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The “ACID Test”: An Extension of the Case Method

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The case methodology for the purposes of instruction was first initiated by Christopher Langdell at the Harvard University Law School around 1870 (Osigweh, 1989). The Harvard Business school adopted this approach in the early 1920s, thanks largely to the pioneering works of Wallace B. Donham (Copeland, 1954; Donham, 1949). Since that time, it has become a very popular vehicle in imparting knowledge in business schools across the country. With particular reference to courses in operations management, Bandyopadhyay (1994) made a strong recommendation for a greater emphasis on using the case approach as opposed to the conventional lecture method. Osigweh (1989) has enumerated many major sets of appeals for the case approach over the conventional methods of teaching. The case methodology focuses on “doing” in a classroom setting as a way to improve skill (including verbal and written communication) development. It possesses an illustrative quality; exposes learners to a wide range of true-to-life management problems; enables the learners to explore the situation and listen to one another’s views without directly confronting the actual, sensitive issues; and inspires interest in otherwise theoretical and abstract training material.

The case methodology is replete with merits. Osigweh (1989) has enumerated the following 10 major sets of appeals for the case approach over the conventional methods of teaching:

1. focuses on “doing” in a classroom setting as a way to improve skill development;

2. enhances learner development of verbal and written communication skills;
3. fosters mastery through the invitation to solve a mystery;
4. possesses an illustrative quality;
5. exposes learners to a wide range of true-to-life management problems;
6. enables the learners to explore the situation and listen to one another’s views without directly confronting the actual, sensitive issues;
7. offers a vehicle for constructive change;
8. inspires interest in otherwise theoretical and abstract training material;
9. provides concrete reference points that foster learning by association and help bridge the gap between theory and practice; and
10. helps unlearn skilled incompetence.

Over the years, the approach has been criticized for several shortcomings. Osigweh (1989) listed actual or potential weaknesses in the approach as follows:

1. the case and its discussion focus on the past and static considerations;
2. inhibits “double-loop learning”;
3. reduces the learner’s ability to draw effective generalizations;
4. diminishes individual accountability for learning and promotes the development of “parasitic” attitudes among learners;



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5. reinforces norms of non-criticism and thus inhibits the growth of knowledge;
6. may foster "groupthink"; and
7. may compromise quality for quantity of interaction.

The "ACID Test" was developed to overcome some of the shortcomings of the conventional case methodology. It is a unique combination of a "live" case study, an interactive "guest" speaker presentation, and a comprehensive written exam. The "ACID Test" is particularly useful in the area of operations management because it combines several vital aspects of learning to help make the case "come alive" to the student. This article describes the method and evaluates the effectiveness of applying this approach.

ACID Test

The ACID Test was introduced into the Global Operations Strategy (MBA 627) course, a required module in the three-tiered MBA program at The University of North Carolina at Greensboro (UNCG). Generally, the students in this program take the course after having completed at least about 30 credit-hours of course work in the basic (functional) areas (such as Presentation and Interpretation of Financial Statements; Economic Analysis; Organizational Behavior; Financial Management; Marketing Management; and the Operations Function), foundation level knowledge (such as Advanced Business Statistics; Ethics, Public Policy, and Business; Cost Management Systems; Economic Policy and the Global Environment; Management Science; International Business; and Business Processes and Information Technology), and a core strategic course in the Analysis of the Business Environment. The Global Operations Strategy course is one of the strategic management core courses (Strategies for Managing Human Resources; Creating Value through Financial Policy; Advanced Marketing Management; Global Operations Strategy; and Strategy Implemen-

tation). Each of the required courses accounts for 1.5 semester credit hours. Each course runs for eight weeks (one-half of a semester) and class meetings are held once a week. In addition to the 33 credit hours of required courses, 15 more credit hours of elective courses are needed by the students to complete the MBA program at UNCG.

The word "ACID" in the ACID Test is an acronym for Analysis and application, Content and conceptualization, Integration and implementation, and Decision and discrimination. It is imperative that MBA students, once having gone through the program, are in a position to place the content learned in the right perspective and conceptualize the issues at hand, integrate the material, analyze a given situation and apply the principles appropriately, discriminate between when to make a decision and when not to as well as between the relevant and irrelevant issues, make the right decision, and then implement the decision.

The ACID Test was developed to comprehensively address the above mentioned objectives and is administered during the last meeting of the course module. One week prior to the end of the module, the students are given an eight page write-up on a specific real organization. The write-up is prepared by a senior executive of that organization in consultation with the professor. On the day of the exam, several questions relating to the organization are handed out to the students at the beginning of the class period. After the students have digested the questions for about five minutes, the senior executive of that organization walks in and makes a 20-minute presentation. After the presentation and before the students write their answers, the students are given time to elicit additional and relevant information, interactively, from the executive so as to answer the issues/questions on the written exam. The executive leaves the class room when the students start writing their answers to the questions in an hour period.

The presentation and interactive discussion (which lasts for about 60

minutes) as a part of the exam is the main thrust of the innovative effort. A good understanding of the content and concepts prior to taking the exam, integrating the issues during the presentation, discriminating between the relevant and irrelevant information (and seeking it) during the discussion session, analyzing the qualitative and quantitative factors as new material is presented, moving towards the appropriate decision, and understanding the consequences of implementing it on the part of the students is a prerequisite for a good score on the ACID Test. The students are *only* graded on the written comprehensive exam and *not* separately on the extent of interaction with the executive during the discussion session. Just like chemical acids are used to check whether the metal is a "noble" one (such as gold, etc.) or not, the ACID Test is a good reflection of the quality of our students for managerial responsibilities.

Effectiveness and Benefits of the ACID Test

The effectiveness of the ACID Test approach from a student's perspective was measured using a questionnaire. The questionnaire consisted of specific questions as well as an open-ended one. The questionnaires were administered to sections of the Global Operations Strategy (MBA 627) course in 25 semesters from summer 1994 to fall 2004. There were about 25 students on the average in each of the classes. The organizations used for the ACID Test include Deere-Hitachi Manufacturing Company, American Express Cards, VF Corporation, FedEx, Konica Manufacturing USA, United Healthcare International, R. F. Micro Devices, and United Guaranty Corporation. Students were asked to rate on a five-point scale whether they strongly disagreed (1), disagreed (2), neither agreed nor disagreed (3), agreed (4), and strongly agreed (5) whether the ACID Test added value to their learning experience. An overwhelming majority of the students agreed (or strongly agreed) that the content of the presentation (87%), the

speaker and the process of the presentation (86%), and the overall Global Operations Strategy course (91%) added value to their learning experience. A sizable majority agreed (or strongly agreed) that the class discussion after the executive's presentation (81%) and the overall method of presentation/examination in the form of the ACID test (75%) added value to their learning experience. When asked whether the ACID Test should be continued in the future, more than 78% of the students either agreed (or strongly agreed) that it should be.

In each of the modules when the course was run, the professor observed closely the process of the ACID Test while it was taking place. It should be pointed out that the quality of the discussions with each of the executives was extremely good. In addition, students were fairly accommodating to let others ask questions rather than usurping the time. The primary reason for this was that the students probably felt that rather than asking questions which may not add much value to their understanding for taking the written portion of the ACID Test, someone else might have something to query about which might add a greater value to the overall process. It was also observed that when a few (though substantially few in number) students sought information regarding irrelevant issues, the rest of the students did not take much notice of those acts. It was heartening to note that the students **analyzed** the information and **applied** the **concepts**, understood the **content**, **integrated** the material, understood the implications of **implementation**, made the right **decisions**, and **discriminated** the relevant issues from the irrelevant ones. This made the ACID Test a reality!

The student comments (from their responses to the questionnaire) also underscored the fact that a great deal of value was added to their learning experiences. A few of the comments are stated as follows:

The course has tied together a lot of what I have learned in previous courses. I enjoyed the exam format,

and in particular, the access to the speaker. The direct feedback (excuse the pun) from the president [of the organization] brought the case 'to life.'

I think the format [of the ACID Test] is a good way to deal with a real company. The opportunity to listen to and interact with speaker added *a lot* to the information from the case.

The presentation and exam method is the best I've had in the MBA program. Keep it up! It is real world and great experience. It was *even fun!* Imagine that in an exam.

I liked the novel *and* effective method of giving a final examination. I really enjoyed it and was able to tie a lot of the course together.

Overall, I think this type of exam is a great simulation and a good measure of critical thinking.

It was helpful to be presented with a real company to be able to address current issues. In addition, it is important to maintain the question and answer format for the discussion.

The faculty member greatly benefited by developing and running the ACID Test. The primary benefit has been the fact that the faculty member has gained insights into structuring the course based on real-world issues. The university and the business community have benefited with the initiation of a strong industry/university collaborative learning environment. This is very much in line with the thinking expressed by Robinson, Poling, Akers, Galvin, Artzt, and Allaire (1992), and Singhal and Hayes (1992). It is expected that in the near future, many more courses in our business school would be run using this methodology. The respective executives (and their organizations) who have taken part in different ACID Tests in the 10 years have expressed that these kinds of exercises have made them rethink some of the ways in which they conduct their business. Some of the executives requested to be invited back for repeat performances in other ACID Tests due to the tremendous benefits they experienced—and the faculty member complied with their requests. It is also

expected that many more organizations in the area would take advantage of such approaches. In summary, it has been found students, business executives, and the business school have all benefited from the ACID Test.

The case approach may compromise quality for quantity of interaction. In the ACID Test, each student is not evaluated on the number of times he/she asks a question of the "guest" speaker, but rather on his/her performance on the comprehensive in-class written exam. Since the discussion time is limited to about 30 minutes, the students have to make use of the available time wisely and ask the relevant questions. This forces the students to move towards quality of interaction rather than quantity. It has been observed by each of the professors that many of the students ignore an irrelevant question by a student and move on to other issues, thereby confirming that quality is also important to them as well.

In a conventional comprehensive written (in-class or out-of-class) exam based on a previously written case study, the students are unable to extract information beyond what is presented in written form. In such an instance, students require clarifications on the facts of the case presented. Usually, the instructor clarifies through his/her own interpretations. The students' understanding and perceptions of the facts of the case are blurred by the instructor's interpretation of the situations. Whereas in the ACID Test, the students get an opportunity to seek the clarifications directly from the individual (i.e., the senior executive from the organization) who has all the relevant facts.

The ACID Test is a versatile method and can be adopted for most courses in any MBA program and a few advanced courses at the undergraduate level. The approach is appropriately suited for interdisciplinary courses as well. Most business schools are located close to organizations and this should make it possible for active cooperation between business schools and organizations and for professors to generate more ACID Tests in the courses they teach.

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MARKETPLACE

BOWLING GREEN STATE UNIVERSITY **College of Business Administration** **James R. Good Chair in Global Strategy** **Emphasis in Global Supply Chain Strategy**

The College of Business Administration at Bowling Green State University invites applications for the James R. Good Chair in Global Strategy with an emphasis in global supply chain strategy. The specific academic focus includes the following areas: strategic sourcing, logistics, distribution channel management, customer relationships, operations management, demand management, and product development. The college seeks a recognized scholar with demonstrated performance in one or more areas of global supply chain strategy. Emphasis will be placed on demonstrated leadership in integrating supply chain education, research and engagement from a global perspective across the college, university, and business community.

Responsibilities include: (1) teaching undergraduate, graduate, and executive courses with significant global supply chain content; (2) providing leadership to the college and university on global supply chain strategy; (3) initiating significant engagement of the university with the business community and with other universities in the region; (4) research and publication; and (5) involvement in department, college, university, and professional service.

Qualifications include: (1) an earned doctorate in business from an AACSB accredited institution and qualifications for tenure at the rank of senior associate or full professor; (2) a record of excellence in teaching; (3) demonstrated capacity for providing academic leadership in global supply chain strategy; (4) a record of excellence in publishing research; and (5) experience in engaging with the business community. Relevant industry or consulting experience and a record of external funding is desirable but not required. Position is full time starting in August 2006. Salary is competitive with a full benefit package. Review of applications will begin on December 1, 2005, and will continue until the position is filled.

Please send a letter of application, full curriculum vitae, three current and original letters of reference, and transcript(s) to: Janet L. Hartley, PhD, College of Business Administration, Department of Management, 3018 BAA, Bowling Green State University, Bowling Green, OH 43403-0269, www.cba.bgsu.edu

Bowling Green State University is an AA/EEO employer and encourages applications from women, minorities, veterans and persons with disabilities.

THE UNIVERSITY OF NORTH CAROLINA-CHARLOTTE **The Belk College of Business**

The Department of Business Information Systems and Operations Management at UNC-Charlotte invites applications for one assistant/associate professor position in Management Information Systems and one assistant professor position in Operations Management beginning August 2006. The department offers undergraduate degrees in MIS and Operations Management, concentrations in Information Technology Management and Supply Chain Management in the MBA program, and participates in the interdisciplinary MS(IT) and Ph.D.(IT) programs. All Belk College programs are accredited by AACSB International.

These positions require a completed Ph.D. or D.B.A., evidence of research productivity and potential for publishing in leading academic journals. All applicants must submit a letter of application and vita to: Dr. Moutaz Khouja (mjkhouja@email.uncc.edu), Chair, Department of Business Information Systems and Operations Management, The Belk College of Business, UNC-Charlotte, 9201 University City Boulevard, Charlotte, NC 28223-0001.

The University of North Carolina-Charlotte is an Affirmative Action/Equal Opportunity Employer. Women, minorities and individuals with a disability are encouraged to apply. Applications deadline: October 1, 2005, or until the position is filled.

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Assistant Professor: Teach undergraduate/graduate MIS courses within prescribed curriculum; advise students on academic/career curricula; conduct research in E-Business, Supply Chain Management, Enterprise Software; serve on service committees. Req Ph.D. or foreign dgr equiv in Information Systems, Management Sciences or related discipline. Send resume to USM, 118 College Dr., #5178, Hattiesburg, MS 39406. ■

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