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Abstract

This paper describes research in progress concerning the development and use of a newly created tool, the Decision-Making Grid, which was designed to teach undergraduate management students to develop and use metacognitive regulation skills to improve decision-making by requiring students to construct improved decision-making models in a boundedly rational manner. When students are required to use the metacognitive skills of planning, monitoring and evaluating focused on important and relevant decision-criteria, students are better positioned to commit to appropriate academic preparation.

The null hypothesis proposing that there would be no variance in means in the measure of commitment to academic preparation was rejected using data from three academic years of data. Qualitative analyses provide evidence that the Grid can help students commit to academic preparation.

Keywords

Organizational behavior, Learning, Metacognition, Student commitment

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Abstract

This paper describes research in progress concerning the development and use of a newly created tool, the Decision-Making Grid, which was designed to teach undergraduate management students to develop and use metacognitive regulation skills to improve decision-making by requiring students to construct improved decision-making models in a boundedly rational manner. When students are required to use the metacognitive skills of planning, monitoring and evaluating focused on important and relevant decision-criteria, students are better positioned to commit to appropriate academic preparation.

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Introduction

I was kind of resistant to your teaching style at first during Organizational Behavior because we were always involved. *Some days I just wanted to come sit in class and drift.* Then I realized, the way that you kept us busy, constantly reading, discussion, and presenting caused us to internalize the information and actually learned application rather than pure memorization. (*Emphasis added, Davis, 2012*)

The above excerpt from an email sent to an instructor of an undergraduate Organizational behavior course by a graduating senior highlights the attitude of many college students in America during this second decade of the 21st century. Many students would like the fruits of a college degree but are either unaware of required rigors or do not make an intentional decision to commit to the necessary rigors of study. This phenomenon among college students was more fully described in the recently released book, *Academically Adrift: Limited Learning on College Campuses* (Arum & Roksa, 2011). Arum and Roksa describe a peer culture that emphasizes attitudes, norms and behaviors that "that often are at odds with academic commitment," and that students often have limited knowledge about educational requirements or future demand for potential occupations and are "largely academically adrift" (Arum & Roksa, 2011:3).

The seeming lack of academic commitment among many college students may be attributed to an overwhelming array of possibilities before them that can be accessed within minutes via the Internet and the large variety of ways to access this information through tablets,

smartphones and laptops. This may be why a student may make a decision to “sit in class and drift” (Davis, 2012). The vast array of information can lead to a sense of information overload and could cause students to decide to drift through the environment because their capacity to process information has been exceeded. In the literature on decision-making, rational decision-making is said to be compromised by vast arrays of information because human beings have a limited capacity to process information. It is argued that people respond to an overwhelming array of possibilities by constructing simplified decision-making models that include essential features of a problem and result in decisions that satisfice, rather than optimize. This approach to decision-making is described as making decisions under bounded rationality. Herbert Simon has published numerous works on the phenomenon of bounded rationality, a process which he has described as an approach to decision-making practiced in the midst of complex problem-solving (Simon, 1972).

When applying the concept of bounded rationality to lack of academic commitment to appropriate academic preparation among college students, one could argue that students may not be extracting classic essential dimensions of the problem of “How do I successfully navigate a college program?” such as reading the textbook *to gain knowledge and remember it*, allotting the appropriate time to review and study what has been read *to gain understanding* and participating in class discussions *to develop application and analysis skills*.

In order to help undergraduate business administrations students in an Organizational Behavior course make better decisions regarding their commitment to first gain knowledge and remember it, then gain understanding and then develop decision-making skills to apply the newly acquired knowledge and understanding and to use this knowledge and understanding to analyze the decisions of application. In order to help students commit to pursuing knowledge acquisition, understanding, application and analysis skills, which are also described as the first four steps of Bloom’s taxonomy of Educational Objectives (Krathwohl & Anderson, 2010; Krathwohl, 2002; Seddon, 1978), the course was redesigned to include three new elements: a) a unit on learning/ motivation theories to help students increase their awareness of methods used to acquire and understand new material, b) student presentations of their analysis of current business challenges in “cases” garnered from the pages of business periodicals to help students observe application of theories recently learned and to use these newly learned theories to analyze the recent decisions discussed in these cases, and c) the use of a new tool to help students develop a simplified model of the essential dimensions of the course, the “Decision-Making Grid,” (hereafter referred to as “Grid”).

This paper is a report of research in progress to answer the research question, “What intervention can help students in an undergraduate Organizational Behavior course make better decisions regarding a commitment to remember and understand course material and to apply this knowledge and use it to improve their analytical abilities?” Since the Grid was designed to help students focus on the first four levels of Bloom’s revised taxonomy – remember (referred to as knowledge in the original taxonomy), understand, apply and analyze (Krathwohl, 2002)—it is the intervention on which this research focuses. This relatively simple low-tech form has been lauded by numerous students as a helpful aid and several students suggested that it would be useful in other classes.

The Grid is a simple form containing a grid with seven columns and as many rows as are needed to list each graded assignment and activity in the course. The seven columns

contain the following headings: "Activity," "DateDue," "Purpose," "Learning Tactic Used," "Points Available," "Points Earned," and "Improvements To Be Made" (see Appendix A for the Grid used in Fall, 2008 and Appendix D for the most recent version used in Spring, 2013). It helps students *clarify the purpose of each assignment* (which include references to gaining knowledge ("identify theories") and understanding ("identify ...the relationship among theories") as well as application and analysis), and relate it to a brief description of the learning tactic the students decide to utilize. Ultimately the learning tactic they decide to utilize can be compared both to the purpose of the assignment and their commitment to the assignment purpose as measured by the points earned on the assignment. This is accomplished in a systematic manner using a low-tech, one-page paper and pencil format to help guard against the information overload which can occur when the next e-mail or text message arrives on the smart- phone, tablet or laptop potentially distracting the student from focusing on making decisions regarding commitment to academic preparation.

Literature Review

Metacognition

Metacognition has been found to predict learning (Flavell, 1979; Brown, 1987). The literature on metacognition can be divided into two areas of focus: a) knowledge about factors which influence cognition such as knowledge about the task at hand or knowledge about strategies to accomplish the task, and b) activities that regulate cognition such as planning, monitoring and evaluating (Vrugt & Oort, 2008). Studies have shown that metacognitive knowledge and metacognitive regulation are positively correlated (Schraw & Dennison, 1994; Veenman et al, 2006), but a positive relationship between these two areas of metacognition and learning is seen only when knowledge about the factors influencing cognition is correct.

For example, if a student has incorrect knowledge about the expectations of a class assignment or chooses an inappropriate learning tactic or strategy, then even if he or she demonstrates good use of the regulation skills (planning, monitoring and evaluation), learning is impaired. Therefore, improving commitment to academic preparation by focusing on metacognition should provide clarity of cognitive task as well as tools to assist in the cognitive regulation activities of planning, monitoring and evaluation. Providing clarity of cognitive task for students can be accomplished by communicating appropriate learning objectives, i.e. the purpose of a particular assignment.

And since according to Vrugt & Oort (2008), metacognitive planning can be described as "the selection of appropriate strategies and the allocation of resources that affect performance" (2008:126), while monitoring is described as an "awareness of comprehension and task performance" (2008:126), and evaluation is described as "re-evaluating one's goals and conclusions" (2008: 126), providing students with a tool that guides these cognitive regulation activities could improve their decision-making models regarding commitment to academic preparation.

Bloom's Taxonomy of Learning of Educational Objectives

In this world of technological complexity and easy access to information, students could easily conclude that commitment to academic preparation merely involves being committed to access information and remembering the accessed information in order to repeat it under conditions of examination. Some students believe that the necessary knowledge for a

course can be accessed by attending class and no additional reading is required, though reading assignments are provided by the instructors. Other students believe that reading about the topic on various internet sites instead of purchasing the required textbook or e-book will give them enough knowledge to drift to the next course. However the seminal work by Bloom and his colleagues (1956), demonstrates that knowledge of facts is merely the entrance door to learning. To be academically prepared, students need to access and remember the most credible knowledge from classic and modern theory, develop an understanding of this knowledge in order to make the knowledge meaningful so that the general knowledge can be applied to specific situations. And once application of the knowledge can be made specifically, students should then challenge themselves to analyze other specific situations to determine how behavior in these situations can be explained by the new knowledge and understanding they now possess. In this way, gaining knowledge becomes the first step in learning, and not an end in itself.

Bloom's taxonomy is a framework that helps instructors classify expectations of learning for students. In his overview of a revision to the classic taxonomy, Krathwohl -- who worked with Bloom on the original framework -- indicated that one of the original purposes of Bloom's taxonomy was to serve as "a means for delivering the congruence of educational objectives, activities and assessments in a unit, course or curriculum" (2002:213). The recent revision of the taxonomy provides a two-dimensional framework, which includes metacognitive knowledge (Krathwohl, 2002).

Given the theoretical connection between metacognition and Bloom's taxonomy of Educational Objectives, students who use the metacognitive practice of clarifying the purpose of the academic task and develop appropriate strategies to remember, understand, apply and analyze course material along with metacognitive regulation activities such as planning learning tactics, actively monitoring progress (or lack thereof), and evaluating the inputs and outputs of their efforts are more likely to increase their commitment to academic preparation. Therefore, the Grid uses the following model to help students improve their decision-making in order to commit to academic preparation:

**CLARIFY PURPOSE OF TASK TO DEVELOP RELEVANT DECISION STRATEGIES →
REGULATE COGNITIVE ACTIVITY → DECIDE TO COMMIT TO APPROPRIATE
ACADEMIC PREPARATION**

Research designed to evaluate this model was conducted to examine the following hypothesis:

An intervention that encourages students to metacognitively clarify the purpose of an academic task so as to develop relevant decision strategies to plan, monitor and make evaluation decisions related to academic preparation will demonstrate a difference in commitment to academic preparation.

Research Methods

Background

The model proposed evolved from principles highlighted at instructional design workshop held during the summer of 2008. After attending the workshop, new course performance objectives for an undergraduate Organizational Behavior course were developed, a teaching

module on learning theories was added early in the course and the Grid was developed to be used during the 2008-2009 academic year. Six course performance objectives were designed. One of these objectives specifically focused on an outcome that would require the student to make a decision to commit to appropriate academic preparation: "Students will take personal responsibility for adjusting learning tactics to acquire the knowledge and skills introduced in this course." By acknowledging that students make decisions using bounded rationality, the Grid is given to students early in the semester to use as framework throughout the semester to help them construct a simplified model of important dimensions to consider as they make decisions regarding course preparation. Students were required to complete the Grid and submit it for grading on completeness. This assignment encouraged student commitment by clarifying the purpose of an assignment, and asking for a brief description of planned learning tactics as well as evidence of monitoring and evaluation of their work.

This ongoing research study examined the use of the Grid both qualitatively and quantitatively. The qualitative analysis focused on a selection of excerpts from reflection papers and submitted Grids from students enrolled in the course in Fall, 2008, as well as student answers to a questionnaire about the Grid in Spring 2013.

The quantitative examination used analysis of variance (ANOVA) to test the null hypothesis. Use of this data for this examination was approved by the Institutional Review Board of the institution where the course is taught.

Variables

The dependent (outcome) variable in this analysis is "commitment to academic preparation." In this study, commitment to academic preparation is measured by student comments concerning change in academic preparation in the qualitative analysis and by students' final paper grades in the quantitative analysis. The final paper is designed to test knowledge, understanding, application and analysis skills (see Appendix B and Appendix C for Final Paper Guidelines, 2008 and 2013, respectively).

The independent (explanatory) variable in this analysis is "*an intervention* that encourages students to metacognitively clarify the purpose of an academic task and plan, monitor and evaluation decisions related to academic preparation." In the qualitative analysis, this variable is measured by comments concerning clarity of purpose and use of planning and evaluation. In the quantitative analysis, the students are grouped by academic year, with the 2007-2008 year being coded, "100," the 2008-2009 year being coded, "200" and the 2009-2010 year being coded, "300." The "100" group did not use the Grid, while the "200" group was required to use the Grid throughout the semester and submit it on the last day of class for grading along with the final paper assignment. The "300" group of students was required to submit the Grid two times for grading --once at mid-semester (about the 9th week) and on the last day of class for grading along with the final paper assignment.

Analysis and Results

Qualitative Analysis

After about nine weeks of using the Decision-Making Grid in Fall, 2008, students were asked to write a short reflection paper in class describing their use of the Grid. Below are a few

excerpts from a selection of those reflection papers, selected among those who submitted both a reflection paper and a completed Grid to represent a variety of responses.

"Based on my assesment of my performance grid, I have to study smarter than I have been doing. If class were to end today, I would have earned a woeful "C." The great thing is, class is not ending today. I have the opportunity to improve....."(Student A)

"Based on my assignment grid analysis from looking at my last two exams, I have decided to formulate a strategy....I will use everything I did for exam one while also studying with my peers for better understanding and diverse opinions..." (Student B)

"Although I do not have my performance grid in front of me as of the writing of this reflection, I believe I have done well in this course. I have achieved A's on each exam and my efforts in team and individual assignments have been reflected in high grades as well." (Student C)

These student comments demonstrate how using metacognitive skills helps students construct simple decision-making models concerning academic preparation. The comments from Student A highlight his process of monitoring and evaluating past behavior to decide that he will need to be more effective in his academic preparation. The comments from student B show his process of monitoring and evaluating that leads him work with his peers to increase his preparation for the class, while comments from Student C describe a student who does not seem to need the Grid to encourage him to exercise metcognitive regulation skills.

After receiving the Grids from students at the end of the semester along with the final paper, both were graded. An excerpt from Student A's entries on his grid for Exam #1 follow in italics:

Activity	Date Due	Purpose	LearningTactics Used	Points Available	Points Earned	Improvements To Be Made
Exam #1	9/29	Identify theories and relationship among theories.	<i>Study the day before</i>	40	24	<i>Study in advance</i>

Student A identified the date of Exam #1 as September 29, and decided he identify theories aand the relationship among theories by studying the day before the exam. Having recorded that he earned 24 out of 40 points (60%), he can now evaluate the decision to study the day before and plan to learn how to satisfactorily identify relevant theories and the relationship among theories (purpose of activity). Student A used this metacognitive exercise to help him make the decision to plan to study earlier than one day before an exam. As reflected in his comments described above, Student A learned by monitoring and evaluating his decisions that he needed to adjust his learning tactics to improve his outcomes. Student A improved his outcomes and received 97.5% on his final paper, which

reflected his newly learned ability to identify theories and the relationship among theories (purpose of Exam #1) as well as apply theories and concepts to practical scenarios with clear written communication (purpose of final paper).

An excerpt from Student B's grid concerning Exam #1 follows:

Activity	DateDue	Purpose	LearningTactics Used	Points Available	Points Earned	Improvements To Be Made
Exam #1		Identify theories and relationship among theories.	<i>Reviewed definitions</i>	40	19	<i>Answering questions at the back of the book.</i>

Student B neglected to enter the due date for Exam #1, but described his learning tactics as merely reviewing definitions of concepts. With this approach, he received 19 out of the 40 available points (47.5%) on an exam focused on identifying theories and relationship among theories -- an objective that he was given prior to his choosing a study method. His comments on his reflective essay described earlier indicate that after evaluating his decisions regarding learning tactics, he came to the conclusion that discussion of the concepts with his peers might enhance his ability to identify theories and the relationship among them. And as indicated on his Grid, he also sought to monitor his understanding of theories by reviewing questions given in the textbook. Student B received an 87.5 on the final paper, demonstrating an increase in his learning about how to plan, monitor and evaluate his decisions in accordance with the purpose of the academic task.

An excerpt from Student C's grid concerning Article Analysis #2 follows:

Activity	DateDue	Purpose	LearningTactics Used	Points Available	Points Earned	Improvements To Be Made
Article Analysis #2	9/17	Refine skills in identifying the logic of an argument.	<i>I did not do it due to procrastination.</i>	20	0	<i>I need to be diligent and dedicated to my education and not allow my focus to be derailed.</i>

Student C has frankly assessed his actions regarding Article Analysis #2. And though his comments on the in-class reflection exercise several weeks later described his ability to achieve high grades in the course without referring to the Grid, his reflection on his actions described on the grid gives him a clearer evaluation of his decisions regarding commitment to academic preparation and prompted him to develop a more realistic decision-making model highlighting elements of diligence, dedication and focus. Student C seemingly used this new decision-making model help him choose to eliminate his procrastination and earned an A on his final paper.

Student A and Student B were in clear need of help and encouragement in clarifying the purpose of the task, and the Grid seemed to help both of them metacognitively plan, monitor and evaluate their decisions and actions to bring them in line with the purpose of the academic task. Student C appears to have been clear on the purpose of his academic tasks and used the Grid to merely evaluate his behavior and made new plans to align his decisions and behavior with his focus prior to the onset of procrastination. Due to a death in his family, this student needed to complete his final paper later than other students. Therefore, there was additional time to confirm this assessment of his behavior.

In a more recent sample of students (Spring 2013), students were asked to voluntarily complete a brief questionnaire in-class if they chose (with 4 extra credit points offered for completion of the questionnaire) "to help with research on the Grid." The students were told their names would not be used in the research. Fifteen of 16 students who attended the class completed the survey. Of those 15 students, 11 gave a positive response to the question, *"Has using the grid affected your commitment to academic preparation?"* Below is a chart giving all 15 responses to that question and the follow-up question, *"If so, how has the grid affected your commitment to academic preparation?"*

Student	Has the Grid affected your commitment to academic preparation?	If so, how?
Student #1	"Yes, because it reveals that I do not perform as well when I have poorly prepared for assignments."	"I, now, will not dive head first in my assignments. I need to evaluate my tasks of the assignment and plan for the best results in each segment of the assignment."
Student #2	"It has showed me what the assignments will be, but not necessarily affected my commitment to academic preparation."	"It has allowed me to know where my grade stands and what I have to do to get the grade that I want."
Student #3	"Yes, it has."	"It has in the way of allowing me to prepare myself more so mentally...."
Student #4	"Yes"	"It has encouraged me to plan a little more in advance."
Student #5	"Yes, it has helped me become more committed to the grade I want overall and the expectation I have for each assignment."	"The grid has made me think more forward about what I want to see in terms of [a] grade and it helps me manage and monitor myself."
Student #6	"It has, it pushes me to do better in the class and understanding the curriculum."	"The grid has made me change my study habits, especially when you can see the points in the class that you have received!"
Student #7	"Yes."	"It helps me stay on track with my studies and assignments. Helps me avoid missing deadlines on assignments."

Student #8	"Yes, the grid does serve as a way for me to evaluate personal goals and progress throughout the course."	"The grid is my receipt for the work that I have done. If I notice a trend in decreasing points, the grid acts as a reality check and motivates me to do my best on the next assignment."
Student #9	"It has helped me see how each point is allocated during the semester instead of waiting to towards the end of the semester to see my grade."	"I have also use[d] the grid as a feedback method to increase my chances of receiving all the points available on each following assignment."
Student #10	"It has motivated me to examine every assignment, assessing the importance of each."	"It has be a[n] effective tool to assess the importance of each assignment that has been given also...the purpose giving insight on what we should focus on within each assignment."
Student #11	"Yes."	"Being able to track my progress gives me the ability to better prepare myself for future assignments and lets me know exactly how I must perform to get a desired final grade."
Student #12	"Yes!!! It is very helpful."	"It makes me more organized and helps me make improvements to my work ethic."
Student #13	"No. it gives me a better understanding of how I'm doing in class. I'm able to see where I can improve."	
Student #14	"I believe that because I have a love of organization already that the DM [Decision-Making] grid helped a bit with timel[i]ness but not understanding."	
Student #15	"The decision-making grid has not affected my commitment to academic preparation." It doesn't help because I already take personal adjustments when classes are not going the way I think they should."	

It is encouraging to learn that 73% of the students completing this questionnaire indicated that the use of the Grid positively affected their commitment to academic preparation! It is also encouraging that three of the four students who did not think the entire grid exercise helped increase their commitment to preparation, responded positively to the more specific question on the questionnaire, *"Does seeing the purpose of the Team Case Analysis assignment identified on the Decision-Making Grid help you better evaluate the feedback on the completed assignment? If so, how?"* (see Appendix D – Spring 2013 Decision Making Grid.) This positive feedback on this particular Grid entry in the face of more negative

feedback for the entire grid could possibly be explained by the fact that these students have developed individualized metacognitive routines for their own individual work, but are learning that it is usually more difficult to clarify a task and develop decision strategies as well as plan, monitor and evaluate work conducted *in teams*.

Quantitative Analysis

Though the Grid was introduced along with a greater focus on course objectives and a teaching module on learning theories, the Grid is the intervention of interest for the quantitative analysis. Given that this research design has a quantitative outcome variable (final paper grade) to measure commitment to academic preparation, a three-level group explanatory variable and an identified intervention being investigated, the one-way analysis of variance (ANOVA) for fixed effects models was chosen to analyze the data. One way ANOVA compares means simultaneously to determine if the means are significantly different by examining variation in the dependent variable (Pace, 2012).

To test, the null hypothesis, *"The mean commitment to academic preparation as measured by final paper grade will be equal in all three groups (group 100 using no Grid, group 200 submitting Grid to be graded once, and group 300 submitting Grid to be graded twice)."*

The results of the one-way ANOVA analysis among all three groups indicated that $F = 4.36$, $p = .01$, (Mean Square Between Groups = .14 with 2 degrees of freedom and Mean Square Within Groups = .03 with 160 degrees of freedom) for the outcome variable, "final paper grade percent.". Since the F test is significant, the null hypothesis can be rejected.

To obtain further clarification on the variances of means of the final paper grade among these groups, sensitivity analyses were conducted, selecting cases involving only group 100 (no Grid used) and 200 (Grid submitted for grading once) for analysis. In this test, $F = 6.5$, $p = .01$ (Mean Square Between Groups = .23, with 1 degree of freedom and Mean Square Within Groups = .04 with 112 degrees of freedom). So the null hypothesis can be rejected when comparing the use of the Grid to not using Grid.

Cases were then selected involving only group 200 (Grid submitted for grading once) and 300 (Grid submitted for grading twice). For this test, $F = .15$, $p = .70$. This F-test is not significant and indicates that there is no significant difference in means for the final paper grades between the group of students submitting the Grid once for grading and the group of students submitting the Grid twice for grading.

In order to determine if there were confounding biases in the analyses arising from a single instructor evaluation of the final student papers, three instructors (one assistant professor and two Ph.D. students) of Organizational Behavior courses were asked to evaluate a random (using a random number generator) sample of ten students papers selected from among the 158 student papers. The scores of the three instructors (10 scores for 10 papers from each of the two Ph.D. student instructors and 9 scores for 9 papers from the assistant professor) were correlated with the scores from the original instructor and were found to be highly and significantly correlated. ($r = .84$, $p < .01$; $r = .89$, $p < .01$; $r = .94$, $p < .01$, respectively). These high correlations between the scores of the panel of instructors with the scores of the original instructor bolsters confidence in the finding that the use of this Grid helps improve commitment to academic preparation. Also, correlation analysis of a variable identifying the use or non-use of the Grid found that the final paper grade percent was significantly correlated to the use of the Grid at .20 ($p < .05$) and to Grade Point

Average (GPA) Range at .34 ($p < .01$) (each student's overall GPA at the time of taking the course was obtained and recorded. Internal Review Board approval was contingent upon using only ranges of GPAs for the students). Thus, both a more formal measure of commitment to academic preparation (as measured by GPA) and this new Grid, designed to improve student decision-making concerning commitment to academic preparation, were found to be significantly correlated with commitment to academic preparation as measured by final paper grade percent.

Discussion

The focus of this article is to report on ongoing research of a pedagogical intervention to address the research question, "What intervention can help students in an undergraduate Organizational Behavior course make better decisions regarding a commitment to remember and understand course material and to apply this knowledge and use it to improve their analytical abilities?" The model drawn from a review of literature concerning metacognition and Bloom's Taxonomy of Educational Objectives suggested that *an intervention that encourages students to metacognitively clarify the purpose of an academic task so as to develop relevant decision strategies to plan, monitor and make evaluation decisions related to academic preparation will demonstrate a difference in commitment to academic preparation.*

The qualitative analysis of the Grid as an intervention that encourages students to increase commitment to academic preparation was seen in the selected excerpts from reflection papers and Grids, as well as from 73% of those students questioned about the Grid's influence on their commitment to academic preparation. In the quantitative analysis, evidence was found to reject the null hypothesis, *"The mean commitment to academic preparation as measured by final paper grade will be equal in all three groups (group 100 using no Grid, group 200 submitting Grid to be graded once, and group 300 submitting Grid to be graded twice),"* when comparing three groups of undergraduate students at a liberal arts college in the Southeastern United States.

For the final paper assignment students were required to conduct interviews with decision-makers to gather data concerning decisions made regarding motivating employees, team functioning, identifying leadership characteristics and incorporating organizational values in day-to-day operations using three levels of analysis (individual, group and organizational). The students then needed to analyze data gathered by examining these decisions in light of theories learned during the semester, the relationship among those theories, and the application of these theories in a real life setting. Grades on these papers represented an evaluation of how well students performed on course performance objectives (see Appendix B and C).

The use of this Grid helps students by providing a simple paper and pencil framework to help them develop and hone metacognitive skills that will not only help them to commit to academic preparation, but to learn how to prepare for many of life's challenges amidst the information overload awaiting them as they embark upon their careers and develop their areas of expertise.

The next step in this research is to address potential alternative explanations for the variation in group means indicated by the ANOVA analysis by conducting a simultaneous

study of the Grid in three courses—management, economics and accounting. Both qualitative and quantitative analyses (planned comparisons) will be conducted to gather more evidence concerning the efficacy of the Grid. By giving students more tools which help them develop and hone metacognitive skills, students will likely improve their ability to construct better boundedly rational decision-making models in the workplace or in graduate programs. In addition, the results found when using the Grid supports arguments that encouraging student commitment is related to improved student outcomes (Kuh et al, 2005; Kuh et al, 2006). Thus, using the Grid can challenge students to move beyond the state of being academically adrift.

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Appendix A: Decision-Making Grid Fall 2008

Name _____

Activity	Date Due	Purpose	Learning Tactics Used	Points Available	Points Earned	Improvements to be made
Article analysis #1		Demonstrate skills in identifying the logic of an argument.		20		
Exam #1		Identify theories and relationship among theories.		40		
Article analysis #2		Refine skills in identifying the logic of an argument.		20		
Exam #2		Comprehensively identify theories and relationship among theories.		60		
Team Presentations and Exercises		Refine analysis skills and develop skills to practically apply theories.		48		
Draft of final paper – introduction and one 1 st question		To begin to think about and commit to written thought the final analysis of two organizations.		20		
Exam #3		Comprehensively identify		80		

		relationships among theories apply them.				
Formative Assessment Grid and introductory questionnaire		To track learning activities and feedback to determine any needed changes to learning tactics.		32		
Final Paper		To analyze two organizations by applying theories and concepts to practical scenarios with clear written communication.		80		
Total Points				400		

Note: Students are required to complete the grid up to the Final Paper assignment, submitting it with the Final Paper.

Appendix B: Guidelines for Final Papers (due, along with Assessment Grid)

In an 8 to 10 page paper (double-spaced—include a list of references, but don't count it toward the 8-10 pages) analyze 2 organizations from 3 levels of analysis. The analysis should be grounded in relevant theory and research. **Choose 2 organizations to analyze.** For your analysis please respond the 2 questions in each of the following 3 categories (answering a total of 6 questions), in addition to providing an **introduction and conclusion** to your paper. Support your answers **with reference to the theories we have covered as well as reference material you have found about the organization** (you may also want to contact someone at the organization to get inside information, if possible.) You can also find information about the company in its annual report.

Questions for analysis (Choose 2 groups from each level of analysis):

Individual:

- 1) How do managers motivate staff? Describe which theories of motivation are being used and give examples of how these theories are being implemented.
- 2) How are personality assessments used? What instruments are being used, for how long and for what purposes?
- 3) How is job satisfaction measured? How long has it been measured in this way? How are the results utilized in the organization?
- 4) Is there any evidence of bias and or errors in decision-making? Identify these biases and errors (using descriptions from our text as a guide) and discuss the consequences of this kind of decision-making.

Group:

- 1) Describe 2 types of teams used in this organization. What are the purposes and functions of these teams?
- 2) Describe a result of group decision-making within the organization.

Organization:

- 1) To what kind of change has the organization responded? What has leadership done to help employees overcome resistance to change?
- 2) Does the organization have an organic structure or a mechanistic structure? What evidence supports your choice? Has this structure helped or hindered the organization in responding to change?
- 3) What kind of leadership style (Transformational, Transactional, Charismatic, Authentic) do leaders display? Give evidence to support your thoughts. Has this style helped or hinder the organization's response to change?

Conclusion: Compare and contrast these two organizations along the 6 dimensions discussed in the paper. Which organization would you prefer to work for based on your analysis?

Appendix C**Bus 450 Organizational Behavior Spring 2013**

Guidelines for Final *Individual Papers* (due, along with *Decision-Making Grid*, Wednesday, May 1)

Each student individually will write a 8 to 10 page paper (double-spaced—include a “Works Cited” page, but don’t count the reference page toward the 8-10 pages) **analyzing an organization (a local Atlanta organization is preferred) from 3 levels of analysis (SEE BELOW AND ON NEXT PAGE), and compare this analysis – point by point – with the organization that was analyzed by your team, where indicated.**

A) The analysis should be grounded in relevant theory and research, and include an interview with a decision-maker at the organization.

B) For your analysis please follow the outline below and respond to each question.

C) Support your answers with reference to the theories we have covered.

D) In addition, use information from at least TWO outside references. These outside references can be found at the end of the chapters we covered in the endnote references. Please make sure to put all the references you used on a “Works Cited” page at the end of your paper (this “Works Cited” page does not count toward the 8-10 page requirement).

Questions for data gathering and analysis follow after a description of the organization:

I. Introduction (Describe the organization chosen— include a brochure or the first page from the organization's website in the Appendix, why you chose it, who was interviewed and why you chose this person)

II. Individual:

- 5)** Identify two decisions made in the past 12 months by the decision-maker interviewed. (DATA) Name at least one perceptual or decision-making bias that affected each of the decisions described, and explain how decision-making could be improved. (ANALYSIS) **(Also, compare to organization analyzed by team).**
- 6)** Describe how this decision-maker motivates employees (DATA). Explain how the data supports the use of at least one theory of motivation you have studied and explain how the decision-maker's motivational techniques could be improved referring to at least one theory of motivation. (ANALYSIS) **(Also, compare to organization analyzed by team).**
- 7)** Identify a situation where an employee's behavior is either above average or below average and describe the behaviors (DATA). Using the MARS model, explain how employee motivation, ability and role perception are related to the behaviors described. Using one of the independent variables in the MARS model, explain how to sustain or improve the described behaviors. (ANALYSIS) **(Also, compare to organization analyzed by team).**

III. Group:

- 1)** Identify and describe a team in the organization. (DATA) How does the organization help teams when they reach the "Storming" stage of team development? (ANALYSIS) **(Also compare to organization analyzed by team.)**
- 2)** DATA: Describe the decision-making process of teams in the organization.
ANALYSIS: How do the teams guard against groupthink and social loafing in their decision-making?

IV. Organization:

- 4)** DATA: Who is the leader of the organization? How long has he or she been the leader? ANALYSIS: What kind of leadership style (Authentic, Transformational, etc.) does he or she display? What is the evidence to support that this is the leader's style? How does the leader balance power and leadership?
- 5)** DATA: Describe an ethical dilemma, which the decision-maker has encountered?
ANALYSIS: What type of decision-making was used to solve the problem?

6) DATA: Name two organizational values? **ANALYSIS:** How are these values reflected in organizational decision-making? How do leaders encourage effective communication of these values in the organization?

V. Conclusion: Choose one level of analysis (individual, group, organization), and explain how one area that you already described could be changed to improve organizational productivity. (Example: Explain specifically how better handling of the Storming stage of a team -- based on what you learned in this course-- could enhance productivity in the organization.)

Appendix D

Bus 450 Organizational Behavior, Spring 2013 Decision-Making Grid

Name _____ Grade 1 _____
Grade 2 _____

Activity	Date Due	Purpose	Learning Tactics Chosen	Points Available	Points Earned	Decisions to be made
CONNECT Assignment		Identify theories and concepts and application of theory		10		
CONNECT Assignment		Identify theories and relationship among theories.		10		
CONNECT Assignment		Identify theories and relationship among theories and application of theory		10		
Team Case analyses		Application of decision-making skills and analysis		15 (2/18) 30 (4/10)		
Midterm Exam		Identify relationships among theories/application.		100		
Paper #1		To apply theory to a specific organization		45		
Presentations		Communicate theory application		50		
Decision-Making Grid		Track learning to determine any needed changes to learning tactics.		10 -(11/2) 10- final		
Final Paper		To analyze two organizations by applying theories.		100		
Total Points				400		