9
Memory & Cognition	80.9	9.6	83.3	8.0	+ 2.4
Research Methods	79.3	10.3	81.9	8.4	+ 2.6
<i>M</i>	81.1	10.1	83.1	8.2	

multiple-choice exams, showed no reliable difference for the daily journal assignments, $p = .20$, whereas exam grades were marginally higher for the summer session compared to the regular semester, $t(121) = 1.67$, $p = .09$, $d = .30$. Grades in the Research Methods course consisted of in-class and homework assignments, APA-style research reports, and exams. Grades on exams were significantly higher for summer session courses compared to regular semester sessions, $t(282) = 2.83$, $d = .34$. However, grades on in-class and homework assignments and APA-style research reports did not differ between session types, $ps > .18$.

Overall, these data show that the higher grades associated with summer sessions may primarily result from superior exam performance in the Research Methods course alone rather than any advantage on other assignments or on assignments in the other two courses. Thus, an additional analysis compared the final grades for summer and full-semester formats using data from only the Memory & Cognition and Effective Thinking courses. These data revealed higher grades for summer ($M = 83.8$) compared to full semester ($M = 81.4$) courses, $t(405) = 2.17$, $d = .26$.

Teaching Evaluation Data

In addition to course performance, I evaluated data from teaching evaluations to determine if there were differences in student perceptions of summer and regular semester courses. Two statements from the teaching evaluations were of particular interest, as they assessed student perception of course rigor. Evaluation ratings ranged from 1 (*strongly disagree*) to 4 (*strongly agree*). Results showed that students from summer courses ($M = 3.82$) more strongly agreed with the statement "The instructor demanded high standards of student performance" compared to students from regular semester courses ($M = 3.70$), $t(15) = 1.93$, $p = .07$, $d = .94$. In addition, summer ($M = 3.60$) and regular semester ($M = 3.53$) students provided equivalent ratings when asked to rate the amount of effort required of the course, $t < 1$. These data demonstrated that students taking summer courses perceived those courses to be at least as demanding as students taking the same courses during the regular semester.

Discussion

Data from this study indicate that student performance was not poorer for abbreviated summer courses

compared to the same courses taken during a regular, 16-week semester even when the instructor, teaching style, contact hours, exams, and other assignments were constant. In fact, some comparisons indicated that performance in summer courses may have been superior to full-semester courses. Furthermore, teaching evaluations indicated that students rated summer session courses as somewhat more demanding than the same courses taken during regular semesters.

There are several possible explanations for the findings of essentially equivalent performance for summer versus regular semester courses. First, although evidence supporting a spacing effect is well established in the scientific literature and should favor regular semester courses (Dempster, 1988; Seabrook, Brown, & Solity, 2005), students typically take more courses during a regular semester than a summer session, which may lead to more interference from other courses (cf. Tulving & Psotka, 1971). Thus, the advantage of spaced learning during a regular semester may be nullified by this additional interference.

Second, the type of students taking courses during the summer may differ from those taking courses during the regular semester. However, in this study, students enrolled in the regular semester actually had higher cumulative GPAs than those enrolled in the summer courses. Seamon (2004) found no differences between the motivation, GPA, and age of students in abbreviated and full-semester courses and still found an advantage for abbreviated courses. Although the ideal method to control for such issues is to randomly assign students to the different sessions, such a remedy is extremely difficult to implement (Daniel, 2000).

A third explanation for the results is that the general classroom environment was more conducive to learning during the summer sessions. The average classroom size in the current study for the regular semester was 40 students whereas summer courses had an average enrollment of 21 students. Becker, Sommer, Bee, and Oxley (1973) reported that student participation is greater with smaller class sizes. Presumably, this increased participation may lead to greater learning and higher grades as students become more involved in the course.

One limitation of this study that should be noted is that I assessed student performance only over the short term. However, as noted by Seamon (2004), studies rarely assess long-term effectiveness because it is difficult to track participants over time. The results of the current study are consistent with previous studies that assessed long-term learning, demonstrating that abbreviated courses were not inferior to full-semester courses

(Caskey, 1994; Seamon, 2004; Wlodkowski & Westover, 1999).

Contrary to accepted beliefs, student performance was not poorer during abbreviated summer courses compared to regular semester courses, even when holding various factors constant. Although faculty generally hold the view that summer courses are less effective than full-semester courses (Kretovics et al., 2005), prior literature and the current results demonstrate that students perform at least as well as students taking the same courses during the traditional semester (Daniel, 2000; Scott, 1995). Furthermore, alternative course schedules (i.e., students taking several courses within a semester sequentially rather than simultaneously) may allow more flexibility so that faculty can focus longer periods of time on research and other creative activities. Overall, abbreviated courses provide many advantages to both students and faculty, with equivalent or greater academic outcomes.

References

- Allen, J. L., Miller, T. A., Fisher, B., & Moriarty, D. D. (1982). A survey of January interim psychology courses. *Teaching of Psychology, 9*, 230–231.
- Becker, F. D., Sommer, R., Bee, J., & Oxley, B. (1973). College classroom ecology. *Sociometry, 36*, 514–525.
- Bjork, R. A. (1979). Information-processing analysis of college teaching. *Educational Psychologist, 14*, 15–23.
- Caskey, S. R. (1994). Learning outcomes in intensive courses. *Journal of Continuing Higher Education, 42*, 23–27.
- Cohen, J. (1988). *Statistical power analysis for the behavioral sciences* (2nd ed.). Hillsdale, NJ: Lawrence Erlbaum Associates, Inc.
- Cuddy, L. J., & Jacoby, L. L. (1982). When forgetting helps memory: An analysis of repetition effects. *Journal of Verbal Learning and Verbal Behavior, 21*, 451–467.
- Daniel, E. L. (2000). A review of time-shortened courses across disciplines. *College Student Journal, 34*, 298–308.
- Dempster, F. N. (1988). The spacing effect: A case study in the failure to apply the results of psychological research. *American Psychologist, 43*, 627–634.
- Glover, J. A., & Corkill, A. J. (1987). Influence of paraphrased repetitions on the spacing effect. *Journal of Educational Psychology, 79*, 198–199.
- Kretovics, M. A., Crowe, A. R., & Hyun, E. (2005). A study of faculty perceptions of summer compressed course teaching. *Innovative Higher Education, 30*, 37–51.
- Lombardi, T. P., Meikamp, J. A., & Wienke, W. D. (1992). Learning gains and course time format in special education. *Educational Research Quarterly, 15*, 33–38.
- Ray, R. E., & Kirkpatrick, D. R. (1983). Two time formats for teaching human sexuality. *Teaching of Psychology, 10*, 84–88.
- Scott, P. A. (1995). Learning experiences in intensive and semester-length classes: Student voices and experiences. *College Student Journal, 29*, 207–213.
- Scott, P. A. (1996). Attributes of high-quality intensive course learning experiences: Student voices and experiences. *College Student Journal, 30*, 69–77.
- Scott, P. A. (2003). Attributes of high-quality intensive courses. *New Directions for Adult and Continuing Education, 97*, 29–38.
- Seabrook, R., Brown, G. D. A., & Solity, J. E. (2005). Distributed and massed practice: From laboratory to classroom. *Applied Cognitive Psychology, 19*, 107–122.
- Seamon, M. (2004). Short- and long-term differences in instructional effectiveness between intensive and semester-length courses. *Teachers College Record, 106*, 852–874.
- Tulving, E., & Psotka, J. (1971). Retroactive inhibition in free recall: Inaccessibility of information available in the memory store. *Journal of Experimental Psychology, 87*, 1–8.
- Wlodkowski, R. J. (2003). Accelerated learning in colleges and universities. *New Directions for Adult and Continuing Education, 97*, 5–15.
- Wlodkowski, R. J., & Westover, T. N. (1999). Accelerated courses as a learning format for adults. *Canadian Journal for the Study of Adult Education, 13*, 1–20.

Notes

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