

## **DATA ANALYSIS EXERCISE**

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#### **Comparing Role Play Activity Situated in a Physical Classroom vs. Virtual World**

##### *Rationale*

Role playing is a common sales training method as it encompasses both a visual and a participative technique while affording the opportunity to make mistakes without financial impact. Defined as a “learning activity in which participants act out a set of defined role behaviors”, role play scenarios typically include: “mimicking, demonstrative or illustrative of specific concepts, problems or situations” (Sogunor, 2004, p. 356). An effective exercise for developing interpersonal skills, role play may involve “conflict management, negotiation, influencing, team building, active listening, giving and receiving feedback and communication” (Sogunor, p. 357). Particularly relevant in the business community, role play is accepted as a viable pre-employment screening tool as well as training method to engage learners and improve their ROI (Return on Investment) through growth revenue of new and existing business and increased employee retention. Role play that demonstrates knowledge as well as communication skills is critically linked to a successful sales training process (Rautalinko & Lisper; Squires, Torkel, Smither, & Ingate, 1991; Sogunor, 2004; Vermeulen, 2002).

Situated in the physical or “real world”, traditional sales role play training typically occurs in a classroom setting without the benefit of artifacts or ability to be planted in an industry specific context (i.e. retail store). In-class role plays tend to be mundane and angle away from real life complexities yielding an unrealistic and disengaging experience (Andrew, Mann, & Corsun, 2002; Sogunor, 2004; Squires, Torkel, Smither, & Ingate, 1991). As strong authenticity in role play correlates with increased effectiveness and emotional involvement, which can

minimize the transfer gap between training and application, are virtual environments a more sustainable context for learning (Johnson & Johnson 1997; Vermeulen, 2002)?

Role playing in virtual environments is gaining popularity – particularly when recreating a physical environment is too complex, unauthentic or just not possible. Loyalist College's border patrol students historically had received training by shadowing actual border patrol guards to gain real life experience (Hudson & Degast-Kennedy, 2009). No longer possible due to security reasons in a post 9/11 era, training suffered until the development of a training simulation in the virtual world *Second Life* (Hudson & Degast-Kennedy, 2009). The results of the training and simulation program led to significantly improved grades on students' critical skills tests, taking scores from a 56% success in 2007, to 95% at the end of 2008 after the simulation was instituted (Hudson & Degast-Kennedy, 2009). According to Hudson and Degast-Kennedy, the success was attributed to the sense of presence one experiences in the simulated environment that led to increased confidence, improved interviewing skills as well as a plethora of teachable moments as a result of the open-ended nature of the role plays (2009). While the lasting effect on workplace proficiency is not known, the outcomes had exceeded expectations and given cause for further simulation projects and research.

Role playing in virtual environments has also shown promising results in the healthcare field, military training and emergency preparedness exercises. Combining medical simulation with gaming technologies allows students to interact with avatar patients and practice skills associated with specific care protocols as well as avatar/patient-care provider interactions (Hansen, 2008). U.S. Department of Defense has historically used simulated gaming exercises to facilitate training (i.e. disasters, battle scenarios...). The University of Southern California's School of Social Work, utilizes role play with avatars to gain a better understanding of Post

Traumatic Stress Disorder and teaches prospective counselors how to deal with soldiers returning from duty where they may have witnessed life-altering atrocities – virtual environments provide “the kind of immediate assessments that were just not available in traditional role-play” (Dishman, 2010).

Yee et al (2009), investigated a process referred to as the *Proteus Effect* – a process that occurs via conforming to expected behaviors of the avatar. Yee et al’s study included participants placed in an immersive virtual environment and were assigned either shorter or taller avatars and interacted with a confederate for a 15 minute interval (2009). The study found that in “addition to causing a behavioral difference within the virtual environment, the participants given taller avatars negotiated more aggressively in subsequent face-to-face interactions than participants given shorter avatars” – in essence, our virtual bodies can change how we interact with others in actual avatar-based online communities as well as in subsequent face-to-face interactions (2009).

Problem based learning activities can provide instructional scaffolding that develops problem-solving skills, self-directed learning skills, and teamwork/collaboration. Through video evidence, we will examine the strengths and weaknesses of the role-play participants and compare the content quality as pertains to the physical and virtual environments. This analysis profiles two retail sales role play scenarios - one situated in a traditional classroom setting, the other in Olive, a multi-user virtual environment (MUVES). As a relatively low-cost distributed learning platform, MUVES can implement virtual reality techniques to replicate physical world artifacts and synchronously immerse learners in a setting to gain knowledge, practice skills or collaborate to solve problems. Participants are able to design virtual representations (avatars) specific to their physical appearance, attire, gestures and names to provide a sense of ownership

and connectivity with their chosen avatars. The potential value of simulating real world experimentation to provide learners with engaging, meaningful experience that enhances skills warrants study to understand transfer within a naturalistic context. As organizations develop and deploy human resources that articulate the vision of the organization and foster teams with the synergy to perform, it is important to understand how delivery through new technologies differ from traditional practices.

As authenticity is a strong indicator of role play effectiveness, exploring how a virtual world context compares with a traditional classroom setting is the subject of analysis. How does authenticity effect comparative role play performance? Are virtual worlds a viable sales training alternative that warrants consideration in the retail business arena?

### Method

#### *Data Source*

Data source was two video clips obtained through the public video channel *YouTube*, each demonstrating a customer and salesperson in a retail role play conducted in a traditional classroom environment (length 0:02:37.2) and a virtual environment (length 0:02:38) respectively (Michaelnccuenglish; Ronmobile777).

Analysis was approached utilizing three methods. A rubric was developed to evaluate the video content through the lens of tenets inherent to the sales process. Secondly, through transcription, discourse was analyzed to establish amount of turns, number of words and average communication length as a means to understand conversational relevance to the overall sales process. Lastly, a common business tool in strategic planning, SWOT analysis was invoked to compare classroom and virtual environments in strategic planning as effective sales training models.

A rubric was designed to analyze video content utilizing a 1-4 rating scale to compare the sales process in the physical and virtual environments. Accepted industry practices of the sales/customer interaction process were incorporated in the rubric to provide a framework for analysis and is represented in figure 1 (Moncrief W.C. & Marshall G.W. (2005) Weitz, B. (1981). Components included:

- *Presentation of character*
- *Speech: (Verbal skills)*
- *Greeting: Key to first impression (Initial interaction)*
- *Effective Probing Skills (Build rapport; Personalize to gain trust)*
- *Handling Objections (Eliminate concerns or questions to customer's satisfaction)*
- *Friendly Persuasion (Product options, ....what's the best one for you. Communicate features and benefits.)*
- *Closing the Sale: (Asked for business; Future sales)*
- *Non-verbal/Environment*

Videos were transcribed to not only code the aforementioned components of the sales process but also to determine the conversation turns, number of words used by participants as well as the average length of exchanges. This is particularly relevant in the sales process as relationship building is a prevalent means of an effective sales interaction.

In addition to comparing the individual attributes of the physical and virtual role play activity, a SWOT analysis was also employed to explore the two environments as an effective business training model. SWOT analysis is a standard approach to strategic planning that incorporates an internal and external analysis to identify the strengths, weaknesses, opportunities

and threats when developing new or varied processes or business models (Glaister K.W. & Richard F. J. 1999).

### Results

The rubric resulted in the virtual role play as exceeding the classroom role play with regard to effective observed behaviors earning a score of 29 out of a possible 32 – compared to 16 in the classroom scenario (*refer to fig.1*). The obvious absence of artifacts in the classroom produced an unrealistic environment that led to an unsuccessful use of invisible props. It could be determined that the virtual environment invoked a truer sense of presence than the barren classroom.

#### *Example:*

- Customer does not remove footwear to try on first set of boots
- Customer does not remove first set of store boots before trying on 2<sup>nd</sup> set of boots
- Customer takes coat off rack to look at; then puts hands in pocket (where is coat?)
- Salesperson takes money from customer hands her – then hands flail (money would be all over floor)
- Where are items customer purchased?

Observed non-verbal gestures of the avatars were realistic – background customers milling around the store looking at merchandise, taking articles off clothes racks, other salespeople putting clothes away as well as expressive gestures and store navigation (i.e. coming from behind the counter, taking customer over to surf board section of store) by main actors. In addition to the improper non-verbal gestures related to props, the classroom salesperson intermittently plays with her hood cord for a total of 1.01 minutes – approximately 42% of entire

event. It could be rationalized that the fidgeting was attributed to nervousness due to performing in front of a “live” audience – in contrast to possibly performing in physical isolation.

The content of the conversation in the virtual role play was far superior with respect to effective probing skills, persuasion and handling objections. For example, the initial greeting in the virtual role play established an interpersonal relationship via name exchange. Effective probing skills brought the notion of cost to the forefront and addressed by soliciting the customer’s needs and explaining product features and benefits. Probing was not conducted by the sales person in the classroom event nor was the features and benefits of the product aroused- even though the customer brought up cost seven times during the interaction. However, the classroom salesperson did a effective job of closing the sale and asking for referrals – the actual closing of the sale was not demonstrated in the virtual role play but was noted on the video description of successfully up-selling a product.

A critical component of the sales process is discussing the features and benefits of a product to persuade the customer and move towards the closing process. As the classroom scenario did not include physical artifacts, the benefits/features were not addressed and therefore an important element was omitted. Had the participants incorporated an actual product, the conversation may have involved this component – for example: salesperson may have demonstrated that the boots were insulated (feature) and would keep the customer warm when trekking across campus on the cold wintery days (benefit). The virtual environment had the benefit of digital renditions of surfboards that could be viewed and discussed (upgraded board provides more control (feature) and will allow you to do flips and 360s (benefit). Various color options were also represented, which provided options for the customer to consider.

## RUBRIC: CONTENT QUALITY

### *Physical (Classroom) or Virtual (Olive) Platform for Role Play Sales Training*

**1 low – 4 high (actual # assigned noted in blue)**

Description	1 Limited/ Non-Existent	2 Adequate	3 Proficient	4 Excellent	Classroom Platform (physical)	Olive Platform (virtual)
Presentation of Character	Characters have little to no resemblance realistically	Characters are somewhat portrayed realistically	Characters are portrayed realistically	Characters are exceptionally portrayed in a realistic manner	<b>2</b> Characters were somewhat portrayed realistically	<b>3</b> Characters were portrayed realistically
Speech	Presentation is not clear. Little to no intonation and expression used.	Speaks somewhat clearly. There is some voice intonation and expression used.	For the most part, speaks clearly and loudly, using voice intonation and expression.	Speaks clearly and loudly when presenting using voice intonation and expression.	<b>2</b> Speech was fragmented and unclear at times. Exchanges were short in word count. May be contributed to English as a second language. # of turns: S) 22 (56%); C) 19 (44%) # of words S) 252 (75%); C) 83 (25%) <i>S= Salesperson; C= Customer</i>	<b>4</b> Speech was fluid and clear with appropriate volume and inflection. # of turns: S) 10 (49%); C) 8 (38%); FC) 3 (13%) # of words S) 360 (70%); C) 128 (25%); FC) 35 (5%) <i>S= Salesperson; C= Customer; FC = French customer – minor part</i>
Greeting	Establishes contact	Greets customer in a somewhat friendly manner	Greets customer in a friendly manner	Greeting initiates a “relationship”	<b>2</b> Approached customer in a friendly manner	<b>4</b> Initiated relationship – name introductions to solicit friendly relations
Effective Probing Skills	Little of no use of open-ended questions	Somewhat uses open-ended questions to build rapport	For the most part, uses open-ended questions to build rapport	Effectively uses open-ended questions to build rapport	<b>1</b> Did not use open ended questions	<b>4</b> Used open ended questions to understand customer needs
Handling Objections	Does not eliminate concerns or questions to customer’s satisfaction	Somewhat eliminate concerns or questions to customer’s satisfaction	For the most part, eliminates concerns or questions to customer’s satisfaction	Eliminates concerns or questions to customer’s satisfaction	<b>2</b> Somewhat eliminated concerns by providing lower cost option/similar product	<b>3</b> By using information from probing, was able to eliminate concerns by appealing to needs
Friendly Persuasion	Does not effectively communicate needs /solutions	Somewhat communicates needs /solutions	For the most part, effectively communicates needs /solutions	Effectively communicates needs /solutions	<b>2</b> Did not provide features/benefit of product but did provide discount if boots and coat were purchased	<b>4</b> Explaining features of higher cost boards (more control) and benefits (ability to do flips and 360s like friends, i.e. won’t outgrow board in 3-4 years). Up-sell opportunity.
Closing the Sale	Does not close sale or ask for referrals	Somewhat closes sale but does not ask for referrals	Closes the sales but does not ask for referrals	Effectively closes the sale and requests future sales/referrals	<b>4</b> Closed the sale and asked for referrals (classmates/discounts)	<b>3</b> Closed sale (not evident in video but according to video description – “the clerk asks all the right questions and manages to up-sell the customer”); no evidence of requesting referrals
Non-Verbal/Environment	Minimal or improper use of gestures, props, costumes, facial expressions ...	Adequate use of gestures, props, costumes, facial expressions ...	Proficient use of gestures, props, costumes, facial expressions ...	Excellent use of gestures, props, costumes, facial expressions ...	<b>1</b> Minimal gestures (hands to face, stepping back); did not use physical props; invisible props not handled properly; image of store projected on screen in a traditional classroom setting; 1 camera angle used to capture data	<b>4</b> Realistic virtual rendition of a sports retail store: counter, merchandise, sales racks & displays, other customers/salespersons in background looking at merchandise, cleaning; gestures to show enthusiasm; multiple camera angles used to capture data
					<b>Total: 16/32</b>	<b>Total: 29/32</b>

Fig. 1



Transcription of participant discourse analyzed conversation evidenced in the videos. The number of words and turns used in the role play pointed to the virtual role play as having fewer exchanges (turns) but deeper conversation (number of words). The average length of words at each interval was significantly higher with respect the virtual role play as compared to the classroom or physical role play activity (*fig.2*)

It could be hypothesized that the frequent turns and abbreviated conversations may be related to English being a second language to classroom participants and not related to being situated in a physical environment, however there is a high likelihood that virtual artifacts gave fodder for conversation as well as social presence experienced by virtual participants – hence increasing a higher level of conversation.

*Conversation Analysis*

<i>Description</i>	<i>Physical</i>	<i>Virtual</i>
<b>Salesperson # of Turns:</b>	<b>22</b>	<b>10</b>
<b>Customer # of Turns:</b>	<b>19</b>	<b>8</b>
<b>Minor role of French customer (FC)</b>	<i>n/a</i>	<b>3</b>
<b>TOTAL:</b>	<b>41</b>	<b>21</b>
<b>Salesperson # of Words</b>	<b>253</b>	<b>360</b>
<b>Customer # of Words</b>	<b>82</b>	<b>128</b>
<b>Minor role of French customer (FC)</b>	<i>n/a</i>	<b>25</b>
<b>TOTAL:</b>	<b>335</b>	<b>513</b>
<i>Average length of interchange(words):</i>		
<b>Salesperson</b>	<b>11.5</b>	<b>36</b>
<b>Customer</b>	<b>4.31</b>	<b>16</b>
<b>Minor role of French customer</b>	<i>n/a</i>	<b>7</b>

*Fig. 2*

**SWOT ANALYSIS COMPARISON**  
**Classroom vs. Virtual Environment for Sales Training**

Strengths		Weaknesses		
Classroom Platform (physical)	Olive Platform (virtual)	Classroom Platform (physical)	Olive Platform (virtual)	
I N T E R N A L	<ul style="list-style-type: none"> <li>-Familiarity/Proven</li> <li>-Able to capture on video for reflection</li> <li>-Ability to read non-verbal cues from participants and audience</li> <li>-Ability to use to pre-screen applicants</li> <li>-Real time –voice</li> <li>-Limited amount of participants</li> </ul>	<ul style="list-style-type: none"> <li>-Gaming factors can enhance motivation</li> <li>-Able to capture on video for reflection; can easily capture video from different angles</li> <li>-Ability to digitally recreate/manipulate realistic environment &amp; artifacts to engage (creative)</li> <li>- Re-use of data sources</li> <li>-Design avatar to project appropriate image</li> <li>-Able to use gestures/walk</li> <li>-Real time: able to use voice</li> <li>-Easily incorporate multiple participants</li> <li>-Ability to mute</li> <li>-Ability for avatar to view self during role play</li> </ul>	<ul style="list-style-type: none"> <li>--Geographically bound/Distributed participants=travel costs/green concerns</li> <li>-Cannot easily capture video from different angles</li> <li>-Barren, unrealistic environment</li> <li>-Live audience (nervousness/interruptions)</li> <li>-Unrealistic use of imaginary props</li> <li>-Unknown if behavior will transfer from “classroom” to “physical” environment</li> <li>-Lack of creativity</li> <li>-Inability to view self during role play</li> </ul>	<ul style="list-style-type: none"> <li>-Learning curve for participants to use platform</li> <li>-Lack of facial cues</li> <li>-Time to create environment</li> <li>-Cost to create environment</li> <li>-Unknown if behavior will transfer from “digital” to “physical” environment</li> </ul>
	Opportunities <i>(secondary ~ industry, environmental, social...)</i>		Threats <i>(secondary ~ industry, environmental, social...)</i>	
Classroom Platform (physical)	Olive Platform (virtual)	Classroom Platform (physical)	Olive Platform (virtual)	
E X T E R N A L	<ul style="list-style-type: none"> <li>-Successful training may equate to increased future sales</li> <li>-Accepted industry practice</li> </ul>	<ul style="list-style-type: none"> <li>-Utilize emerging technology – popularity of computer mediated communication</li> <li>-Attract tech skilled</li> <li>-Environmentally green</li> <li>-Eliminate travel expense for training</li> <li>-Contribute to community/research</li> <li>-Successful training can equate to increased future sales</li> <li>- Virtual environments may change the way people learn and live in the future</li> </ul>	<ul style="list-style-type: none"> <li>-Sales are becoming increasingly digital</li> <li>-Emerging 3D marketplace</li> <li>-Training is becoming more popular online</li> <li>- Virtual environments may change the way people learn and live in the future</li> </ul>	<ul style="list-style-type: none"> <li>-Platform compatibility/IS obstacles</li> <li>-Unrealistic expectations</li> <li>-Universal benefit proofs could curtail adoption</li> <li>-Emerging virtual competition</li> <li>- Virtual environments may change the way people learn and live in the future</li> </ul>

Fig. 3

SWOT analysis is a common analytical business planning tool when determining alternative models or practices. As traditional role play training resembles the classroom scenario, a comparative SWOT analysis was invoked to determine how a virtual platform compares and if it warrants consideration. While there are similarities and differences (*fig. 3*), the flexibility to manipulate conditions and ability to create a realistic portrayal situated in the virtual environment, coupled with an ever evolving technology driven sales landscape, sanctions investigation to determine if high-visual realism is indeed matched with high-behavioral realism (Yee et al, 2009). As the distributed workforce becomes more pervasive, it is critical from a cost perspective to investigate methods that contain travel costs, heightens realism and overcomes the transfer gap that can be inherent in many training models.

### Discussion

While the data utilized was derived from a public video portal and not subject to specific research design elements, a comparison could be effectuated with respect to authenticity's impact on role play performance. The absence of artifacts in the classroom led to an unrealistic portrayal and indicated a compromised sense of presence by participants. Had the classroom utilized physical props, it could be argued that the outcome may have been different. It should be noted that the language obstacle certainly could have contributed to the substandard verbal exchange in the classroom and had the native language been used, it's possible the outcomes would have differed. Performing in front of a live audience is also very different than performing behind a computer screen - if the room was absent of classmates, it's curious if the fidgeting would have been as blatant. Also, it would have been interesting to observe the person behind the avatar and note changes in their bodily movements (i.e. Did they sit up straighter when talking? Did they smile? Nod?...)

The SWOT analysis substantiated virtual worlds as a viable sales training alternative that warrants consideration in the business arena. Virtual role play can effectively take the place of traditional role-play and has the following added benefits: variety/problems are easily incorporated into the role-play activity; ability to hone multi-tasking skills; can be more interactive than in-class role-plays; capacity to create and adopt virtual artifacts in a realistic context; motivate learners through gaming; involves adapting to emerging technologies - critical in an ever evolving digital business climate.

Future research could refine design parameters and expand upon limitations in this analysis inherent to an analysis of flat video. Examples could include follow up interviews – how did the participants view their performance and what did they learn (self reflection)? What obstacles were associated with the virtual environments? Did the experience meet or exceed expectations of the participants? Was there evidence of learned behaviors transferred to actual sales transactions and if so, which environment was more conducive?

In conclusion, virtual environments are becoming more prevalent and warrant further research in the business context, particularly in the realm of sales training. As the limitations of computer and communication technology diminish and expertise in creating and manipulating these environments increases, virtual environments will provide a low cost alternative that effectively replicate physical renditions and provide the sense of presence necessary for an authentic experience.

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