THE NEW RESEARCH FOCUS: AN
ANALYSIS OF THE SIMULATION GAME USER

A. J. Faria, University of Windsor
R. 0. Nulsen, Jr., Northern Kentucky State College

From the time that the first business simulation was designed and implemented in a classroom situation, the primary focus of most research efforts has been on justifying the simulation as a meaningful learning tool. Simulation usage is not new to our contemporary educational setting. The business simulation has been around for 25 years or more now. However, it still remains unique with respect to traditional teaching/learning methods. As such, the current research emphasis plods on and on in an attempt to justify simulation gaming as a meaningful adjunct to the educational system. To date, reams of material have poured into various conferences and journals highlighting the educational experience via simulation usage. In light of this research, it is surprising that no acceptable results have been obtained indicating that simulation gaming is a teaching tool superior to any of the normally used, more traditional methods, or an even adequate teaching tool.

One simply has to scan the material, examine the research that's been performed, read the analytical sections of most papers, and view the conclusions to realize that most authors cannot reach valid conclusions as to the results of their studies. One wonders if, in fact, we haven't been beating our heads against a brick wall for the last 10-20 years trying to measure something that is non-measurable. Even in light of these inconclusive research findings, however, the business simulation has become a very important element within the curriculum of many business schools.

A NEW RESEARCH FOCUS

It is obvious from speaking with many faculty members who have utilized simulation gaming as a teaching tool, that simulation users are thoroughly convinced as to its value in generating participant enthusiasm and creating an atmosphere of meaningful experience. Their satisfaction alone leads one to believe that perhaps we may be wasting our time trying to measure that which requires no measurement. Those of us who use simulation gaming regularly are thoroughly convinced that it is an excellent method for accomplishing our educational objectives. Perhaps it may be intuitive, but we who utilize simulation gaming do so because we feel it is a superior teaching tool. Past research aimed at determining whether or not the simulation technique is a superior, or even useful teaching tool has concentrated on the student (simulation participant), rather than the game administrator or the primary simulation user. To this end, perhaps

it is time to reorient our research efforts and begin to examine the motives and attitudes underlying simulation usage by faculty members and businessmen alike to further their educational objectives. We no longer care to debate the point that simulation is a superior tool to the lecture or the case study methods, it appears to be a moot point. Let us examine our own motives, our own feelings, our own rationale behind simulation usage and try to portray these as convincing arguments within the academic and business communities.

The purpose of this paper is not, as it may appear, to make an attack on all previous research regarding simulation and the learning experiences derived therefrom. The fact that we feel much of the research represents wasted effort cannot be ignored. However, the major purpose of this paper is to suggest a possible new avenue of research in order to expand upon the results of past research.

THE SIMULATION ADMINISTRATOR

As indicated, we feel that there has been adequate research efforts directed at the simulation participant. It is time to focus on the simulation administrator. We would like to answer such questions as: Where did the simulation user learn of this technique? Why did he start to use this technique? What does he expect from simulation gaming? What satisfactions and dissatisfactions does the simulation user experience? Why have some teachers become simulation game drop-outs? Why have the rest of us continued to use simulation gaming?

With these questions in mind, a mail questionnaire was designed to be administered to university teachers. A stratified sample of approximately 300 university teachers was selected. About half of the sample comprised known simulation users (ABSEL members) while it was unknown as to whether the remainder of the sample were or were not simulation users. The reason for selecting at least half of the sample from known simulation users was to ensure the fact that adequate returns were received from simulation users who were our main interest in this study.

In total, 190 usable returns have been received as of this writing. This represents 63.3 percent of our mailing. This would have to be considered a good return given the length of the mail questionnaire (four pages) and the time it took to answer some of the questions (many were open-ended). There is no reason to suspect that those not returning the questionnaire were, in any significant regard, different from those returning. Furthermore, our interests were more in the realm of getting general indications from our sample rather than statistically significant results.

Due to space limitations, the questionnaire used will not be shown here. However, anyone interested in the questionnaire

can acquire a copy from either of the authors. The following analysis will summarize the responses to each of the 17 questions posed to the respondents.

Question 1:   In your current teaching activities, what percentage of your time is devoted to
      lectures   48%
      cases   20%
      simulation   23%
      other   9%

The average from all of the responses is shown above. As would be expected, more time is devoted to the lecture method than any other. It is interesting to note, however, that nearly one-fourth of the teaching time of all respondents is devoted to simulation gaming. The amount may be inflated due to the manner of sample selection but this still represents a significant amount of time. It would be interesting to have comparative figures from five and ten years ago.

Question 2:   Have you ever used a simulation exercise of any variety in your classroom teaching?
      yes   176   (92.6%)
      no   14   (7.4%)

Our initial concern in the sample selection process was to make sure that simulation users were adequately represented. As can be seen, this was achieved.

Question 3:   Have you ever considered the use of a simulation exercise?
      yes   12
      no   2

This question was to be answered only by those respondents (14) who answered 'no' to Question 2. Of the 14 respondents who had never used a simulation exercise, only 2 claimed that they have never considered the use of a simulation exercise.

Question 4:   Is there a primary reason why you have not used or not considered the use of a simulation exercise?

This question again was to be answered only by the 14 respondents who have never used a simulation exercise. The responses to this question fell into the following 4 categories:
      a.   Not familiar with any simulation exercises that fit courses taught.
      b.   Don't have time to get simulation exercises into the course.
      c.   Very new to teaching.
      d.   Simulation games (generally) are not appropriate for the courses taught.

Question 5:   What might encourage your usage of a simulation exercise?

Again, this question was to be answered only by respondents who had never used a simulation exercise. The 14 responses to this question could be grouped into the following 3 categories:

    a.   Finding a game that is appropriate for the courses I teach.
    b.   Don't know.
    c.   Nothing.

Only 2 respondents answered that nothing at all could encourage their use of a simulation exercise.

Question 6:   Would you classify yourself as:
    a.   A regular simulation user   124   (70.5%)
    b.   An occasional user   38   (21.6%)
    c.   A previous user who has discontinued usage   14   (7.9%)

This question brought us back to the 176 respondents who had previously used a simulation exercise. As can be seen, over 70% of the respondents to this question consider themselves regular users while only 14 previous users (7.9%) have stopped usage.

Question 7:   Is there a primary reason why you have discontinued simulation usage?

This question was directed at the 14 respondents who indicated in answer to the previous question that they have discontinued simulation usage. The responses to this question fell into the following 6 categories:

    a.   My classes got to be too large.
    b.   Most simulations are too advanced for the level of courses that I teach.
    c.   Lack of support facilities.
    d.   Grew tired of simulation usage.
    e.   The courses that I teach have changed to some in which there are no suitable games.
    f.   Changed schools and courses.

Question 8:   How did you first become aware of simulation exercises?

This question was directed at the 162 current simulation users. The responses in their order of importance were:

    a.   Used as a student - 68 mentions
    b.   Colleagues - 58 mentions
    c.   Conferences 18 mentions
    d.   Book salesmen - 14 mentions
    e.   Journal articles - 8 mentions
    f.   Advertising - 4 mentions
    g.   Other - 14 mentions

The other category included such things as pioneered my own games, invited to join a simulation competition and assisted a simulation user as a graduate student.

Question 9:   Approximately how long have you been using simulation exercises?

The number of respondents by five year intervals were:

0-5 years	60	(37.7%)	Median = 7
6-10 year	86	(54.1%)	Mean = 7.65
11-15 years	9	(5.7%)	
16 and over	4	(2.5%)	Mode = 7

Question 10:   What was the primary reason that you began to use a simulation exercise?

This question, of course, brought a wide variety of responses. Ten response categories with each receiving at least five mentions from respondents, listed in their order of importance were:

a.   To give students a realistic experience.
b.   The student enthusiasm and/or interest achieved.
c.   Saw this as a more effective way of teaching.
d.   Moved into a course where this was the traditional method of teaching it.
e.   Thought that I would like this as a teaching method.
f.   To get away from cases and/or lectures.
g.   Saw this as an innovative teaching method.
h.   Wanted to improve my teaching effectiveness.
i.   To add variety to courses.
j.   Saw great value in simulation as a teaching method.

Question 11:   Have you developed definite objectives that you hope to accomplish through the usage of simulation exercises?
yes   150   (92.6%)
no   12   (7.4%)

Question 12:   What are your objectives?

This question was directed at the 150 respondents who answered 'yes' to question 11. There were, as would be expected, many responses to this question. The many responses were grouped into the following 8 categories listed in order of importance.

a.   To integrate various business concepts.
b.   To prepare students for the real world.
c.   Motivate students to lean by getting them involved.
d.   Teach specific problem solving techniques.
e.   Get students into group decision-making situations.
f.   To give students skill in problem solving.
g.   To give students a chance to apply textbook principles.
h.   Make students think.

Question 13:   How successful do you feel that you have been in achieving your objectives?

The respondents were asked to circle a value from 1 (very unsuccessful) to 10 (very successful). The responses to this question were:

10-34	(25.0%)		
9-28	(20.6%)		
8-50	(36.8%)		
7-12	(8.8%)	Mean	= 8.35
6-6	(4.4%)	Median	= 8
5-4	(2.9%)	Mode	= 8
4-0	(0.0%)		
3-0	(0.0%)		
2-2	(1.5%)		
1-0	(0.0%)		

Question 14:   Have you experienced any aspects of simulation usage that you find dissatisfying?

The major responses to this question are probably familiar to most simulation users. The major (multiple responses) categories of responses in their order of importance were:

a.   Takes too much of my time.
b.   Computer centre problems.
c.   It is difficult to evaluate performance and assign a grade.
d.   There is much work in game administration.
e.   Students don't get involved enough.
f.   Most simulation exercises are not realistic enough.
g.   Problems with colleagues.
h.   Students try to beat the game.

Question 15:   What do you find to be the most rewarding aspects of simulation usage?

There were two parts to this question. The first part asked the respondent what were the most rewarding aspects of simulation usage for themselves while the second part asked what were the most rewarding aspects of simulation usage for their students. The responses to each part of this question listed in order of importance were:

A.   Rewarding for yourself
    a.   The leaning seen in the students.
    b.   Getting through to the students.
    c.   Increases my interest in the courses I teach.
    d.   A feeling of accomplishment.
    e.   The interest and enthusiasm seen in the students.
    f.   Gets me out of lectures.
B.   Rewarding for students
    a.   They enjoy their course for a change.
    b.   Better preparation for the real world.
    c.   A break from the class routine to something more exciting.
    d.   The challenge.

     e.   The students get to see the results of their decisions.
     f.   The students get to know and work with other students.
     g.   The opportunity for a 'C' student to beat an 'A' student.

Question 16: On a scale of 1-10 (with 10 being high), rate each of the following teaching methods.

The average responses to this question will be shown by simulation users versus non-users.

	Users	Non-Users
Lectures	5.56	6.89
Case	6.38	6.44
Simulation	8.44	5.89

As would be expected, simulation users rated this technique very high while non-users rated it relatively low.

Question 17: This question asked for certain demographic information which will be summarized very briefly here.

	Users		Non-Users	
Average age	39.9		41.3	
Average years teaching experience	10.2		10.6	
Rank:				
Full Professor	40	(26.7%)	8	(36.3%)
Associate Professor	71	(47.3%)	8	(36.3%)
Assistant Professor	31	(20.7%)	4	(18.2%)
Instructor	8	(5.3%)	2	(9.2%)
Highest degree held:				
Ph.D.	132	(88%)	12	(54.5%)
M.B.A.	18	(12%)	10	(45.5%)

In general, the simulation game user tended to be slightly younger than the non-user, had slightly less teaching experience, tended more towards the Associate Professor rank and tended to have a higher degree.

CONCLUSIONS

The intent of this paper was to provide a general overview of the simulation user with particular reference to why he is a simulation user. This has been accomplished in a general fashion. What is needed now is more specific and detailed information. Also, it would be very nice to have information about simulation users over time to get indications of changing patterns or trends. This remains for future research.