Assessing Students’ Business Ethics Using a Web-based 3-D Game

Hannah-Hanh D. Nguyen, Dept. of Management

Abstract
In Fall 2014 and Spring 2015, I surveyed the reactions of N = 58 undergraduate students in three sections of a business course, who were invited to pilot-test a web-based, 3-D, interactive game. Entitled “Marketing Mayhem,” this UK-based game is designed to assess business students’ knowledge and application of ethical principles. I conducted descriptive analysis of the quantitative and qualitative data and found some mixed results on the suitability, usability and effectiveness of this 3-D game (as a tool for assessing business ethics principles). Students suggested several improvements to the content and/or format of the game to make it more user-friendly and more principled. Students suggested several improvements to the content and/or format of the game to make it more user-friendly and more principled.

Introduction
- The BBA degree Curriculum Map (Table 1) includes an important student learning objective regarding business ethics (SLO 4).
- The SLO is introduced and reinforced in 02 core courses. But the SLO needs to be formally assessed (Table 1).
- There exists an online business ethics game designed, validated, and administered to business students in the UK and France by Dr. Suzy Jagger and colleagues (2015).
- Jagger et al. proposed a conceptual model of constructs of learning and transferring (business ethics) knowledge acquired via computer games, based on the Technology Acceptance Model (Davis et al., 1989; Kim & Mahotra, 2006) and/or empirical findings.

Research Questions
- How will UH business students react to the Game?
- What will they suggest to Americanize the game and/or business ethics content?

Method
Participants
- N = 58 undergraduate students in HRM351 – Human Resource Management in Fall 2014 and Spring 2015 at Shidler College of Business, UH. Participants received extra credits for participation. Data were kept confidential.
- Mean Age = 23.09 (SD = 9.0); Min = 19; Max = 53.
- Gender: 28 Females (48.3%); 30 Males (51.7%).
- Present/Past employment: n = 53 (91.4%).
- Class standing: The majority were seniors (n = 36; 62%); n = 21 juniors (36.2%).
- N = 48 completed the game; main analyses were based on this sample, subsequently.

Materials & Measures
- The ethics game “Marketing Mayhem” version 1 (Jagger et al., 2015): a marketing ethics case study in video game format; Professor Suzy Jagger and her colleagues designed the online game based on 3-D animation technology.
- Players role-play “Anna,” a marketing manager who has a target to meet. As Anna, players access various levels of the game environments, and thus discover the game objectives: making ethical decisions (or not) on behalf of Anna.
- Players gain points by accessing clues and responding to a series of ethics-relevant questions after each game level (4 levels in the present study).
- Note: The Game Version 1’s maintenance phase coincided with some participants’ playing it, resulting in occasional software glitches. Hence, some participants reported experiencing technical difficulty.

<table>
<thead>
<tr>
<th>Construct</th>
<th>Item</th>
<th>Participants’ Comments</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of Use (3 Items)</td>
<td>Learning how to play this game is easy for me.</td>
<td>- Gaining points motivates me to keep on playing.</td>
</tr>
<tr>
<td>Reward (3 Items)</td>
<td>I find the game useful to practice ethical decisions</td>
<td>- From the game I have learned ethical decision making skills which can apply in different situations.</td>
</tr>
<tr>
<td>Usefulness &amp; Effectiveness (16 Items)</td>
<td>The extent to which participants enjoyed the game and cared about their character “Anna”; the means EEU, UBE, and R were only slightly above average.</td>
<td>- From the game I have learned ethical decision making skills which can apply in different situations.</td>
</tr>
</tbody>
</table>

Results
Participants’ Game Use and Preference
- This particular sample did not consist of avid gamers: only a minority (12.6%) played online or video games on a regular basis.
- Whenever they played an online or video game, they preferred educational games (79.2%), sports games (70.8%), and role-playing games (60.4%). Only half or less than half of the sample played puzzles (54.2%), strategy games (47.9%), and action/arcade games (39.6%).

Reactions to the Game
- On the average, participants spent about 2 hours (127.7 minutes; SD = 63.05) to play the game and respond to the post-game survey. Their average game score was 913.17 (SD = 259.81).
- Overall, they were ambivalent about the key aspects of the Game: Participants reported average levels of enjoyment of the game and caring about their character “Anna”; the means EEU, UBE, and R were only slightly above average.

Results (cont.)
Participants’ Comments on Game as a Learning Tool; Suggestions
- The issues presented in this game helped me to see from other’s perspectives.
- From the game I have learned ethical decision making skills which can apply in different situations.

Discussion
- Some evidence of positive attitudes towards game use and effectiveness.
- Limitations: Technical difficulty (glitches) might affect ratings (will be addressed in Version 2; coming Fall 2015).
- Participants might not take the Game seriously (not high-stakes testing).
- Insights: Business ethics games may tap into players’ competitiveness, leading to greater engagement and better learning outcomes.

Use of the Game
- To modify, develop and validate a stand-alone American version(s) (in collaboration with Dr. Jagger and Shidler instructors).
- To use as an assessment tool for SLO 4 (see Table 1).
- To be administered after the business ethics module in BUS345 (with the approval of Shidler Curriculum Committee).

Implications
- Drs. YAO HILL & MONICA STITT-BERGH, UHM Assessment Office
- ROBIN HADWICK, Chair, Shidler College of Business Assessment Committee
- Other colleagues and anonymous reviewers

Table 1. Business Ethics SLO in the BBA Curriculum Map

<table>
<thead>
<tr>
<th>BUS 315</th>
<th>BUS 345</th>
</tr>
</thead>
<tbody>
<tr>
<td>Objective 1: Identify and analyze ethical issues</td>
<td>Assessment needed</td>
</tr>
<tr>
<td>Course taken during</td>
<td>Introduced</td>
</tr>
</tbody>
</table>

Table 2. SAMPLE SURVEY ITEMS

<table>
<thead>
<tr>
<th>Construct (Item)</th>
<th>Item</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ease of Use (3 Items)</td>
<td>Learning how to play this game is easy for me.</td>
</tr>
<tr>
<td>Reward (3 Items)</td>
<td>I find the game useful to practice ethical decisions</td>
</tr>
<tr>
<td>Usefulness &amp; Effectiveness (16 Items)</td>
<td>The extent to which participants enjoyed the game and cared about their character “Anna”; the means EEU, UBE, and R were only slightly above average.</td>
</tr>
</tbody>
</table>