

**Developments in Business Simulation and Experiential Learning, Volume 29, 2002**  
**A CRITICAL EXAMINATION OF THE “EXPERIENTIAL” PREMISE**  
**UNDERLYING BUSINESS SIMULATION USAGE**

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**ABSTRACT**

*The concept that the learning that results from simulations is experiential in nature is apparently an unquestioned assumption. However, this paper in fact does question this assumption and asserts that the learning value of simulations comes from the use of enrichment techniques does not necessarily need to be described as experiential in nature. Past research has not proven or demonstrated that performance in simulations is a measure or indicator of learning. The major learning value of simulations should not be considered to be experiential but rather the learning value of simulations should be considered as coming from the knowledge and direct involvement of the teacher.*

*Keywords: business games, experiential, learning, teacher involvement, performance, learning*

**INTRODUCTION**

The concept that the learning from simulations is experiential in nature is apparently an unquestioned assumption in simulation circles. However, this paper in fact does question this assumption and asserts that the learning value of business simulations comes from the use of enrichment techniques that do not necessarily need to be described as experiential in nature. The basic problem with the term “experiential learning” is that conceptually it is difficult to define and measure (Gentry, 1990). According to Gentry, “An ‘experience’ by itself will not insure learning, the instructor has to insure that it is a quality experience. The author agrees that a high degree of instructor involvement is required in order for learning to take place. However, it contended here that as the involvement and control of the simulation play by the user increases, the experiential nature of simulation participation diminishes. Conventional wisdom seems to be that the experiential learning nature of a business simulation is greatest when the control and involvement of the user is the least. Furthermore, a core belief is that the experiential learning that takes place can be gauged by the level of simulation performance.

In recent years, simulation researchers have presented findings that raise disturbing questions about the value of business simulations as learning instruments. Research has uncovered two important problem areas of simulation usage that should be of major concern to all who use business

simulations. The first area concerns the question of whether students are able to understand and use the information provided in the participant’s manual. The concern about students making simulation decisions not related to an understanding of the financial and economic environment was first fully recognized by Wellington and Faria (2001):

*The fact that participants did not fully understand their marketplace environment, even in a very simple simulation and with a decision support system to help them, is surprising and disturbing. If simulation participants cannot recognize the true nature of their business environments, even in a very simple setting one must ask what is being learned and how are decisions being made?*

A study by Washbush and Gosenpud (1994) gave early hints that those students who tested well on examinations concerning the business simulation environment did not necessarily achieve higher levels of performance. Consequently, the Wellington and Faria study brings into clear focus the problem vaguely visible in the Washbush and Gosenpud 1994 study.

The second area of concern relates to the issue of whether the degree of simulation performance is an indicator or measure of learning that takes place by simulation participants. A number of researchers have found no significant connection between various financial measures of learning and performance regardless of how learning is defined (Washbush and Gosenpud, 1992, 1994, 1995). The following succinctly states a foreboding problem that now confronts simulation users (Anderson & Lawton, 1995).

*After decades of research on simulation exercises, we still cannot provide objective (versus anecdotal) support for answers to questions like: Does participating in a simulation exercise produce learning? If so, what kinds of learning and how do we measure it? If not, what value are simulations? Could the time spent on simulation exercises be used more effectively or productively if directed toward other pedagogies? Neither is there a consensus regarding the questions of: What knowledge, skills, and attitudes do we want students to learn from a simulation exercise? Which simulation measures (e.g., financial performance), if any, reflect these learning goals?*

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It is highly unlikely that additional research can provide answers to questions about the teaching and learning potential of business simulations until new explanations and theories have been presented that attempt to explain the findings of recent and past research. The primary purpose of this paper is to set forth in some detail the author's views on why research has not found the expected evidence that could be used to support the much proclaimed educational value of simulations. Whether or not the views of this author are correct should be discussed, analyzed and even tested by future research. The views presented in this paper are certain to be controversial. Hopefully they will serve as a catalyst to stimulate new and productive research.

### ANALYSIS OF THE MAJOR BUSINESS SIMULATION LEARNING PROBLEM AREAS

The conclusions drawn by Wellington and Faria (2001) and Anderson and Lawton (1995) are strongly supported by a laboratory based study on the effect of different strategies on simulation performance. This study conducted by the author which used theoretical strategies and decisions as opposed to the use of real decisions by students presents significant evidence that students do not have to know much in order to perform well when certain strategies are used. The results of this study adds fuel to the fire about the learning value of simulations. If a student team can be among the top firms with little or no analysis, planning or study of the game environment, then the traditional use of simulations again must be called into question.

Of primary importance in this paper is a recent paper by Al Patz (2000) concerning the dominance of early successful performers throughout simulation play. An underlying assumption of Patz's research, although not explicitly stated, is the assumption that if learning is actually taking place, then the gap between top level performers and low level performers should significantly narrow towards the end of simulation play. Consistent with papers presented by a number of other ABSEL researchers, Patz likewise expressed grave concerns by the findings of his research. Patz's research found no significant evidence that convergence of performance ever occurs. Three serious questions were asked by Patz:

1. *First why bother with a semester long competition when the final results can be predicted after a few trials?*
2. *Second are there flaws in the algorithms that drive these simulations?*
3. *Third what, if any, learning occurs after a few trials?*

The research conducted by the author concerning the effect of lack of knowledge on simulation performance provides some answers to the three questions raised in the

ABSEL paper by Al Patz (2001). Regarding the first question, the experiments conducted by the author resulted in evidence that supported Patz's observation that once a team gets into the lead, no team informed or uninformed is likely to catch the team that reaches the top spot first unless a follow the leader strategy is adopted. The author's study clearly shows that depending on the strategy employed the gap would close for some teams but not for others. Unless lower level performing teams begin to adopt the strategies of the higher performing teams, improved performance is not likely to take place. If a "Follow the Leader" strategy is required to close the performance gap, then there is no reason to assume that a closure of the performance gap indicates that learning has taken place. A "Follow the Leader" strategy is unlikely to generate the type of simulation involvement that results in learning. In Patz's study it appears that lower level performing students generally ignored the strategies of the more successful teams. The lower level performing teams simply may have been indifferent to performing well.

A weakness of the Patz study is the absence of any clear statement as to why the performance gap among participants should tend to converge. Presumably Patz believes that the convergence of performance should be an indicator of learning. The absence of convergence should not in itself be regarded as surprising. There are no specific design features in simulations that the author is familiar with that would allow "lagging teams" to "catch up." The only means available to close the performance gap would be to adopt a "follow the leader" strategy. Nevertheless, the question, why bother with long enduring plays of simulation is valid for others reasons independent of why students are not being able to "catch up."

Regarding the second question asked by Patz, the answer is an unqualified yes. Most currently used simulations, if not all, have serious design flaws that could hinder learning (Goosen, 2001) and some of the flaws are quite serious. Some flaws are concerned with the manner in which simulations are written. Other flaws have to do with the simulation algorithms that process market decisions to determine market demand. One of the flaws concerns how the various demand functions within the demand algorithm always remains hidden to the user and the participants so that the direction and amount of change in any given market demand variable is undeterminable. This uncertainty regarding the effects of decision changes always exists regardless of the sophistication level of analysis and planning. The direction of change and the point at which changes should end are virtually impossible for simulation participants to determine. Also, most simulations have auto stabilizing features such as automatic loans that minimize or eliminate learning potential.

Can these flaws be fixed? Yes, but the fix probably would not be acceptable to most simulation users. The fix while not adding new decisions would cause the simulation to be more complex and decision-making even more difficult. Also, the fix would require a considerable amount

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of new programming and rewriting of participants manuals. Even if simulation designers agreed with the criticisms just made, it is doubtful that many, if any, current authors of simulations would have the desire or the time to make the required changes. Furthermore, if the flaws are fixed, there would no guarantee that the desired learning from using simulations would improve as long as repetitive rounds of competition are regarded as the most important way to use simulations. Although the indicated flaws are of some importance, simulations can still have considerable perceived pedagogical value, if the insistence on demanding a relationship between learning and performance is ended.

Patz also asked this question: "what, if any, learning occurs after a few trials?" The answer is very simple in light of recent and past research-- not very much as the research data of Patz's own study implies. A simple reason may be suggested for the indicated lack of learning. Even if we assume that no design flaws exist, the vast majority of students simply do not have the time either working in groups or as individuals to do the analysis and planning required to make good decisions that require a meaningful understanding of the simulation environment. The time that students are able or willing to devote to the simulation is often much less than the time required to attain good performance. Even when students work in groups, the time required to reach a consensus can be demanding. Furthermore, decisions based on team compromise may not be strategically sound.

A second reason may be offered as to why additional trials did not result in improved performance for lower level performing teams. The mere fact that students change decisions from period to period in itself is not necessarily a learning experience. Decisions are primarily changed because the participants know that the simulation model did not provide the desired results in the first round of decision making. Therefore, the participants must try another set of decision values. A new set of decisions, even if additional time is spent doing analysis and planning, cannot guarantee that the new results will produce better performance. Also, for example, if the reason for poor performance was a stock out of inventory, the recognition and fix of this problem will not necessarily result in a significant learning experience. It should be obvious that an increase in production or safety stock is necessary. Also, the reasons for changes in decisions such as an increase in safety stock may be based on knowledge previously acquired rather than on knowledge acquired from simulation experience.

Most student participants are likely to know or understand that if you don't produce you can't sell. However, in order to make good production decision-making, most student participants have to be taught how to make a sales forecast and then use that sales forecast to make a production budget. The experience of having a stock out does not automatically teach them how to plan production. One of the misconceptions about simulations is that what students don't know about making good decisions, student participants will teach themselves. There is no

research other than anecdotal that provides evidence that simulations motivate students to learn the needed skills and knowledge on their own in order to achieve a higher level of simulation performance. To the contrary, as pointed out in the introduction, research has failed to provide evidence that the expected learning is taking place. The lack of evidence points to the conclusion that the required skills and knowledge for decision making need to be first taught prior to any expectation of benefit from simulation participation.

Even if students do the expected planning, analysis, and reflection, and given the design nature of simulations, it is still unlikely that additional work will uncover a good decision-making strategy. The resulting strategy is just as problematic as to whether good performance will be achieved. The manner in which current simulations provide information or fail to provide information makes it difficult for students to determine whether a decision-making strategy will succeed prior to implementation. Even the translation of these decisions into a budget or business plan is not necessarily helpful. The dearth of critical information in the simulation scenario makes an a priori evaluation of strategy difficult, if not impossible. As simulations are currently designed "luck" or "chance" is an extremely important element in achieving good simulation performance.

The current foundation of simulation usage is the belief that learning results from experience. "*Members of ABSEL are dedicated to the proposition that students can learn from experience. In general most people adhere to the notion of 'trial and error learning'.*" (1992, Gentry, J, Stoltman, J, & Mehioff) The idea that students can learn from trial and error decision-making in a simulation where important decision-making information is hidden or locked up in a black box may be a false assumption. Even if trial and error decision-making works, this mode of making decisions is probably very inefficient. If, in fact, trial and error decision-making fails to disclose useful decision-making information and relationships, then prolonged periodic decision-making in simulation play is not only inefficient but it also detrimental to learning.

Patz in his conclusions section made the following statement:

*TE simulation learning remains an elusive concept. Elusive or not it is a basic and major challenge for TE simulations researchers*

There is a basic reason why, I believe, that TE simulations remain an "elusive concept" and this reason concerns the distinction between teaching and learning. ***Simulations are not and cannot be a learning tool per se. Simulations are primarily a teaching tool and only secondarily, if at all, a learning tool that can be used independently by students.*** This statement, I am sure, will not be acceptable to many current simulation users and theorists.

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The distinction between teaching and learning, I believe, is critical in understanding why the performance of students in simulations has not been successfully linked to learning however learning is defined. To give some examples. A blackboard is a teaching tool. Students cannot learn anything from an empty blackboard. Similarly, transparencies are also a teaching tool. Blank transparencies are as ineffective as an empty blackboard. Students can learn only if meaningful content is provided by the instructor. Blackboards, transparencies, films, videos, and yes, even simulations are delivery systems. The learning effectiveness of any pedagogical delivery system depends primarily on the skill of the user. ***Stated more precisely, the degree of learning that results from the use of a simulation will vary directly with the skill in which the simulation is administered by the user.*** A simulation absent meaningful inputs by the user may be no more effective than an empty blackboard or a blank transparency.

### EXPERIENTIAL LEARNING AND BUSINESS SIMULATIONS

It is not entirely clear from the simulation literature what aspects of simulation usage qualify as experiential. Attempts to clearly define the nature and scope of experiential learning activities have not entirely been very successful: . *“Based upon the proceeding review, identifying a single all-encompassing definition of ‘experiential learning’ in all of its robustness is a difficult chore.”* (1999, Morse, Malik). The difficulties of defining and measuring “experiential learning” have adequately discussed by Gentry, Stoltman, and Mehihoff (1992)

The first definition of “experiential learning can be traced back to Hoover (1974):

*Experiential learning exists when a personally responsible participant(s) cognitively, affectively, and behaviorally processes knowledge, skills, and/or attitudes in a learning situation characterized by a high level of active involvement.*

The vagueness and broad sweeping nature of this definition is self evident. Regardless of the various definitions of experiential learning, the consensus appears to be that whatever learning that results is due to the experiential nature of simulation participation. According to Gentry (1990), “Members of ABSEL are dedicated to the proposition that students can learn from experience.”

The concept that the essential nature of business simulations is “experiential” as applied to simulation usage appears to be seriously in doubt because of the results of simulation research. The many papers presented at ABSEL in the last few years have clearly revealed that no significant relationship between learning and performance has been established. Furthermore, the ability of students to understand the simulation environment is now under

suspicion. The lack of a direct relationship between performance and learning is a positive indicator that the experiential manner in which simulations are used is not working and that whole concept of the role of “experiential learning in business policy, marketing, and other collegiate business courses can be seriously questioned. How radical is this statement? The foundation of ABSEL has been the presumption that “experiential learning “is superior to the traditional methods of teaching such as the lecture method and the case method. ***To question that simulations have failed as a method of experiential learning is probably heresy that could crumble the very foundation that brought ABSEL into its existence almost thirty years ago.***

If twenty eight years after ABSEL’s founding and twenty years before ABSEL, study after study has failed to find any defensible connection between performance and learning no matter how performance or learning is defined, then perhaps it is time to cease in the effort to establish that the use of simulations is a superior “experiential” learning pedagogy. Perhaps it is time to demonstrate the value of simulations in ways that are not “experiential” in nature. The simulation should not be regarded as means of replacing other methods of instruction including lectures. Simulations should be regarded as an application tool that makes other instructional methods more effective.

### PERFORMANCE AND LEARNING THEORY PRIOR TO ABSEL

The conclusions of this paper should not be regarded as somewhat entirely new. Bernard Keys who was the founder of ABSEL over twenty five years ago in either the first or second year of ABSEL’s existence presented an outstanding paper that was based on his doctoral dissertation, “An Investigation of the Types of Managerial Behavior Elicited by Business Games by Use of the Critical Incident Method.” The title of this paper was: “A Rationale for the Evaluation of Learning in Simulations and Games: Piaget or Skinner“ Unfortunately, this paper was never published in any ABSEL proceedings nor in any journal. But copies of this paper were provided to those in attendance at the meeting in which the paper was presented. An examination of this paper will shed some light on why the problem of performance versus learning still exists.

Keys candidly states that how and what learning takes place in simulations is not known:

*As yet we do not have a clear understanding of a number of critical elements in the simulation and gaming process. For example, we do not know exactly how persons learn form games, some of us are confusing performance in games with learning, it is difficult for us to designate the major stimuli in any specific games, and finally most of us have been unable to develop research designs that would satisfy our major critics.*

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The next sentence by Keys is clearly relevant at the present time:

*“We are floundering on the brink of what could become a terminal disease – “the lack of purpose and direction”- especially in the area of learning research.”*

In almost thirty years of research since the founding of ABSEL, we apparently have made no progress in the identifying what kinds of learning takes place in the use of simulations. The solution presented by Keys was his suggestion that the attempts to identify the expected type of learning should end.

Keys himself candidly states in his paper that he did not believe there is necessarily a connection between learning and performance.

*There are several weaknesses in using a model of learning evaluation such as this. First research design fails to distinguish between performance in simulation-game and learning in a game, although the researcher acknowledges such differences in himself. Consider for example the stock investor who tries to estimate the profits of a firm on the stock market. Accurate prediction by him seldom indicates that he knows why the firm made the amount of profits which it did –his cues are far removed from operations – and certainly it would not indicate that he had learned anything about managing the firm.*

Surprisingly, Keys who was ultimately to become the author of three different simulations presented a rather negative view regarding the educational value of the simulation student manual.

*It was noted above that while behavioral and attitudinal change is often observed after game plays, games do not do such a superior job of allowing the transmission of factual information. The reason is quite obvious. Most games by design contain very little factual information worth learning. Furthermore, learning facts must compete with learning game rules and mechanics and with performance in the game. Additional time will be exhausted during game play by students responding to stimuli in the game such as the model, the group or the advisor’s interpersonal role. For these reasons it seems likely that games serve best a environments for intermediate application of learning already acquired and as motivators to learn.*

If true, then these words by Keys explain why lengthy and cumbersome participant manuals cause student frustration and sabotage the efforts of students to learn from simulation participation.

Also, in the above quote, it is important to notice that Keys commented that simulations work best in situations where the students already have required the knowledge necessary to perform well in simulations. Rather than expect students to acquire additional learning students should be expected to apply what they already know. If good performance is not ultimately achieved in simulation play, then the implication may be that as a whole students are seriously deficient in knowing or understanding what already has been taught. The expectation that simulations are capable of providing remedial learning is apparently false.

Based on Keys’ apparent abandonment of the idea that the validity of using simulations depends on a necessary connection between performance and learning nearly thirty years ago, why, then, today are we surprised that the connection between learning and performance has not been proven or established? Furthermore, why do we persist in requiring our students to engage in long drawn out periods of play? Keys himself clearly argued against the devoting time to an excessive number of periods of play.

*Given a reasonably complex simulation game, time can usually be better spend in more intensive analysis and reflection than in game play activities.*

In his paper Keys did not argue that learning does not take place; rather he contended that the learning occurring was entirely different from the learning users were expecting to find:

*Games do not cause students to learn the same things as texts and lecture. It appears to be a more internalized learning and it is not likely to be elicited by traditional stimuli (tests). For example, games have been found to cause learning or development of such things as attitudes about legislation, feelings of efficacy, discussion skills, role empathy, problem-solving, leadership behavior, time awareness, and achievement motivation to name a few.*

It is unlikely that all or even most users of simulations today would support Keys’s concept of learning in simulations and his proposed methodology for capturing this learning. Keys suggested that simulation players should carefully note and observe their perceived learning experiences and record them in a written narrative report. Learning experiences that occur could be captured by reading the “learning diaries” maintained by students.

*Learning in simulations and games should be: (1) evaluated by an epistemological approach that focuses on the observation of individual thought processes, (2) is evolutionary in nature, (3) is continuous in its monitoring of learning, and (4) which will allow the systematic recording of different learning for different persons in the same class or game. (5) Finally, it*

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*should be capable to capturing and analyzing "whole person learning", not simply cognitive and behavioral.*

The proposed method by Keys for capturing learning is highly idealistic and, even if successful, it is unlikely that that most simulation users would have an interest the type of learning that would be revealed by his proposed critical incident reporting methodology. Also, the willingness of students to maintain meaningful diaries could be a major problem. What is important about this paper by Keys is that it clearly reveals that the search for finding a relationship between performance and learning is never likely to succeed and, in fact, should have been abandoned long ago had Keys observations been heeded. The results of the past twenty eight years of research has shown that Keys was correct in asserting that the search for learning should go in other directions.

### A DIFFERENT VIEW OF WHY BUSINESS SIMULATIONS SHOULD BE USED

Based on a close review of the literature, my own research, and from my experience as a designer, user, and publisher of simulations, I must conclude now, as Keys concluded, that how students perform financially in a simulation is not likely to be a measure or indicator of learning. Furthermore, I suggest that the use of composite financial scoring programs available in many in simulations be abandoned as a primary means of awarding grades. The practice of giving grades based on performance alone should also end. The concept of requiring students to play decisions for many periods also should be examined closely. The idea that significant learning can come from unstructured participation and instructor free intervention and involvement should be declared as either untrue or be highly qualified. Also, in agreement with Anderson and Lawton (1995) the description of simulations as "games" probably should end. That is, the importance of competition and the desire to win may not be factors at all important to learning. The classic view that simulation participation independent of instructor involvement and control is a valuable learning experience for students is no longer a tenable position.

Although not identified officially, there is implied in the simulation research literature a second school of thought that the learning from simulations results from the use of enrichment techniques. In this school of thought the simulation is not the cause of learning but rather the vehicle chosen to deliver the desired impartment of knowledge. As a subscriber to this second school of thought, I am not suggesting that students cannot and do not learn when simulations are used. To the contrary, learning can be highly significant and most likely measurable when:

1. Students are required to engage in activities that require the development and expression in writing of strategic plans, budgets, business plans and the

like. However, concurrent with students engaging in these activities, there must be instructions and teaching by the user of the simulation to provide the knowledge needed to develop these prescribed activities. The knowledge necessary for successful decision-making cannot be presumed any longer to come from the making of decisions at periodic intervals. Because the decisions that are ultimately decided upon will be processed may be a plus or bonus but not a necessity. The desire to see results from planning efforts may be a motivating factor to achieve a higher level of performance regarding the assigned projects.

2. Students are required to write top management level type reports. Student's can be asked to write reports on the results obtained from the processing of decisions. The potential for developing communication skills from using simulations appears very good. However, there is no reason to assume that the use of simulations for this purpose is better than other materials available for developing writing skills.
3. Students are required to present oral reports in class regarding their strategic plan or other planning techniques. Simulations can be used as an effective tool for providing students a means of improving their speaking skills.
4. The instructor or user of the simulation is able to display some in depth understanding of the simulation being used. It is important that the user convey to the students that he or she has a commanding knowledge of the strengths and weaknesses of the simulation being used. The user of the simulation should have the same kind of knowledge of the simulation as is required when cases are used. In fact, simulations should be regarded as a dynamic type of case.
5. Students are required to analyze performance results using analysis techniques prescribed by the user of the simulation. Some application skills may be developed concerning tools that students only understand in terms of basic theory.
6. The instructor and students are able to engaged in a meaningful discussion of simulation results (debriefing) in terms of the objectives and goals that were to be obtained by simulation participation. Whether or not the performance of one team is better than another team is not as important as understanding how better decisions could have been made given the available information and planning tools available. Ideally, the discussion of results should occur at regular intervals throughout the use of the simulation rather than at the end of competition as is commonly reported.

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The above listed learning activities are commonly described as enrichment techniques. The quality of performance of required enrichment techniques in terms of teacher specified goals and objectives should be the primary focus of evaluation and not the evaluation of simulation results of one team compared to another team.

The items listed above for the most part require the use of knowledge previously obtained and knowledge previously obtained does not exclude knowledge taught in the course in which the simulation is being used. In a broad sense the simulation provides a vehicle for integrating learning acquired independently in finance, accounting and marketing courses. The expectation that significant new learning can take place when the primary goal is the integration of learning or prior knowledge is probably unrealistic. Also, the fact must be recognized that for many students the desired integration of learning may not happen because the prerequisite knowledge for simulation participation was not learned.

The potential of simulations to provide learning benefits depends largely on the skills of the simulation user. Until the user has been a participant in the simulation, it is doubtful that the user can know what to require or expect of his students. This inability of the user to be a participant in the simulation is a serious design flaw in current simulations. Simulations should allow the user to be a participant in a manner that does not require other real people. The user's mode of play should have predetermined strategies that can be selected and assigned to the internal computer teams or firms. In other words, the use of artificial intelligence teams could be an option that allows the user to test simulation as a participant prior to requiring students to engage as decision-makers.

The following quote from a web site as to the nature of experiential learning summarizes well the instructor involvement school of thought advocated here ([www.chelt.ac.uk/el/philg/gdn/gibbs/ch2.htm](http://www.chelt.ac.uk/el/philg/gdn/gibbs/ch2.htm)):

*Learning by doing is not simply a matter of letting learners loose and hoping that they discover things for themselves in a haphazard way through sudden bursts of inspiration. The nature of the activity may be carefully designed by the teacher and the experience may need to be carefully reviewed and analysed afterwards for learning to take place. A crucial feature of experiential learning is the structure devised by the teacher within which learning takes place.*

### CONCLUSIONS

Our emphasis in the future concerning the use of simulations with students should be on ways to use business simulations as teaching tools that do not insist on performance being the measure of learning. Simulations have unlimited potential for being used as a supplement to other teaching methods. The use of simulations in connection with the lecture method, for example, should be

complementary rather than being considered mutually exclusive. However, conventional wisdom has not supported this idea. The concept of simulations as a teaching tool for the user should be regarded as more important than the idea that students learn directly from simulation participation. The idea that the "experiential learning" nature of simulations is the important reason why students are able to "learn" should no longer be proclaimed as main reason to use simulations. The so-called "experiential learning" that takes place should actually be interpreted as a means of creating an appreciation and understanding of learning previously acquired and as an opportunity to apply decision-making techniques.

We must get back to the idea that the teacher has worthwhile knowledge to teach and that the use of simulations aids in the impartment and understanding of this knowledge. The knowledge burden on user of simulations is indeed large. The effective use of a simulation requires that the user become a better teacher regardless of the main method of instruction. The use of simulations should provide an aura of realism that enhances the creditability of what is being taught through lectures and other pedagogical methods. The users of simulations must have an integrated knowledge of management, marketing, accounting, finance, and decision-making tools. To the extent that the user does not have this integrated knowledge, the less likely will the use of simulations be helpful to students in learning the knowledge and skills as determined by the goals and objectives of the course. Surprisingly, the one person that should learn the most from simulation participation is not the student but the user of the simulation.

**It is now time for the pendulum to turn towards the value of the teacher as a source of learning and away from the idea that the mere participation in a simulation is in itself a valuable "learning experience."** Future efforts should be directed towards showing how simulations users can more effectively use simulations and thereby be a better teacher. The major learning value of simulations should not be considered to be experiential but rather the learning value of simulations should be considered as coming from the knowledge and direct involvement of the teacher. Evaluation of the use of simulations should be directed not to what students have learned but rather towards the goals and objectives of teachers in using simulations. The enrichment school of thought advocated here can be summarized as follows: Teacher + Experience = Student Learning. In terms of simulation usage the important variable in this relationship is the teacher that provides the theory and knowledge to be learned.

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1998 The Second Component to Experiential Learning: A Look Back at How ABSEL has Handled the Conceptual and Operational Definitions of Learning:

"There is needed for a Best Of ABSEL publication dealing with the measurement of learning resulting from guided experience."

"We believe that ABSEL should adopt one conceptual definition of learning that will at least provide a common starting point for the subsequent operational definitions. This definition must focus on the student's perspective as opposed to the teacher's. Clearly, much thought must be paid to what we want students to learn....."

Besides the focus on the learner rather than on the instructor, we also assert that the definition of learning should be quite broad in its scope.

1998

Games as Instruments of Assessment: A framework for Evaluation

"In essence what is missing is a theory of simulation game performance. What is it that causes some students to succeed in simulation games and others to be less successful in real life business situations?"

1975

RO Nulsen and A. J. Fario

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.

Pas 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 primary simulation. 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.

As mentioned earlier, the purpose of this paper is to introduce new avenues for research with respect to simulation gaming. The focus of some the research should move from the participants to the game administrators.

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In any given experiential exercise or simulation, the instructor may play several of these roles, creating a composite role with one or more of the roles having a significant impact on the results of the experience. This, however, is the important point: that the role of the instructor, while originally affected by the simulation or experience and the nature and goals of the material, in turn affects the outcome.

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