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Fame and Fortune: Developing a Simulation Game for the Music Industry Classroom

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Abstract: This study documents the development of a classroom game simulating the effects of contractual arrangements on the economic relationships between artists, record labels, and consumers. The game was tested with multiple revisions in classroom settings over a period of three years by using surveys, interviews, session videos, and teacher observations. Using the approach of Grounded Theory, observations and insights were extracted from the collected data with the goal of identifying effective strategies for developing and using classroom simulations. Findings include evidence of deeper engagement with the subject through cognitive, psychomotor, and affective learning.

Keywords: classroom game, simulation, engagement, motivation, music industry

Introduction

Rieber and Noah explain that "Games are a way of knowing the world, a mediation between experience and understanding" (2008, p. 79). Malaby (2007) offers a compelling definition of games as "a semibounded and socially legitimate domain of contrived contingency that generates interpretable outcomes." Hence, games are about disorder (Huizinga,1971; Caillois, 2001) providing a set of rules that guide the process of engaging in a game towards a set of predictable and unpredictable outcomes. The opportunity to mimic everyday experience during the gaming process allows for interpretation of the various outcomes as contingencies of factors encountered during the process. A discussion of what happened and what could have been otherwise contingent on the randomness of the game components, the social unpredictability of fellow players, actions performed with various grades of success by the players, and even the unpredictability of meaning allow for compelling life-like learning in the classroom (Malaby, 2007, 1999).

The study of games is often linked to play as a subcategory and thus creates a separation from the 'real' world. Generally, the following attributes are associated with play (a) it is usually voluntary and enjoyable; (b) it is intrinsically motivating, that is, it is pleasurable for its own sake and is not dependent on external rewards; (c) it involves some level of active, often physical, engagement; (d) it is distinct from other behavior by having a make-believe quality; (e) the outcome is uncertain; (f) it is unproductive in that the activity does not produce goods of external value; and (g) it is governed by rules (Blanchard & Cheska, 1985; Caillois,1961; Csikszentmihalyi, 1990; Pellegrini, 1995; Pellegrini & Smith, 1993; Yawkey & Pellegrini, 1984). But as Taylor (2006) documents, the separation of play from real life when studying games can't be upheld and creates a marginalization of the scholarship of gaming.

Crookall, Oxford, and Saunders (1987) distinguish between games and simulations, where simulations attempt a representation of some real-world system in contrast to games being their own "real" systems. Nevertheless, the cost of error or losing is low in both, simulations and games, except in games such as poker where real financial assets are at stake (Garris et al, 2002). Roleplay is a

subcategory of the simulation games. The goal is to act out 'real-world' behavior while keeping the impact of errors on the 'real world' of other people low. Within the defined parameters of a role in a given scenario, the participant is allowed to make strategic choices thus allowing some exploration of alternative strategies in acquiring the desired skills from the given scenario.

There is little consensus though in the literature on the definition of a game beyond description of characteristics. Juul (2005) defined games as having six features: (a) a rule-based formal system, (b) variable and quantifiable outcomes, (c) different assigned values for different outcomes, (d) an outcome influenced by the efforts that the player exerts, (e) players feeling emotionally attached to the outcome, and (f) consequences of the activity that are negotiable.

Research on the effectiveness of using games in the classroom offers a wide spectrum of results concerning learning outcomes, motivation, and skill acquisition. While motivation and engagement in the activity itself is usually high, few games have empirically demonstrated that they can successfully teach academic content when used in the classroom on a standalone basis (Garris et al., 2002). Qualitative literature reviews also revealed the importance of pedagogical guidance by the teacher during classroom games. Kangas, Koskinen, and Krokfors (2017) identified the teacher's role as pedagogically active in the majority of studies reviewed, specifically for planning game-based, learning, and integrating game-based learning into teaching after the gaming situation. The teacher should define what content knowledge students are expected to learn by engaging in the game and make links within the curriculum (Barab et al,
2010). Throughout the game process, teachers should guide learning through specific questions focusing on the concepts (Arnab et al., 2013; Barab et al., 2010; Chee & Tan, 2012; Watson et al., 2011).

In order to determine learning outcomes in game design, Bloom's Taxonomy of Teaching and Learning (1956) is a useful measurement tool. Research has provided some evidence for the successful acquisition of complex tasks through the use of educational games (Garris & Ahlers, 2001; Ricci, Salas, & Cannon-Bowers, 1996). Serious games have been proven to increase motivation and the student's desire to learn (Leach, G. J., & Sugarman, T. S., 2005, McClarty et al, 2012) with curiosity and the desire to complete goals being major factors.

The Indiana University Center for Innovative Teaching and Learning (CITL) sponsored a faculty group in 2012/13 exploring the concepts of intrinsic motivation and play in the classroom. Every member in the group developed a game to be used in their classroom teaching and the games were tested in classroom settings as well as with colleagues. Using the results of a variety of evaluation tools such as surveys, video analysis, and interviews, the games were revised for optimal learning and motivational experiences. Based on the research discussed in the faculty learning group and using my expertise in music, I developed a simulation game for the music industry. Following is a report on the development, implementation and optimization phase, as well as learning outcomes.

The research model employed for this study is based on the principles of
ethnomethodology and grounded theory, an approach suggested by Matthew Sharritt (2011) to improve game content and interface and achieve meaningful and serious outcomes. Grounded theory, originally developed by Barney Glaser and Anselm Strauss (1967), is a method of comparative analysis with the goal of discovering a theory from data rather than confirming preconceived expectations. Similarly, ethnomethodology allows ideas and principles to emerge through analysis of situation-specific behavior and responses, thus providing the framework for grounded theory.

Fame and Fortune – A Simulation Game

My initial motivation for researching classroom games was the search for an option to simulate the economic and social relationships between artists, record labels, and consumers in a classroom setting.

The music business has unique challenges and product characteristics that are difficult to recognize in general business simulations and case studies. Such characteristics include the unpredictability of emotional responses, fashions, publicity and other factors related to the artist, product, economy, culture, and society that influence the success of an artistic product and career. In addition, the industry has experienced fundamental restructuring over the past decade due to new technologies such as file sharing and digital recording and transmission tools as well as new ways of communication due to social networking and subscription services, among many others.

As an active musician myself, I have certainly experienced the ups and downs of the music industry and the amount of work and investment that it takes to create a musical product and create a fan community. For my students though, these concepts are more difficult to grasp as their experiences in the industry are mainly as consumers and casual participants. Our society is focused on a superstar artist image resulting in a "Winner Takes it All" economic model. For example, about 1% of touring artists receive close to 50% of all concert ticket revenue in the popular music market, and 80% go to the top 5% of touring artists (Connolly & Krueger, 2006). This lottery-type environment of marketing an artistic product as well as the daily grind involved in being an artist may be easier to grasp with the help of an interactive tool rather than textbooks. Furthermore, chances for success could increase exponentially with the opportunity of testing a
variety of real world decisions without real world consequences as often as desired, similar to flight simulators, in order to optimize goal-setting and decision-making.

In order to provide such real-life experiences, many music industry programs around the country have created student record labels that function as a laboratory for aspiring music entrepreneurs. Very few though have been successful in creating meaningful product and sustaining long-term engagement and growth of the student-run business. Common hurdles are legal issues within a university environment, young and inexperienced employees, ownership of intellectual property issues, constant personnel turnover, time limitations due to semester length, and similar issues. Thus, the goal of providing realistic experiences can rarely be achieved with such student-run businesses. Of course, completing internships in a variety of music corporations are also effective ways of learning. But again, such experiences vary in depth and scope depending on internship placements, availability, and geographic location as well as effective mentorship by business leaders who may have very little pedagogical training.

Hence, the option of creating an experiential simulation game seemed ideal. Gredler (1996) described an experiential simulation as creating a particular psychological reality with participants taking on defined roles within that reality. Thus learners interact with a simulation in order to understand the underlying model without having to reach a certain goal state (de Jong et al., 1999). In this case, students take on the roles of artists, record label executives, or consumers and engage in the process of selling a musical product, concert events, and merchandise with the goal of experiencing the factors that influence financial as well as artistic success. Such simulations have been proven successful as players bring their own already-learned rules into an activity. Thus the simulator becomes more of a trigger activated by the actions of the participants
within a framework of rules. Cookall et al (1987) argue that simulation situations actually may become more real than ordinary situations as participants enter with a level of uncertainty, testing out actions and their consequences without fear of failure.

As discussed in the introduction, engaging in a gaming situation is a process that creates a set of predictable and unpredictable contingencies capable of generating a variety of meanings (Malaby, 2007). Thus the learning outcomes for this simulation game include the predictable components of learning factors that influence the success of a musical career as well as experiencing the effects of luck, social and economic tendencies, and other random events that shape meaning in unpredictable ways and require problem solving skills and adaption. In order to assess these learning outcomes

students completed reflection activities prior and after playing the game analyzing the factors that influence an artist career as well as shared their interpretations of meaning during the debriefing exercises immediately following the game.

Game Mechanics

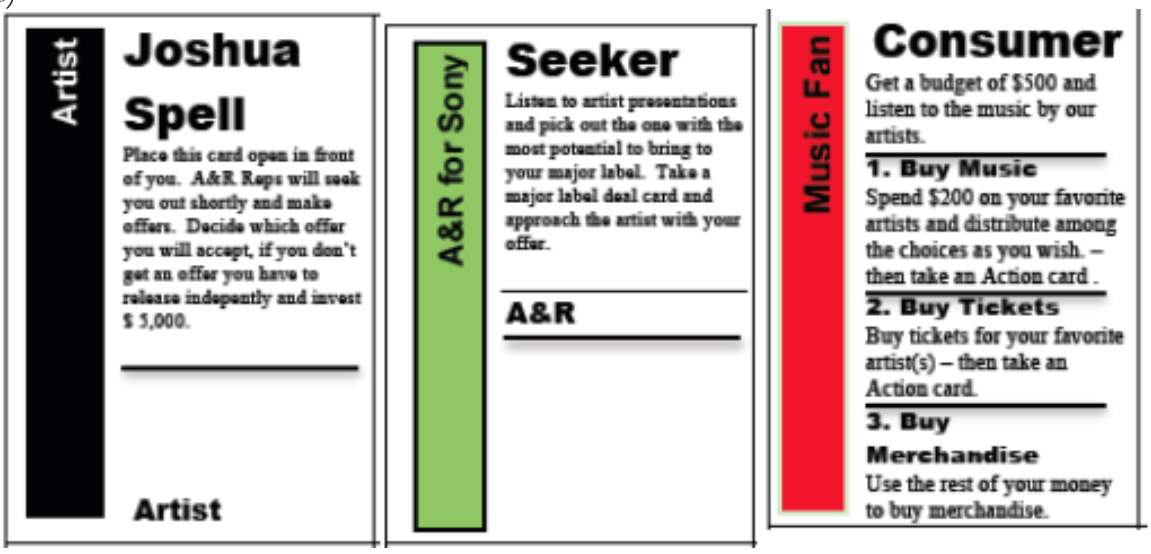
Similar to other economic reality simulation games such as Monopoly or The Settlers of Catan, I chose a combination of action cards, resource cards, value cards in form of simulated money, and interactive rounds with chance factors and final value calculations to determine the outcomes and levels of success. The main learning goals were to demonstrate the effect of specific contract stipulations between artists and their team members, specifically a record label, the behavior of consumers, market constraints of limited budgets, and chance factors influencing market behavior such as prominent performances, viral success, human failure, or new technologies.

Common game features were established during the initial design process.

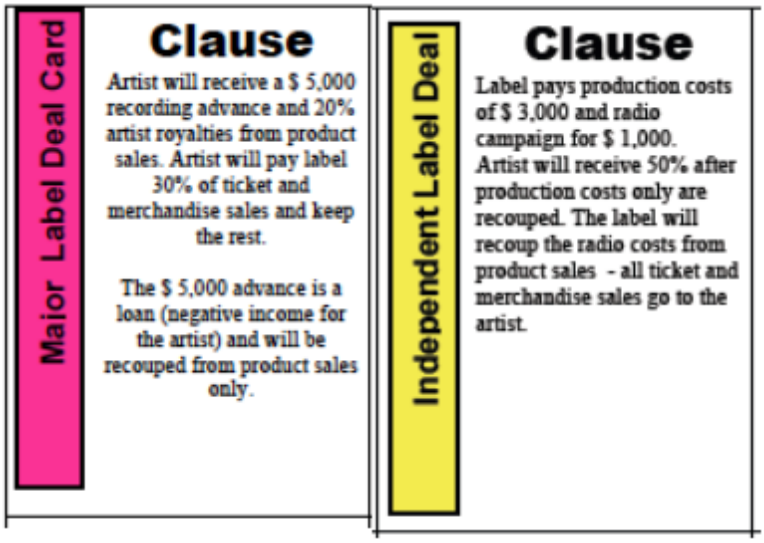
Hardware

Several sets of cards were designed to establish the roles and rules for the game:

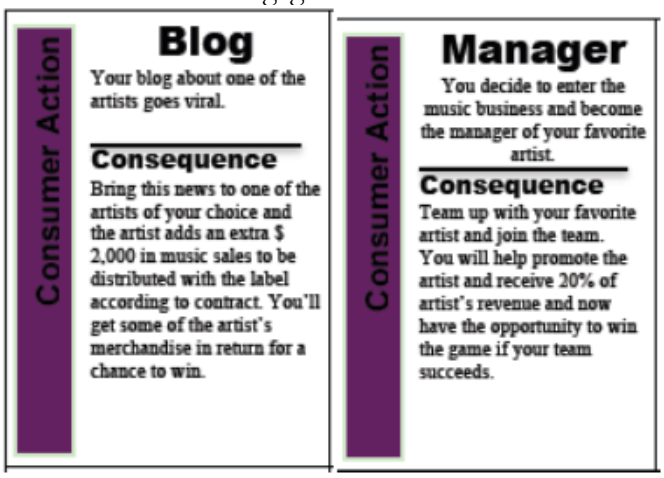
Role Cards - for the initial setup, students draw cards determining their roles as artists, record labels, or consumers. The ideal ratio is five consumers per pair of artist and A&R representation of a label (short for Artist and Repertoire and usually in charge of finding artists and developing their products)



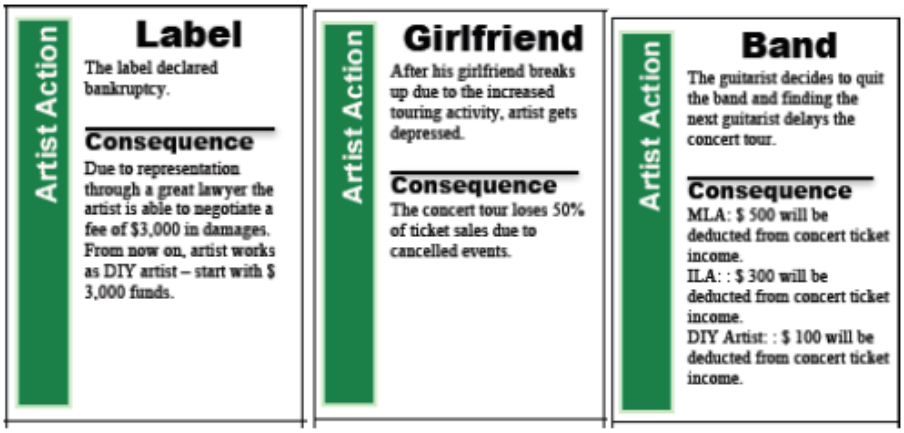
Contract Clauses – the players with A&R roles draw clause cards depending on their status of representing a major or independent label that define the contract options that they can offer to artists



Consumer Action Cards – consumers interact with the music industry in ways beyond spending money on product by engaging with the artists on various social levels,
these cards reflect these different levels of engagement



Artist Action Cards – similarly, artists encounter various opportunities and barriers beyond the basic process of practicing their craft and cards were designed to reflect these factors.



Ticket Cards - the most important income source for contemporary musicians are ticket and merchandise sales at live events, hence cards simulating tickets at various price points were designed reflecting typical price levels for Do-It-Yourself, independent, and major label artists.

Money Cards – play money is exchanged to simulate the financial transactions during the game. Artist/ Label teams use a board and markers to document their financial transactions and income progress. Various candy or other food items serve as merchandise to be sold during the last game round.

Software or Rules

- The rules of the game are set up at the beginning:
- Roles are initially drawn by chance from the role cards
- Each artist has to establish an artist persona at the beginning of the game

- A&R representatives have to find an artist that agrees to their contract terms or become a consumer
- Each consumer receives a fixed budget and has to spend a specific amount of their budget during each round of playing – first round on product, second round on concert tickets, third round on merchandise
- Between each round of play consumers and artists have to draw an action card and follow instructions on the card
- The artist/ label teams have to account their income according to the contract terms defined on the clause cards after each round of playing.
- Any artist may choose not to partner with a label and engage in the game by themselves by initially going $5,000 in debt and keeping all income. However, they will only have access to the lowest tier of concert tickets as well as lower income levels from the chance cards.

Strategy and Evolution

Within the rules, players are allowed varying degrees of choice. Initially, artists choose their persona according to their own preferences and have the opportunity to brand themselves by showcasing a video and advertising their character. The label representatives choose the artist they want to collaborate with based on their own perception of potential. Consumers may spend their total money budgeted for each round on as many artists as they like with any amount they prefer. The chance cards provide options for applications, i.e. consumers may win extra money in the lottery and can distribute the extra budget according to their preferences. Teams may engage in creative advertising strategies throughout the game.

Termination, Goal, and Winning

The goal for the artist/ label teams is the highest financial gains. The goal for the consumers is to influence the financial outcomes according to their musical preferences. After all consumers spent their budget during the third round, the game is terminated and the artist/ label teams engage in their final accounting to determine the winning artist and the winning label.

Competition/Cooperation

The artist/ label teams or do-it-yourself artists compete for the attention of the consumers and their willingness to spend their budgets on their products, concert tickets, and merchandise. Their ability to lure consumers to support their team directly influences financial gains. Some consumer chance cards actually provide the option of joining an artist team, thus increasing the collaboration options for higher impact.

Chance

While the contract terms, label affiliation, and the ability to attract costumers are the highest predictor of success, the two chance cards may derail an artist career on occasion through personal drama,

substance abuse, downturn of the economy, injury, or provide additional financial resources such as high-profile performance, sponsors, or film deals.

Game Setup

The session starts with an initial discussion on what students perceive as factors influencing an artist career based on an assignment submission and a review of common record contract terms. In order to understand the accounting process, the teacher also guides the class through an example of calculating income streams for all parties involved. Then roles are randomly assigned to the participants by drawing cards. After initially introducing their product through Youtube videos and an elevator pitch describing their music and brand, artists are approached by record label executives with cards outlining common contract details for major and independent label deals. Artists agree to get 'signed' according to contract details offered by the A&R representatives or to pursue a career without a label by starting with a $ 5,000 debt that needs to be recouped.

Consumers then engage in three stages of spending their allotted budgets of $500 with $200 on recordings, then $200 on concert tickets, and finally $100 on merchandise (in form of candy or other edibles) from the artists that they hold concert tickets for. Between each purchase round there are random occurrences drawn via cards that influence income, roles, and future endeavors of consumers as well as artists, such as highly visible engagements, social networking fads, loss of band members, etc. Artist/ Label pairs also need to calculate their respective income according to contract terms after each round and display their financial progress.

In order to differentiate between budget sizes and distribution networks that major labels versus independent labels versus independent artists can offer, the initial contract clauses, chance cards, and ticket sales differentiate amounts according to label affiliation, i.e. ticket prices and potential sales figures. The artist/ label partners conduct final calculations after the merchandise purchasing round in order to determine final financial status for each party. All participants then proceed to discuss their observations on what factors shaped the outcome and their learning experiences.

The level of reality of a simulation game is determined by the way participants reduce the level of uncertainty about themselves and the situation by helping shape the constructed reality with their own social experiences and background. Hence, the debriefing process is crucial to allow participants to reflect and examine on what happened and to export the learning and insights gained into their real world (Cookall et al, 1987). At the end of the game, students reflect first on what happened, why some moved ahead financially while others got left behind and the effect of the contract terms. Then the discussion extends towards the various factors that influence financial success in the music industry, reflections on the process of making decisions on how to spend money and who to support, and general emotional and rational revelations of being in the various roles. The initial list of influential factors on an artist career is now expanded with the additional factors discovered as a result of the gaming process. Finally, the lesson concludes with thoughts on how each party can influence their success and navigate chance factors as well as thoughts on implementation of the game experience into real life.

Implementation Process

Over the course of three school years, the game was played for one 75-minute session each semester as part of the Music Industry I curriculum and various related courses in the Arts Administration program at Indiana University with class sizes ranging from 15 – 50 students for a total of 15 times. Feedback was collected from voluntary class surveys and personal interviews, videotaping of the

sessions, as well as instructor observations. Various revisions were implemented and evaluated throughout the process based on the feedback:

Consumer Engagement

Initially the role of consumers was to spend their budgets as they pleased for each round of spending hence influencing the economic status of each artist. Especially in larger classes, the students in the consumer roles quickly expressed little engagement with the game due to their limited involvement. While artists and labels were busy calculating their income and promoting their products, consumers became passive observers. In order to achieve equal active engagements, consumer chance cards were introduced after each round that facilitated additional actions and even optional change of roles. Also, consumers were assigned to observe one artist/label team in a fishbowl-type setting keeping track of progress by taking notes.

Contract Refinements and Calculations

Over the past decade, the artist-record label relationship has gone through drastic changes due to digital distribution, streaming, new recording techniques, and increased focus on live performance. Traditionally, contracts included negotiated percentage terms from recorded product sales only. Contemporary agreements also ask for percentages and support structures for touring income and merchandise sales. The results are all-inclusive '360' contracts that are much more complex in terms of income and rights distribution. Similarly, the contract terms of the game cards were adjusted to reflect the variety of options for major, independent, and do-ityourself artists. The calculation of income is complex and the process was refined using large displays with involvement by the whole class for most effective learning. Initially, at least one calculation example needs to be completed with the whole class before engaging into the game, here is an example:

Contract Term Card: Artist will receive a $5,000 recording advance and 20% artist royalties from product sales. Artist will pay label 30% of ticket and merchandise sales and keep the rest. The $5,000 advance is a loan (negative income for the artist) and will be recouped from product sales only. In the calculation below, the team received $4,000 in product sales during the first round. 20% of those sales equaling $800 will go towards the artist debt, meaning the artist now owes $4,200 to the label. In the meantime the $4,000 sales income go to the label leaving only $1,000 unrecouped from the initial investment. During the second round the team receives $4,000 from ticket sales. According to the contract, the artist gives 30% to the label, equaling $1,200 and keeps $2,800 in earnings. The label has now recouped its initial investment and made $200. For the final round, the team sells merchandise worth $1,000. $300 is the label share and
the artist keeps $700. For the final accounting, the artist made $3,500 from tickets and merchandise but still owes the label $4,200 on future product sales to be recouped from the 20% artist share. The label made their investment back and is $500 in the black. Any future sales and percentages from tickets and merchandise are earnings.

Artist	Label	Total
Recouped $800, still $ 4,200 in debt	- $1,000	Product sales $ 4,000

$ 2,800	$ 1,200	Tickets $ 4,000
$ 700	$ 300	Merchandise $ 1000
- $ 4,200 on product sales, but made $ 3,500 from tickets and merchandise	$500	

To clarify the process, a few additional scenarios should be discussed that may be encountered through chance cards:

What if

a. The concert tour stalls in the middle – subtract half of concert ticket income, no merchandise sales.

b. The artist adds an extra $ 1,000 in music sales to be distributed with the label according to contract.

The table above should be drawn on large boards or projected from computers for each team with total income and calculations filled in after each completed round. Ideally consumers assigned to artist-label groups will assist in calculations and check on accuracy.

Introduction of Artists

The main products in this game are the artists and their music. Initially the artist needs to attract labels and choose most favorable contract terms and subsequently attract consumers to spend their music budgets on their products and concert tickets. Hence establishing an attractive brand and active promotions throughout the game are crucial. Initially, artists were asked to take on a fictive persona and present a short musical demo. This turned out to be extremely intimidating especially for players without musical background. Performing a song of choice with a Karaoke track was also difficult due to time constraints and varying musical backgrounds. A time-effective and realistic solution is having the artists take on a musical persona of their choice and introduce them to the class via a short video demo and an elevator pitch explaining their work, what they have accomplished so far, and why they are attractive brands.

Budgets

Similar to Monopoly game mechanics, the initial budget was set to $500 as starting capital to be spent over the three rounds. It quickly became clear that a certain budget amount/ player ratio is needed in order to produce realistic financial outcomes. In addition to observing an approximate 5:1 ratio for artists to consumers, budgets should be increased for smaller groups.

Class Discussion

In terms of student engagement, session videos document the high level of activity during the game as artists and labels realize that they can move ahead of the income curve by advertising their products and as consumers trade in their money and action cards. But as Cookall et al (1987) documented, the immediate debriefing clarifies and strengthens the learning outcomes. Initially open-ended discussions often with limited time were shaped towards an ideal time period of 15 minutes with the following guidance questions:

How did the winners get ahead?
How realistic are the contract terms?
What factors really make the difference to fame and fortune?
What worked well with the game?
Improvement ideas?

Additional written reflection assignments ensured equal engagement in the debriefing process. Throughout the game, consumers create a written log of their observations of an artistlabel team and all participants complete a short reflection on factors influencing an artist career as observed during the simulation (see assignment instructions and results below).

Results

Cognitive Learning

In order to better understand students' knowledge and perception of the factors shaping an artist career prior and after playing the game, students were asked to submit written reflections at the beginning of the semester and after playing the game. Initially, each student submitted a list of factors in response to the following question:

Create a list of any possible factors that you can think of that influence the financial and popular success of an artist career, i.e. talent, label support, effective management, etc. Provide a short argument/ description for each factor on why and how you think this is influential and put them in a possible rank order. Please be as comprehensive as possible with a minimum of five factors but most likely a larger number. We will revisit the list at the end of the semester and reevaluate after learning more information about the industry.

After the game session the student responded with a written report to the following questions:

How did playing Fame and Fortune and what you learned about recording contracts change your perception of the factors that influence an artist career and/or possibly make you aware of factors that you hadn't considered previously? List new factors that you would add to your initial list.

How will playing Fame and Fortune and learning about recording contracts affect your music consumption habits and active engagement with the music industry?
How does playing Fame and Fortune and learning about recording contracts affect the way you'll approach your work in this course?

Results provide a glimpse on how engagement in the simulation process helped students learn the range of influential factors on an artist career based on the social, economic, and psychological contingencies in the game and real life beyond their initial perceptions from classroom learning and readings. The summary below documents the responses of sixty students who completed both essays

during the Spring 2014 semester. They initially named a total of 30 different factors that can be grouped into two broad categories: Attributes and skills of the artist (the vast majority) and support resources available to the artist. Most notable is the initial focus on any factors that can be controlled by the artist.

Table 1. Perceived factors influencing the financial and popular success of an artist career prior to playing the simulation game

ARTIST SKILLS/ ATTRIBUTES	RESOURCES
Talent and Performance Skills (69)	Strong Support Team (39)
Perseverance, Drive (47)	Promotion/ Marketing (29)
Uniqueness, aesthetic, appearance (42)	Access to Funds, label support (28)
Passion, genuine, honest, confidence (38)	Luck/ Timing (9)
Network, fan relations (31)	Touring (4)
Management skills, professionalism, Strategic planning (26)	Producers, Engineers (3)
Artist image (19)	Radio Play (3)
Diversity/ versatility/ adaption (11)	Family and Friends Support (3)
Other: Communication skills, legal knowledge, attractive themes, tech knowledge, consistency, sellout, sacrifice, forgiveness, compassion, awards	Location (2)

After playing *Fame and Fortune* the same sixty students completed their reflection essays and acknowledged the following factors as new additions to their initial lists as a result of playing the simulation game.

Table 2. Additional factors influencing the financial and popular success of an artist career after playing the simulation game

ARTIST SKILLS/ ATTRIBUTES	RESOURCES
Strength/ weaknesses of personal life (19)	Effect of contract terms (32)
Artist Branding (15)	Luck/ Market (26)
Unique Product (8)	Record label business models (9)
Commitment/ Perseverance (4)	Consumer support in Superstar society (9)
	Proprietary rights/ control (8)
	Access to funds (7)

The comparison documents the shift in student perception from a linear relationship between artist skills and career success to realizing the multiplicity of interrelationships between many stakeholders and the influence of economical, social, and cultural factors. In addition, 68% of the students (n=41) indicated that the simulation helped them to better understand the reality of artist-label relationships and 75% (n=45) expressed the realization of their influence as consumers and indicated new consumption habits to better support the artists of their choice. Seventeen students pledged to buy more merchandise, seven acknowledged that they will change their consumption habits, four decided to pay for music, others pledged to be more active and support more independent labels and artists, and found new appreciation for the work of an artist, while eleven claimed no change in their consumption habits. This realization of the consumer influence is remarkable as none of the students had indicated this specific factor in their initial lists.

The final debriefing sessions after playing the simulation documented the cognitive learning outcomes for the students. Similar to the written reflections, students expressed their revelations about the effects of contract terms, the financial realities of the industryy, the importance of fan support, the influence of social media and consumer behavior, superstar effects, having to deal with chance factors and other outside influences beyond individual control.

Furthermore the videotaped classroom sessions document the heightened engagement during the interactive segments through increased volume level, chatter, laughter, gestures and movement. Once the teams realize that they can capture buyers by advertising their goods, they strategically explore the parameters of the simulated world as described by Crookall et al (1987).

In contrast to lecture sessions, students rarely engaged with their electronic devices during the game sessions and commented on how they enjoyed getting to know their classmates and being able to focus better by moving around in interviews and surveys. Students do find it difficult to concentrate over extended periods of times during lectures and frequently experience anonymity resulting in decreased engagement in large-lecture settings (Blatchford, Edmonds, & Marin, 2003; Fenollar, Roman, & Cuesta, 2007, Young, Robinson, & Alberts, 2009).

Logs from two different game sessions were coded for Teacher Talk, Discussions, Student-led activities, and Movement Activities. The time spent moving while interacting with artists and purchasing goods was logged with 13.5 minutes and 12.5 minutes respectively which constitute 26% and 21% of the total instruction time. Furthermore, the amount of teacher talk was limited to 17 minutes (32.7%) and 21.5 minutes (35.8%) mostly providing game instructions, while discussions took up 13.5 minutes (26%) and 12.5 minutes (20.8%) and student-led activities, mostly introducing themselves as artists and sharing their economic results took up 7 minutes (13.5%) and 13.5 minutes (22.5%). It should be noted that the second session was a larger class with five rather than three artist/ label teams hence the introduction of artists took up more time.

Table 3. Classroom Activity Time (in minutes)

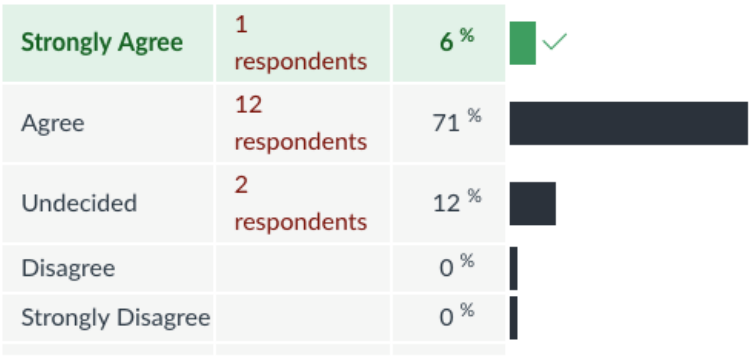
	Session 1	Session 2
Total Time	52	60
Teacher Talk	17	21.5
Discussion	14.5	12.5
Movement Interaction	13.5	12.5
Student Leadership	7	13.5

On the other hand, the social activity and movement can create a chaotic atmosphere and for some students the movement and chatter can be intimidating. Especially in larger classes some students requested clear examples to avoid confusion during the interactive segments and focused class attention during the chance card segments. The quick pace and limited time for instructions also received criticism for not allowing ample time to understand the process and feeling disorganized.

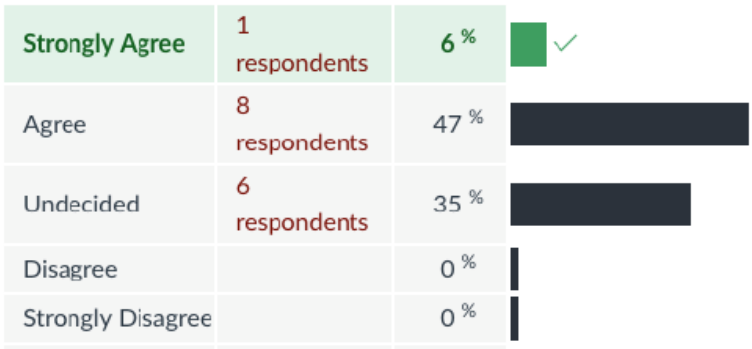
Affective Learning

The initial goal of developing classroom games in the faculty group was to study the effect of play on intrinsic motivation and engagement with the subject. Ruohomäki (1995) claimed that simulation games provide attitude changes and increased motivation and interest towards the subject matter. Sixteen participants during the Fall 2014 game session completed a voluntary survey after the game session and responded all positive to the question "Overall I found this game enjoyable".

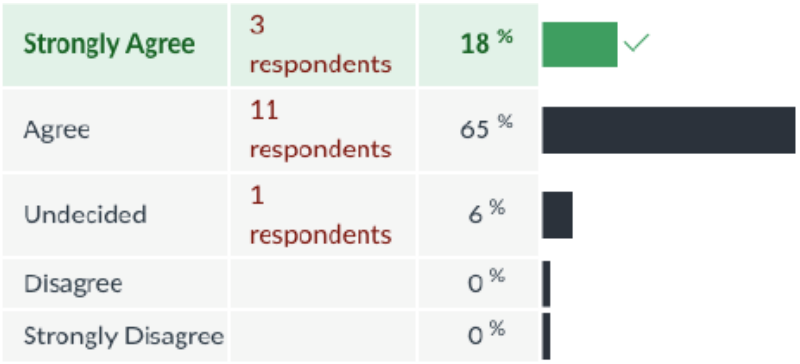
When asked if the game made them more motivated to learn 78 % of the students also responded positive.



53% of the students indicated that the game helped them remember course materials better.

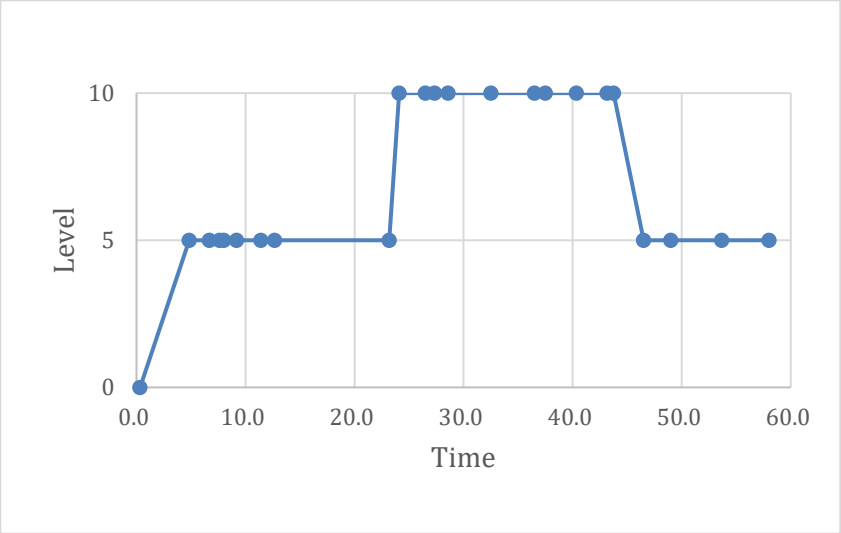


Responses to the question "I'd like to use games for other concepts in this class" were also 83% positive.



As documented earlier, more than 80% of the students who completed the written post reflection indicated changing their behavior and attitudes towards the industry, mainly by becoming paying and more conscious consumers. Similarly in the interviews, students indicated increased enthusiasm and curiosity towards the subject matter. Comments mentioned especially the effect of the active learning on their engagement during the session and subsequently with the subject matter in contrast to having to listen to lectures.

Figure 2. Engagement Plot during Video Session 1
Level 0 = class introduction, Level 5 = full student attention, Level 10 = lively interaction
Figure 3. Engagement Plot during Video Session 2
Level 0 = class introduction, Level 5 = full student attention, Level 10 = lively interaction



Studies found a strong relationship between students' ranking of their performance in the game and their reported enjoyment and perception of acquired knowledge and generalizability of the game (Remus, 1977; Remus and Jenner, 1981). Similarly, student interview and survey responses indicated stronger engagements for those who took on artist roles versus students who played as consumers in a more passive way. For example, one of the students who impersonated Beyoncé commented: "I thought it was fun especially since I won it so I was like, this is cool, I should do it again". On the other hand, a student in consumer role mentioned: "And then the part I didn't really like was I was a consumer so I felt like I wasn't as involved in the game as if you were an artist or a record label because they were the ones that were really affected by the cards and what happened in the game. Where if you're a consumer you're just kind of going along with it all. You didn't really have a choice".

Overall students affirmed increased engagement with the subject matter in their survey responses after the playing session. For example, 15 respondents from the Fall 2014 class session responded with 71% agree and 6% strongly agree with two undecided on the question if the game made them more motivated to learn. They all agreed (with two strongly agree) that playing the game made the course content more fun.

Discussion

This study on designing and developing a classroom game offers various insights and opportunities. Overall, responses were positive in terms of increased engagement and motivation as well as depth of

learning and practical applications. Using the process of ethnomethodology and grounded theory, an approach suggested by Matthew Sharritt (2011) the results and observations form the basis for the following recommendations.

The design of the game requires detailed analysis of the desired learning outcomes, the influencing factors and parties involved, as well as studying various game mechanics in order to determine the ideal approach. Experienced game developers highly recommend an initial paper and board prototype before considering electronic options. The analysis presented in the study by Wilson et al (2009) on the relationship of game attributes and learning outcomes provides useful guidelines for optimizing learning outcomes according to Bloom's taxonomy (1956). The desired outcomes will also determine the ideal match of using a simulation versus a game (Gredler, 1996).

Effective game development requires the development of a prototype through multiple stages of trials, refinements, and effective evaluation as described for example in Taspinar, Schmidt, and Schuhbauer (2016). In this example, refinements in game mechanics, content, as well as process are documented during the three-year implementation process and evaluation and feedback during each session provides further refinement options. Ideally, implementation of classroom games is a dynamic process with a continuous evaluation process in place.

This open mode of classroom interaction is unusual and creates discomfort for some students in comparison to the traditional teacher-guided classroom lectures and discussions. Thus it is important to start the session with detailed explanations of the goals and process in order to facilitate positive engagement and a structured environment. Also an instructor-guided final debriefing is crucial for effective learning as documented by Cookall et al (1987) and confirmed throughout this study. Follow-up activities will strengthen the increased engagement with the subject and may consist of further examples, readings, applications, and reflections. In this case, the collection of additional factors learned by playing the game through the debriefing as well as reflection exercises demonstrated the expanded scope of learning.

Overall, active teacher involvement is an essential component of student engagement and learning when using classroom games (Kangas et al, 2017; Arnab et al., 2013; Barab et al., 2010; Chee & Tan, 2012; Watson et al., 2011). In this study, uncertainty and confusion mostly resulted from a perceived lack of teacher guidance and/or instructions. The valuable feedback is helpful for further revisions of the game mechanics in this case and should be considered when designing a classroom game.

The use of a simulation game as an opportunity to experience reality in a low-risk environment (Garris et al, 2002) provided effective learning opportunities as documented through the expanded list of factors named by the students during reflection exercises, positive survey responses on their engagement with the class materials, positive interview responses, and increased focus on the task as documented in the videos. As stated in the introduction, the music industry is constantly changing due to new trends and technologies and in order to build effective careers the ability to be empathetic to trends and willing to adapt is much more important than memorized facts. Hence the opportunity to create meaning and consider the impact of various actions (Malaby, 2007) that the game process provides is not easily measured in absolute facts but certainly captured in the student post reflections towards changing their habits and engagement with the industry as well as role identification during the game process.

The results suggest several options for further inquiry on using and developing games for the classroom. Given the proven effectiveness for engagement and increased learning with this specific game, options for developing the simulation over a longer period and/ or in electronic versions will be explored. One example for an extended Music Industry simulation program is the week-long immersion course offered at Columbia University in Chicago where students move through the whole cycle of creating a product and releasing it to the public. Given the importance of teacher guidance,

the development and use of an electronic simulation game should be closely monitored and guided by classroom instructors. Additional inquiry on the long term impact of learning and engagement is recommended.

Overall, this study contributes to the scholarship of teaching and learning by providing a model for developing and evaluating classroom games. The process can be applied to various fields of study and the principles of continuous evaluation and revision ensure maximum effectiveness for student engagement and motivation resulting in in-depth learning experiences.

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References

Arnab, S., Brown, K., Clarke, S., Dunwell, I., Lim, T., Suttie, N., De Freitas, S. (2013). The development approach of a pedagogically-driven serious game to support relationship and sex education (RSE) within a classroom setting. *Computers and Education*, *69*, 15-30.

Barab, X., Sadler, T., Heiselt, C., Hickey, D., & Zuiker, S. (2010). Erratum to: Relating narrative inquiry and inscriptions: Supporting consequential play. *Journal of Science Education and Technology, 19*, 387-407.

Blatchford, P., Edmonds, S., & Martin, C. (2003). Class size, pupil attentiveness and peer relations. British Journal of Educational Psychology, 73(1), 15-36.

Bloom, B. S. (Ed.). (1956). Taxonomy of educational objectives, Handbook 1: Cognitive domain. New York: David McKay.

Caillois, R. (1961). *Man, play, and games*. New York: Free Press.

Chee, Y.S. & Tan, K.C.D. (2012). Becoming chemists through game-based inquiry learning: The case of Legends of Alkhemia. *Electronic Journal of e-Learning, 10*, 185-198.

Connolly, M., & Krueger, A. B. (2006). Rockonomics: The economics of popular music. *Handbook of the Economics of Art and Culture, 1*, 667-719.

Crooltall, D., Oxford, R., & Saunders, D. (1987). Towards a reconceptualization of simulation: From representation to reality. *Simulation/Games for learning, 17*(4), 147-71.

Csikszentmihalyi,M . (1990). *Flow: The psychology of optimal experience*. New York: Harper&Row.

Fenollar, P., Román, S., & Cuestas, P. J. (2007). University students' academic performance: An integrative conceptual framework and empirical analysis. British Journal of Educational Psychology, 77(4), 873-891.

Garris, R., & Ahlers, R. (2001). A game-based training model: development, application, and evaluation. Paper presented at the Interservice/Industry Training, Simulation & Education Conference, Orlando, FL.

Garris, R., Ahlers, R., & Driskell, J. E. (2002). Games, motivation, and learning: A research and practice model. *Simulation & Gaming, 33*(4), 441-467.

Glaser, B. (2003). G. & Strauss, A., L.(1967). *The Discovery of Grounded Theory: Strategies for Qualitative Research*. London: Wiedenfeld and Nicholson.

Gredler, M.E. (1996). Educational games and simulations: a technology in search of a(research) paradigm. In: D.H. Jonassen (Ed.), *Handbook of research for educational communications and technology*. New York: Macmillan Library Reference USA.

Huizinga, J. (1971). Homo Ludens. New York: Beacon. de Jong, T., Martin, E., Zamarro J-M., Esquembre, F., Swaak, J., & van Joolingen, W.R.(1999). The integration of computer simulation and learning support; an example from the physics domain of collisions. *Journal of Research in Science Teaching, 36*, 597-615.

Juul, J. (2005). Half-real: *Video games between real rules and fictional worlds*. Cambridge, MA: MIT Press.

Kangas, M., Koskinen, A., & Krokfors, L. A qualitative literature review of educational games in the classroom: the teacher's pedagogical activities. *Teachers and Teaching, 23*:4, 451-470.

Leach, G. J., & Sugarman, T. S. (2005). Play to win! using games in library instruction to enhance student learning. *Research Strategies, 20*: 3, 191–203.

Malaby, T. (1999). Fateful misconceptions: Rethinking paradigms of chance among gamblers in Crete. *Social Analysis, 43*(1), 141-164.

Malaby, T. (2007). Beyond Play: A New Approach to Games. *Games and Culture,* (2). 95.

McClarty, K. L., Orr, A., Frey, P. M., Dolan, R. P., Vassileva, V., & McVay, A. (2012). A literature review of gaming in education. *Gaming in education,* 1-36.

O'Neil, H. F., Wainess, R., & Baker, E. L. (2005). Classification of learning outcomes: Evidence from the computer games literature. *The Curriculum Journal, 16* (5), 455-474.

Pellegrini, A.D. (Ed.). (1995). *The future of play theory: A multidisciplinary inquiry into the contributions of Brian Sutton-Smith*. Albany, NY: State University of New York Press.

Pellegrini, A.D., & Smith, P.K. (1993). School recess: Implications for education and development. *Review of Educational Research, 63*(1), 51-67.

Provost, J.A. (1990). *Work, play, and type: Achieving balance in your life*. Palo Alto, CA: Consulting Psychologist Press.

Remus, W. and Jenner, S., 1979, Playing business games: attitudinal differences between students playing singly and as teams. *Simulation and Games, 10* (1), 75-86.

Remus, W. and Jenner, S., 1981, Playing business games: expectations and realities. *Simulation and Games, 12* (4), 480-488.

Ricci, K. E., Salas, E., & Cannon-Bowers, J. A. (1996). Do computer-based games facilitate knowledge acquisition and retention? *Military Psychology, 8*(4), 295-307.

Rieber, L.P., & Noah, D. (2008). Games, simulations, and visual metaphors in education: Antagonism between enjoyment and learning. *Educational Media International, 45*(2), 77-92. doi: 10.1080/09523980802107096.

Ruohomäki, V. (1995). Viewpoints on Learning and Education with Simulation Games, In: *Simulation Games and Learning in Production Management* (Ed: J.O. Riis), 13-25, U.K.:Chapman and Hall.

Sharritt, M. J. (2011). An open-ended, emergent approach for studying serious games. In *Serious Educational Game Assessment* (pp. 259-277). SensePublishers.

Taspinar, B., Schmidt, W., & Schuhbauer, H. (2016). Gamification in education: a board game approach to knowledge acquisition. *Procedia Computer Science, 99*, 101-116.

Taylor, T. L. (2006). *Play between worlds: Exploring online game culture*. Cambridge, MA: MIT Press.

Watson, W.R., Mong, C.J., & Harris, C.A. (2011). A case study in-class use of a video game for teaching high school history. *Computers & Education, 56,* 466-474.

Wilson, K. A., Bedwell, W. L., Lazzara, E. H., Salas, E., Burke, C. S., Estock, J. L., ... & Conkey, C. (2009). Relationships between game attributes and learning outcomes: Review and research proposals. *Simulation & gaming, 40*(2), 217-266.

Yawkey, T.D., & Pellegrini, A.D. (Eds.). (1984). Child's play: Developmental and applied. Hillsdale, NJ: Lawrence Erlbaum Associates.

Young, M. S., Robinson, S., & Alberts, P. (2009). Students pay attention! Combating the vigilance decrement to improve learning during lectures. *Active Learning in Higher Education, 10*(1), 41-55.