

MANAGING THE GRADING PARADOX: LEVERAGING THE POWER OF CHOICE IN THE CLASSROOM

SHOSHANA R. DOBROW
Graduate School of Business
Fordham University
1790 Broadway, Suite 1314
New York, NY 10019

WENDY K. SMITH
University of Delaware

MICHAEL A. POSNER
Villanova University

INTRODUCTION

How can management professors engage students' interest? Extensive research has explored the content of business school curricula (e.g., Pfeffer & Fong, 2002). Yet even with the best content, students only learn the material if they are engaged and interested. Fostering interest is especially challenging in management education, as “students often regard behavioral studies as peripheral to the mainstream business curriculum” (Rynes & Trank, 1999: 808).

Traditionally, professors use grades to foster student engagement and interest. Yet ironically, grades do just the opposite. As an extrinsic reward, grades encourage students to seek easy problems that provide high likelihoods of success, rather than challenging problems that offer an opportunity for experimentation and learning, but also provide an increased likelihood of failure (Dweck, 1986). This results in a grading paradox: grades, which are meant to motivate and inspire students, do just the opposite. This grading paradox is especially problematic for MBA students, who possess relatively materialistic, individualistic values (Rynes & Trank, 1999) and who have been entrenched in educational and work settings that place a strong emphasis on extrinsic rewards.

While some education scholars advocate for completely eliminating grades to foster learning (Kohn, 1993), grades still offer valuable performance feedback to students and comparative metrics to schools and employers. Therefore, we explore how professors can increase student interest by using—even exacerbating—a focus on grades. We ask whether offering students choice about their grades, specifically by allowing them to allocate the weight course assignments toward their final course grade, results in increased interest. To investigate this question, we conducted a semester-long field experiment in four introductory MBA management classes.

MANAGEMENT EDUCATION, INTEREST, AND CHOICE

Almost a century ago, Dewey's (1913) treatise on education argued that interest was critical to learning. Interest increases focused attention, cognitive and affective functioning, and persistent effort, all of which foster learning (e.g., Ainley, Hidi, & Berndorff, 2002; Schraw, Flowerday, & Lehman, 2001; Smith, Sansone, & White, 2007). Moreover, as a feature of

intrinsic motivation, interest motivates continued engagement in particular content or tasks (Deci, Koestner, & Ryan, 1999). Scholars consistently find a positive relationship between interest and learning (Hidi & Renninger, 2006).

Fostering interest is challenging in the classroom, particularly given the paradoxical impact of grades. As an extrinsic reward, grades can reduce intrinsic motivation, of which interest is a key component (Amabile, DeJong, & Lepper, 1976; Deci et al., 1999). Goal orientation research argues that extrinsic rewards reinforce a performance orientation, a focus on ability and preserving one's perceptions of one's abilities, while undermining a learning orientation, a focus on identifying one's limitations and improving one's abilities (e.g., Dweck, 1986; Kohn, 1993; Mueller & Dweck, 1998). Self-determination theory further notes that grades are a teacher's form of control, which can result in reduced student interest (Deci, Vallerand, Pelletier, & Ryan, 1991).

How can educators overcome the grading paradox and foster interest in the classroom, without completely eliminating grades? One strategy to increase student interest is through choice, the opportunity for students to make decisions about their learning (Deci & Ryan, 1985; Glasser, 1986; Langer & Rodin, 1976). Schraw, Flowerday and Lehman (2001) argue that choice enables students to 1) pick what piques their curiosity 2) pick familiar learning materials and 3) control what and how they study. This increased curiosity, familiarity, and control can all lead to increased interest, specifically triggered situational interest (short-term changes in affective and cognitive processing due to specific situations) and maintained situational interest (interest subsequent to a triggered state that persists over a period of time) (Hidi & Renninger, 2006). Specifically we test the following hypotheses:

Hypothesis 1: Exercising choice over grades positively influences students' triggered situational interest in the course.

Hypothesis 2: Exercising choice over grades positively influences students' maintained situational interest in the course content.

METHOD

In order to test our hypotheses in an ecologically valid setting, we conducted an experimental field study. We used four MBA introductory management classes from two universities. All four classes used similar syllabi and assignments. The mean age of our sample was 28.8 years, with 58% male and 55% Caucasian. Fifty-three percent of participants were part-time students, and they worked 36 hours per week on average. For each university, we assigned one section as the experimental condition, and one section as the control section. We used a crossover design to minimize bias. Overall, our study included 53 participants in the experimental condition and 38 participants in the control condition.

In the experimental sections, we introduced a choice intervention by asking students to allocate the weights of three class assignments toward their final grade (constituting 75% of their final grade; the remaining 25% was held constant for all students). Students made these allocations during the third week of class and could not subsequently change them¹. In the control sections, as in a traditional classroom, we informed students that each of the three assignments comprised 25% of their final grade. We collected additional variables through a survey at the end of the semester, the university's course evaluations, and the registrar.

Based on Hulleman et al. (2008), we operationalized *triggered situational interest* as students' reactions to the course. In the end-of-semester survey, students rated the item "I am satisfied with this course" (1 = *strongly disagree*, 7 = *strongly agree*). We also used the official university course evaluations to explore overall reactions to the course. We measured *maintained situational interest* with the item, "I would be interested in taking another course in management/organizational behavior" (1 = *strongly disagree*, 7 = *strongly agree*). Our primary analyses controlled for gender and university. We also conducted sensitivity analyses in which we controlled for age, gender, ethnicity, student status (part time/full time), university, undergraduate GPA, and GMAT score.

RESULTS

We conducted four manipulation checks of our choice intervention. Specifically, we looked at the degree to which choice was salient to students and mattered to them throughout the semester. First, 67% percent of the students in the choice condition said that they would want to see the grading allocation choice intervention be implemented in other courses. Second, in response to a question about how much the choice intervention impacted the amount of time they spent on different course components throughout the semester, 50% of students in the choice condition reported that it affected them a lot, 34% reported sometimes, and only 16% reported that it did not affect them. Third, at the end of the semester, we asked participants in the choice condition to recall the allocations they had made three months earlier. Eighty-five percent of those who completed this item (34 of 40) were accurate within 5 percentage points, thus suggesting that the allocations were notable in students' minds. Finally, students in the choice condition believed that their work was graded more fairly than the students in the no-choice condition (5.9 vs. 5.2, $p < .05$, on a 7-point scale).

To examine interest as measured by the final surveys, we used multiple regression analyses. To examine interest as measured by the official course evaluations, we used a (nonparametric) sign test to determine whether overall interest was higher in the choice condition than in the control condition.

Hypothesis 1

Participants across both conditions reported high levels of triggered situational interest, as measured on the end-of-semester survey ($M = 6.3$, $SD = .9$). A two-sample t-test showed that exercising choice about one's grade allocations was associated with an interest level 0.5 points higher ($p \leq .05$) than not exercising choice (on a 7-point scale). This relationship did not change when controlling for both gender and university in our multiple regression analyses, thus providing support for Hypothesis 1.²

The course evaluations administered by the university provided further support for Hypothesis 1. The sign test is a nonparametric test that evaluates whether students in the choice condition reported more or less positive reactions to the course than students in the no-choice condition, regardless of the magnitude of the difference (Siegel, 1956). If students in the choice and no-choice conditions demonstrated equal preferences for the course, then 50% of the items (18 out of 36) would be more positive in the choice condition than in the no-choice section and vice versa. We found that 83% of the items (30 out of the 36) were rated more positively in the

choice condition than in the no-choice condition, which is beyond what would happen by random chance alone ($p \leq .01$).

Hypothesis 2

Participants across both conditions reported high levels of maintained situational interest in the course content ($M = 5.9$, $SD = 1.4$). In support of hypothesis 2, a two-sample t-test showed that exercising choice about one's grade allocations was associated with greater interest in taking another course about the same topic in the future than in the no-choice condition by 0.7 points ($p \leq .05$, on a 7-point scale). This relationship increased slightly to 0.8 points when controlling for both gender and university in our multiple regression analyses.

To establish the strength and robustness of our findings, we conducted sensitivity analyses. We explored multiple regressions that included a broader range of control variables than in our primary analyses. First, we ran the analyses using listwise deletion, such that only those cases without any missing data were included ($n = 43$). Second, we ran the analyses using both measured and imputed data, such that when participants' control variables were missing, we imputed these values from the other variables. Both analyses produced the same pattern of results as in our primary analyses, which reinforces the strength and robustness of our findings.

DISCUSSION

Our research explored whether professors could alleviate the grading paradox by increasing interest without eliminating grading. In an MBA classroom, we found that a grade-related choice intervention, the opportunity for students to allocate the weight of several course components toward their final course grade, yielded higher levels of triggered situational interest and maintained situational interest.

This study makes several contributions to research on learning and education. Our findings corroborate previous research documenting the positive relationship between choice and interest (Cordova & Lepper, 1996; Schraw et al., 2001; Schraw, Flowerday, & Reisetter, 1998; Zuckerman, Porac, Lathin, Smith, & Deci, 1978) and extend this research into adult populations and ecologically valid settings. Further, they create a direct connection between the organizational behavior and educational psychology literatures on choice and interest with the management education and learning literature, as advocated by management education and learning scholars (Arbaugh, 2008). Lastly, they provide empirical support for a practical manner in which management educators can influence interest. Our research provides both theoretical and practical ideas about alleviating the grading paradox, which can lead to increased student interest and, ultimately, learning.

¹ Grade allocation forms available from the authors.

² Tables available from the authors.

REFERENCES

- Ainley, M., Hidi, S., & Berndorff, D. 2002. Interest, learning, and the psychological processes that mediate their relationship. **Journal of Educational Psychology**, 94(3): 545-561.
- Amabile, T. M., DeJong, W., & Lepper, M. R. 1976. Effects of externally imposed deadlines on subsequent intrinsic motivation. **Journal of Personality and Social Psychology**, 34: 92-98.
- Arbaugh, J. B. 2008. Starting the long march to legitimacy. **Academy of Management Learning & Education**, 7(1): 5-8.
- Cordova, D. I. & Lepper, M. R. 1996. Intrinsic motivation and the process of learning: Beneficial effects of contextualization, personalization, and choice. **Journal of Educational Psychology**, 88(4).
- Deci, E. L. & Ryan, R. 1985. **Intrinsic Motivation and Self-Determination in Human Behavior**. New York: Plenum Press.
- Deci, E. L., Vallerand, R. J., Pelletier, L. G., & Ryan, R. M. 1991. Motivation and education: The self-determination perspective. **Educational Psychologist**, 26: 325-346.
- Deci, E. L., Koestner, R., & Ryan, R. M. 1999. A meta-analytic review of experiments examining the effects of extrinsic rewards on intrinsic motivation. **Psychological Bulletin**, 125(6): 627-668.
- Dewey, J. 1913. **Interest and Effort in Education**. Boston, MA: Riverside Press.
- Dweck, C. S. 1986. Motivational processes affecting learning. **American Psychologist**, 41(10).
- Glasser, W. 1986. **Control Theory in the Classroom**. New York: Harper & Row.
- Hidi, S. & Renninger, K. A. 2006. The four-phase model of interest development. **Educational Psychologist**, 41(2): 111-127.
- Hulleman, C. S., Durik, A. M., Schweigert, S. A., & Harackiewicz, J. M. 2008. Task values, achievement goals, and interest: An integrative analysis. **Journal of Educational Psychology**, 100(2): 398-416.
- Kohn, A. 1993. **Punished by Rewards: The Trouble with Gold Stars, Incentive Plans, A's, Praise, and Other Bribes**. New York: Houghton Mifflin.
- Langer, E. J. & Rodin, J. 1976. The effects of choice and enhanced personal responsibility for the aged: A field experiment in an institutional setting. **Journal of Personality and Social Psychology**, 34: 191-198.
- Mueller, C. M. & Dweck, C. S. 1998. Praise for intelligence can undermine children's motivation and performance. **Journal of Personality and Social Psychology**, 75(1).

- Pfeffer, J. & Fong, C. T. 2002. The end of business schools? Less success than meets the eye. **Academy of Management Learning & Education**, 1(1): 78-95.
- Rynes, S. L. & Trank, C. Q. 1999. Behavioral science in the business school curriculum: Teaching in a changing institutional environment. **Academy of Management Review**, 24(4): 808-824.
- Schraw, G., Flowerday, T., & Reisetter, M. F. 1998. The role of choice in reader engagement. **Journal of Educational Psychology**, 90(4).
- Schraw, G., Flowerday, T., & Lehman, S. 2001. Increasing situational interest in the classroom. **Educational Psychology Review**, 13(3).
- Siegel, S. 1956. **Nonparametric Statistics for the Behavioral Sciences**. New York, NY: McGraw-Hill.
- Smith, J. L., Sansone, C., & White, P. H. 2007. The stereotyped task engagement process: The role of interest and achievement motivation. **Journal of Educational Psychology**, 99(1).
- Zuckerman, M., Porac, J., Lathin, D., Smith, R., & Deci, E. L. 1978. On the importance of self-determination for intrinsically-motivated behavior. **Personality and Social Psychology Bulletin**, 4: 443-446.