



**The Enhancing Series Case Studies:
Enhancing Learning through Assessment**

**Using Oral Debriefing to Assess Student Learning
in a Business Simulation Game**

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Introduction

The University of Plymouth Business School (PBS) has a history of using simulation games (SGs) to teach across a number of business management subjects including corporate strategy, financial management, shipping and logistics, and hospitality management. Student learning from gaming is assessed using a mixture of game performance and post-gaming written or oral debriefing.

We had three study objectives. Firstly, we sought to discuss how role-play assessment is designed and structured around the intended learning outcomes (ILOs) set for this module. The second objective was to evaluate the assessment approach, drawing on relevant literature on the importance of debriefing exercises for reflective learning when using SGs. Our third objective was to consider the challenges and benefits of assessing student learning using this approach.

Keywords: Role Play; Oral Debriefing; Simulation Games, Assessment

Rationale

The benefits of employing business simulation games (SGs) to help develop decision-making skills are well established (see Moizer et al, 2006; Edelheim & Ueda, 2007). SGs can bring experiential learning into the classroom. Such learning is often deeper than that achieved when conventional approaches are adopted, with the opportunity for learning to occur at all levels in Bloom's taxonomy (Anderson & Lawton, 1988). As well as often being perceived as more fun by students, SGs

provide a means of integrating subject matter into the mainstream of students' interests.

A SG can be viewed as a 'learning laboratory' where experimentation can be achieved and understandings of the nature of cause-and-effect developed. SGs can correspond with reality; but at the same time provide a safe environment for students to play out risks and live with the consequences. Students attain a level of ownership in which they move from passive to active learners. They are presented with the opportunity to put the theories they learn into action.

Business academics are served well by a market of off-the-shelf computer-based business games. In particular, there is a plentiful supply of strategic management or 'total enterprise games' that can be integrated into the teaching syllabus and be used to help students to achieve the ILOs of a strategic management module.

Interactive role-play can be part and parcel of a simulation gaming experience. Commonly with business SGs, participants and instructors act out the role of characters in the gaming situation (students as decision-makers and instructors as actors residing outside the company). The students often assume prescribed roles in the gaming situation, for example, Managing Director or Director of Finance. In role-play, students attempt to develop an understanding of circumstances and roles that are beyond their immediate experience (Sutcliffe, 2002). The students are given the opportunity to feel what is at stake. It is hoped that better understanding of roles and relationships and a greater awareness of their own activities emerges from a role-play experience.

Getting students to reflect on the knowledge gained holistically from SGs, and how the various strands of information fit together, post-play, can help promote deeper learning. Knotts and Keys (1997) argue that most frequently, learning occurs when participants are forced to reflect on their experiences. This process of reflection can be facilitated through debriefing. Debriefing makes the link between the game itself and the achievement of learning outcomes (Garris et al, 2002). Debriefing provides the opportunity to review and analyse the events that occurred during the gaming cycle. It allows the knowledge gleaned from game-play to be consolidated, and for argumentation to be developed and assessed (Sutcliffe, 2002). Oral debriefing conducted in-role can be extremely valuable, as it allows the realism of the experience to be extended. Arguably, in this situation, the gaming participants are still thinking and acting as decision-makers and thus they are able to reflect more easily on the past, present and future direction of their company.

Within the process of a post-game oral role-play debriefing, summative assessment can be used to measure the extent to which student participants have learned about managing company strategy in a complex business environment. Provided that the assessment is aligned to the module ILOs, a debriefing activity can not only allow good reflection but can also measure the extent to which students have learnt from the gaming experience.

Context

The University of Plymouth Business School runs a number of postgraduate, post-experience programmes of study to serve the professional development needs of managers from across south-west England. One of these programmes is the Diploma in Management Studies (DMS), a Level 7 qualification. The ILOs for this programme are challenging and students need to demonstrate their achievement of these higher-order learning outcomes on each module.

Diplomas in Management Studies students are taught strategic management as a capstone subject, dovetailing the various strands of business and management studies. The mode of delivery previously followed the traditional model of formal lectures with accompanying student-led case study orientated seminars. The teaching material sought to introduce an understanding of the development of strategic visioning and mission, the setting of business objectives, the crafting of strategy, its implementation, and finally the principles of performance measurement, environmental monitoring and control. It was apparent that most students gained a good understanding of how many of the tools and frameworks could be used to analyse the business environment and the strengths and weaknesses of a given company.

However, difficulties in comprehension surfaced which centred upon students' critical evaluation and application of the possible strategic options relevant to a given case study. The academics were of the opinion that case studies might have been producing learning that centred on lower-order skills. This may have been because of the static composition of many written cases. The opportunity to explore the effects of a range of alternative decisions within a dynamic business environment was less achievable within such a framework. The desire was to avoid leading students towards a view that the practice of strategy is simply mechanistic, and that it can be delivered through applying a range of two-dimensional frameworks.

Instead, we sought to emphasise in the teaching the possible outcomes arising from alternative streams of strategic decisions. After discussion and reflection among the academic staff, simulation gaming was proposed as an option for supporting the teaching of strategy. This decision mirrored a general movement in the School over several years towards the practice of active learning. It was against this backdrop that we introduced the use of SGs to teach strategy in a more experiential way.

Mindful of the need to provide a real-world feel to teaching and learning, we sought to develop a mode of summative assessment in keeping with the gaming approach. Hence, rather than requiring the students to debrief on the game learning experience through writing a management report or delivering a presentation, we decided to use a mixed written and oral debriefing method, where the reflective learning would emanate from an 'across the table' structured discussion.

Description

A number of criteria were set for the selection and adoption of a computer-based (SG):

- fidelity with the real-world of strategic management
- technical robustness
- ability to engage students in team-based learning over a sustained period
- capacity to help deliver module ILOs
- potential for student assessment.

The Business Strategy Game

After a review of various commercially available games, the SG that best matched the criteria was *The Business Strategy Game* (BSG) by Thompson et al (2009). This was selected for integration into the teaching syllabus for the strategic management module.

The BSG is a web-based total enterprise simulation game that can be accessed 24-7 from any computer with an internet connection. The game is strategic in nature and is based upon a global business engaged in the manufacture and sale of athletic footwear. Student teams (or companies) compete against each other for a predetermined pattern of market demand. An instructor is responsible for overseeing the running of the game and sets up many of the externalities which will shape company decision-making (such as exchange rates, material prices and shipping costs). The game requires the input of yearly business decisions, such as volumes of goods to manufacture, shipment volumes, pricing levels and advertising spend. These decisions are collectively processed on an on-line server program, and the game then rolls on to another year's play. Scores based on a number of performance metrics (for example, profit, market share, capitalisation, sales volume) are determined, resulting in the teams moving up or down a league table. The BSG can be run over a sustained series of decision periods (simulated years).

The Process of Using the Business Strategy Game

There are a number of activities involved in introducing students to the BSG, getting them to play the game and helping them to reflect on their learning experience. Table 1 outlines the five stages involved in managing the BSG process.

Table 1 Pedagogic approach adopted

Key Stages in Using the SG	Outline of Activities
Stage One: Briefing	Initial lecture introducing the BSG and its links to the study module
Stage Two: Company formation	Teams of two/three students selected per company
Stage Three: Familiarisation	Reading of the supplementary BSG literature
Stage Four: Gaming	Playing out company decisions over the gaming period
Stage Five: Debriefing	Reflective meetings between the individual companies and the instructors where role-play oral assessment takes place

It is essential to a well-constructed briefing (Kriz, 2008; Edelheim and Ueda, 2007) to introduce the nature of the SGs, along with relevant learning objectives, any assessment criteria, gaming rules and the general mechanisms of play. The student briefing comprises an introduction to the ILOs associated with the game, how the gaming activity is assessed, the game background, its rules, and the meaning and interpretation of data outputs.

Students are asked to form teams and adopt the role of company directors. Next, students familiarise themselves with the game's parameters and rules through reading the accompanying players guide. Participants are then free to explore the simulation game and develop strategies to beat their competitors. The teams input a range of quantitative decisions into a computer to cover finance and investment, human resources, production and operations, logistics and distribution, and sales and promotion activities for their companies.

Decision-making continues throughout the remaining playing period. Interim feedback on each team's progress is available after each 'yearly' gaming round. The interim reports generated on company performance provide an opportunity for the instructor to provide in-game debriefing. It is important that the instructor does not direct the teams in their decision-making, but through informal discussion the opportunity does exist to offer some feedback in order to help students understand the structure and dynamics of their simulated environment and consolidate their learning experience.

Post-game Debriefing

The final, and arguably most critical, stage in the pedagogic process is the debriefing exercise. As the student teams are so busy running their simulated companies over the gaming period (which typically lasts for six to ten weeks), they do not get much chance to solidify their learning from the game until they reflect on the experience, post-play. Debriefing does require a structured facilitation process with specific criteria (Kriz, 2008), but is straightforward in method.

We adopt a debriefing approach in preference to using the score based performance metrics generated automatically by the simulation game. A number of authors advise against using only performance metrics as measures for assessing learning and understanding, not least because it is often by making mistakes, then critically reflecting on those mistakes, that we learn. Indeed, studies have indicated that there is little or no correlation between game performance and learning (Gosen and Washbush, 2004; Anderson and Lawton, 2009 for the full argument).

Within the module, oral debriefing forms the primary basis for assessing the business knowledge and understanding that students have developed during the gaming experience. A role-play discussion with each team (or Board of Directors) is carried out over a 20-30 minute period. This discussion is summatively assessed (carrying a weighting of 30% of the final module mark).

Whilst oral debriefing is used for the assessment, it is preceded by a written debriefing. Petranek (2000) argues that a written debriefing of this kind helps to solidify the learning arising from the students' SG experience. The student teams prepare for oral debriefing by producing a short report, incorporating relevant information, models and graphics, which serves two purposes. Firstly, it forces the students to engage in a written debriefing exercise after gaming, thus helping to crystallise their thinking. Secondly, it provides instructors with the necessary evidence to steer a full oral discussion.

For the oral debriefing, each team remains in-role as company directors, and the two tutors adopt the role of fund managers exploring potential investment in each company. The discussion takes the form of a 'scripted role-play,' which helps structure the interaction between the different 'actors' within the role-play. The tutors question the team about aspects of their strategy and performance over the gaming rounds and ask them about the future direction and prospects of the company. The teams are probed on a wide range of issues pertaining to the running of the company, some general and some specific. Questions might relate to the past, present or future situation of the company. The questions are based on the ILOs for the module and used for measuring understanding of the following:

- the strategic planning process adopted
- implementation of strategy
- the influence of the macro and competitive environments on strategy making
- factors affecting company performance

- mistakes made and strategic lessons learned

Students are awarded an overall group grade based on the following criteria:

- ability to articulate a clear vision and purpose
- ability to analyse their business environment (both internal and external)
- understanding of strategic options and reasoning behind their adopted strategy
- understanding of the link between strategy, decisions and outcomes
- understanding of team dynamic and performance
- ability to deal with probing questions and engage in dialogue

Although an overall grade is awarded, it would be possible to individualise grades through supplementary learning journals or through a 360 degree peer appraisal within each team. The latter may, for example entail the award of an aggregate pool of marks to a team, which can then be divided and allocated by the team to the individual students, subject to agreement with the tutor.

Evaluation

There are a number of challenges inherent to this form of learning and assessment. Firstly, the design and development of SG teaching and learning and associated assessment activities can be time and resource intensive. SGs are not self-teaching, and particular consideration needs to be given on how to integrate the gaming activity with other learning on the module.

Careful planning of the scripted role-play for the oral debriefing is needed to ensure that the assessment of the student experience is fit for purpose, fair to all, and consistent with measuring student attainment of ILOs. In the context of this part-time programme, students' opportunities to meet to work on the SG are constrained, due to both work commitments and the fact that they are geographically dispersed.

Hence, it is important to schedule instructor supported computer laboratory sessions of sufficient timescale to allow students to work collaboratively on the web-based SG. This contrasts with full-time programmes, where it is often the case that students will schedule their own team meetings outside timetabled classes. The moderation of oral debriefing assessment requires some special preparation to ensure marking consistency. For this module, all debriefings are conducted by two tutors. In addition, all debriefings are video recorded and copies provided for external examining purposes.

Whilst these challenges exist, an evaluation of student feedback indicates a number of benefits associated with simulation gaming and oral debriefing. Students have indicated that the approach brought the theoretical aspects of the module to life, and

that simulation gaming is particularly suited to postgraduate learners who are keen to apply theory in a real-world context. Students have also mentioned that the simulation gaming experience is distinctive, enjoyable and even addictive.

Discussion

Employing SGs in the classroom calls for an active and student-centred style of teaching. This in turn provides the opportunity to adopt assessment methods that differ from those more traditionally favoured on many business and management modules. Given the importance of reflection to the attainment of ILOs through simulation gaming, oral debriefing lends itself well to the assessment of student learning.

From the experience we have garnered from administering this type of assessment to postgraduate, post-experience learners, we would say that oral debriefing of simulation gaming brings particular benefits to this group, through higher levels of verisimilitude and context relevance. This could in part explain why student attainment on the module has been consistently high and often at distinction level.

The techniques we adopted align well with Kolb's (1984) *Learning Cycle* in that the approach enabled us to assess how students act in response to challenges within a sustained dynamic setting, how they reflect and learn from the consequences of their actions and how this informs fresh action. This also illustrates a general lesson we have learned from using oral debriefing: that it has a part to play in assessing and enhancing sets of skills and abilities that might not be so easily appraised through other assessment techniques.

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Biography

Dr Jonathan Lean is a Senior Lecturer in Strategic Management. He has published widely in the field of small business training and development and is actively engaged in research relating to the teaching of business strategy using simulation games.

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