

INTEGRATION OF A RESEARCH/WRITING COMPONENT INTO AN MBA Q.M. COURSE

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ABSTRACT

The topic of this innovative effort is the introduction of a research and professional writing component into an MBA curriculum; specifically, into a first year quantitative methods (QM) course.

Educational objectives of this course include the following items:

1. The preparation of MBA students for future writing components and the Master's thesis/professional paper
2. The development of skills and judgment in becoming more effective and efficient problem solvers

BODY

INNOVATIVE CONTENT

Narrowly viewed, the innovation described herein involves adding a significant writing and research component to the entry-level graduate course, Quantitative Methods. The research component encompasses scholarly research in an individual effort and field research in a group effort.

More broadly considered, this decision led to (1) an examination of the traditional curriculum to decide what could be de-emphasized in the traditional course and (2) a search for an underlying theme for the revised course.

Writing Component

The emphasis on writing/research skills came from faculty frustration experienced when students performed inadequately in the two capstone courses required for their masters degree. The first of these courses attempted to teach research and writing skills, the second involved writing a masters thesis for the degree. The School of Business decision was to eliminate the former of these courses. Instead, it was decided to fold the material of the eliminated course into five identified courses of which Quantitative Methods would typically be the first the graduate student would experience.

Writing efforts are required in a scholarly paper produced by each student individually and in another paper, which presents the work and outcomes of a group field project. In order to emphasize the importance of these efforts, 50% of the semester grade is assigned to these efforts.

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Faculty consensus developed to have as the underlying theme of the course an examination of the epistemological question "What constitutes reliable knowledge?" We strongly believe students can benefit from focusing on what quantitative methods can contribute to reliable knowledge and how to become aware of and deal with the boundaries and limitations of such knowledge.

Summary of Innovative Component

Students are invited to develop skills in creating mathematical models and in doing field and library research. We also believe students should be encouraged to question that which is presented as reliable knowledge which either does not have a basis in reproducible experiment or which cannot be made arguably plausible using logic, conceptual thinking and/or by examining historical precedent where it exists. In short, we want the student to develop judgment.

Be Patient....Try to love the Questions...Live the questions now...- Rilke [6]

INNOVATIVE ORGANIZATION

The QM 601 course content evolved from a joint decision of the business faculty to add a writing component across five first year graduate classes in the MBA curriculum. With QM being one of the five first year classes, the structure of the traditional QM course had to be modified. The new writing/research component would account for about 20% of actual classtime.

Therefore, a limited number of QM topics could be covered in the remaining 80% of the course. In addition, the writing component would account for 50% of a students grade. This percentage was set forth to prompt students to recognize the import of mastering not only the QM topics themselves, but also mastering the application and communication of those topics.

Course Topics

The QM topics themselves were decided upon by QM faculty through a consensus process. Two papers, one by Lane, Mansour, and Harpell [3] and another by Morgan [4], were used as an aid. These studies surveyed practitioners and educators and compiled a list of QM topics found to be most important and useful.

The decision to use this type of criteria was based on two items: 1) the notion that MBA graduate students ask for and must receive relevant QM skills to secure the best opportunities in industry and 2) the surveys provided an

objective means to identify what industry leaders and educators deemed “relevant QM skills.”

Topic Weighting

The four main content topics chosen for the course were statistics and probability, project management/decision making, simulation, and mathematical programming. Each topic would receive approximately 20% of classtime.

However, the emphasis was not to be on the topics, but the integration of these topics into the writing component. In other words, not only a set of QM techniques but a forum for the use of these techniques, the transfer of theory to application, and the communication of the results into the real world.

INNOVATIVE UNIQUENESS

In the first class, students are reminded of David Hume’s attack on a priori reasoning as presented in his essay Concerning Human Understanding [2]. Looking at applications utilizing the binomial mode and simple thought experiments involving the flip of a coin and/or the throw of a die, the student is encouraged to ponder Hume’s attack.

Use and Misuse of QM

A contrast is drawn between conclusions obtained by mathematical modeling and conclusions identified by astrologers or promoted by charismatic leaders. The emphasis is on student thought and investigation, not on enlightenment by faculty through lecture.

As the course progresses, an article entitled “McNamara’s Painful Tour” [1] regarding the career of Robert McNamara is reviewed and it is suggested quantitative methods can lead to regrettable actions even if those methods are enormously effective. In addition, and for added effect, a holocaust film, “Night and Fog” [5] is shown and fascism is identified as a definable organizational structure. Students are encouraged to think about and discuss the misuses of QM as well as the lessons learned from these two historic examples. This discussion can lead to a topic for the individual paper of the student.

Group/Individual Writing Topics

Students are invited to pick a topic for their individual paper from a list including suggestions generated by business school faculty or from one of two general areas provided by the instructor. One area being the relation of QM to a profession and the other area being the use and/or misuse of QM in the real world.

The revised course is designed to produce a more mature and grounded student. The approach of replacing the

traditional textbook moves the student away from considering one chapter at a time, mastering the material to some degree and then moving on to another chapter. In following this traditional textbook structure, the student often forgets what has been studied or fails to see it as a part of a comprehensive whole.

Writing/Research Impact

Through the new design which incorporates scholarly and field research, the student is encouraged to investigate the larger picture of what QM/Management Science is and can be. As a byproduct, the students will also be given the chance to improve their writing and thinking skills. Overall, the presentation of the course in full, acts as a guide for the student research and writing. Course content as well as organization play an important role in a student’s success.

INNOVATIVE EFFECTIVENESS

The major educational objectives of the course were met in part through the successful completion of group and individual projects/presentations. In addition, the students were required to apply, at a minimum, one of the four QM topics covered in the course to their research and writing. The periodic homework sets and quizzes allowed students to practice applying QM theory to real problems. Overall, the integration of QM theory and method into the final written and oral reports exemplifies the educational objectives of this innovative effort.

Benefits of Innovation

The benefits of the innovative efforts include the integration of QM into many diverse disciplines. Students are encouraged to develop topics from Marketing, Finance, MIS, Economics, and Human Resources. The structure of the course systematically introduces students to the relevance of QM in industry and decision making problems.

Benefits of Research/Writing Component

The writing component is then the conduit for the student to communicate their research, analysis, and results of QM. However, the writing component plays an even more important role. The final papers and presentations are a beginning or preparation stage in an MBA student’s career. It is expected that the coursework, specifically the writing component, become a vital building block in a student’s MBA portfolio.

Summary of Innovative Effectiveness

Overall, the innovation provides students with a solid working background in QM and prepares them for the MBA professional paper/capstone course.

References

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- [2] Hume, David, "Treatise of Human Nature," Prometheus Books, 1992.
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- [4] Morgan, C.L., "A Survey of MS/OR Surveys," Interfaces, 19:6, November-December, 1989, 95-103.
- [5] Night and Fog. Prod. Edward Muszka. Video Cassette. Video Images: Argos Films-Como Films, 1983.
- [6] Rilke, Rainer Maria, "The Book of Hours," Riverhead Books, 1996.