

Proceedings of the
CUNY GAMES
CONFERENCE 4.0
THE INTERACTIVE COURSE



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Written correspondence:

Robert O. Duncan, Ph.D.

York College of the City University of New York
Department of Behavioral Sciences
94-20 Guy R. Brewer Blvd, AC-4D06
Jamaica, NY 11451

Web: <http://www.cunygames.org>

E-mail: contactcunygames@gmail.com

Proceedings of the CUNY Games Festival 4.0

The CUNY Games Network, City University of New York

Editor-in-Chief

Robert O. Duncan

*Associate Professor of Behavioral Sciences
York College and the Graduate Center*

Editors

Joseph Bisz

*Associate Professor of English
Borough of Manhattan Community College*

Julie Sinn Cassidy

*Assistant Professor of English
Borough of Manhattan Community College*

Kathleen Offenholley

*Associate Professor of Mathematics
Borough of Manhattan Community College*

Maura Smale

*Chief Librarian and Department Chair, Professor
NYC College of Technology and the Graduate Center*

Carolyn Stallard

*Doctoral Candidate in Ethnomusicology
CUNY Graduate Center*

Deborah Sturm

*Associate Professor of Computer Science
College of Staten Island*

Anders A. Wallace

*Doctoral Candidate in Anthropology
CUNY Graduate Center*



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About

About CUNY

The City University of New York provides high-quality, accessible education for more than 269,000 degree-credit students and 247,000 adult, continuing and professional education students at 24 campuses across New York City.

The University is an integrated system of senior and community colleges, graduate and professional schools, research centers, institutes and consortia. From certificate courses to Ph.D. programs, CUNY offers postsecondary learning to students of all backgrounds. It provides the city with graduates trained for high-demand positions in the sciences, technology, mathematics, teaching, nursing and other fields. As CUNY has grown, the University also has strengthened its mission as a premier research institution, building an array of modern facilities and expanding the ranks of its world-class faculty. Throughout its history, the University has been an integral part of the city and state through partnerships with public schools, economic development initiatives, immigration aid and financial advice services and other community outreach programs. Today, CUNY faculty and staff members continue to benefit New York City — as well as the entire nation — by serving as policy experts to business and government, advisers to nonprofit institutions, civic organizations and community groups. Students, too, are strongly encouraged to experience the cultural, educational and community-based opportunities of the five boroughs, through a network of internships and fellowships, to embracing the city as their campus.

About the CUNY Games Network

The CUNY Games Network is an organization dedicated to encouraging research, scholarship and teaching in the developing field of games-based learning. We connect educators from every campus and discipline at CUNY and beyond who are interested in digital and non-digital games, simulations, and other forms of interactive teaching and inquiry-based learning.



Summary Itinerary

Monday, January 22nd, The CUNY Graduate Center

9:00 AM	Registration & Coffee
9:30 AM	Welcome & Speed Networking
10:00 AM	Session 1
11:00 AM	Break
11:15 AM	Session 2
12:15 PM	Lunch (on the town), Casual Gaming, and Posters*
1:45 PM	Session 3
2:45 PM	Snack & Coffee Break
3:00 PM	Session 4
4:00 PM	Break
4:15 PM	Arcade Demos
5:15 PM	Problem-solving Session
6:00 PM	Wrap-up & Overview of Day 2

*Posters up all day in Rooms C203-205

Tuesday, January 23rd, BMCC

This second day of the conference is more informal. Most of the day we will be playing board and card games (both educational and entertainment) together in a social, bonding atmosphere. We welcome you to bring your own educational games for play testing and feedback. We will also feature two concurrent game design workshops for students, faculty, and staff: **The Allure of Play Game Design Workshop** (Hosted by Joe Bisz and Victoria Mondelli); and **Introduction to Game Design and Programming in the Unity Game Engine** (Hosted by Robert Duncan and Deborah Sturm).

10:00 AM – 6:30 PM Borough of Manhattan Community College
 Fiterman Hall
 245 Greenwich Street, 6th and 14th floors
 New York, New York 10009



Full Schedule

Monday, January 22nd

The CUNY Graduate Center

365 Fifth Avenue between 34th and 35th Sts, New York City

9:00 am Conference Welcoming Events: Concourse Lobby

Registration & Coffee

Welcome & Opening Remarks

Speed Networking - Meet a new expert in game-based learning every 5 minutes. Quickly extend your network of contacts in the field. Meet future collaborators and domain experts from academia, educational design, and professional game development.

Session 1 – 10:00 am

Room C201	Critical Play with History (Panel)
Room C202	Composition & Storytelling
Room C198	Easy Ideas for Instructors to Incorporate
Room C197	Health & Cognitive Sciences

11:00 am – Break

Session 2 – 11:15 am

Room C201	Gaming Anthropology: Teaching Culture and Power Through Games and Design (Panel)
Room C202	Twine & Writing Games
Room C198	Easy Ideas II
Room C197	STEM Games

12:15 pm – Lunch (on the town), Casual Gaming, and Posters

Session 3 - 1:45 pm

Room C201	Global Games for Change Catalog (Panel)
Room C202	Comics & Active Learning
Room C198	Fact Checking & Research



Room C197

Computer Science & Game Design

2:45 pm – Snack & Coffee Break

Session 4 - 3:00 pm

Room C201	SimGlobal: Building a Serious Roleplay Course for the Social Sciences (Panel)
Room C202	Role Playing Games, Narrative, & Story
Room C198	Course Review Through Games
Room C197	Business & Finance Games

4:00 pm – Break

4:15 pm – Arcade Demos (C203-205)

5:15 to 6 pm – Problem-solving session (C197)

This workshop is inspired by the primers developed by CIRCL, the main body supporting the National Science Foundation's Cyberlearning grant mechanism (<http://circlcenter.org/primers/>). Conference attendees will meet in small groups to discuss and solve key problems in game-based learning. Topics will be decided on the day of the event by those in attendance. The discussion may serve as the starting point for a publication or primer that serves to introduce or summarize an important topic in the field of game-based learning. Moderated by Robert O. Duncan.

Tuesday, January 23rd

Borough of Manhattan Community College (BMCC), Fiterman Hall
245 Greenwich Street, 6th and 14th floors
New York, New York 10009

10 am – 6:30 pm (*Fiterman F601*) – Free gameplay and play testing all day long!!

10 am – 1 pm and 2 – 5pm (*Fiterman F613*) – Game Design and Programming in Unity (participants should plan to attend both parts)

11 am – 12 pm (*Fiterman F612*) – What's Your Game Plan? Turn your lesson or training into a game! What does the lesson "Finding Citations," the game "Trivial Pursuit," and the mechanic "Bluffing" all have in common? In this bootcamp brainstorm, attendees are broken up into design teams whose job is to enhance an instructional plan with the mechanics of popular board games in only 20 minutes.



12 – 1 pm (Presentation in Fiterman 1404/05/06) and 2 – 5 pm (workshop in Fiterman F612) – The Allure of Play in the Classroom (workshop participants should plan to attend both parts)

1– 2 pm – Lunch

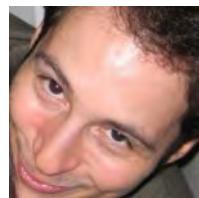
Allure of Play Game Design Workshop

What if you could be given a method for designing learning activities around lessons you already use? Are you interested in making your lessons and activities more innovative and playful? Joe Bisz will discuss the principles behind game-based learning, then explain his “Complex Mechanics” method for designing rigorous classroom games. Then, Joe and Tori Mondelli will show you how to incorporate game mechanics and learning principles into your exercises, as you work together with fellow faculty to build a non-digital game for your classroom. This workshop is born from methods researched in their upcoming book for faculty. (You can stay for just the presentation and not the workshop.)

Introduction to Game Design and Programming in the Unity Game Engine

Digital games offer unique affordances for learning. Robert Duncan and Deborah Sturm have taught hundreds of undergraduates how to build games in the Unity game engine, and they will guide you through the process. Attendees will learn many skills related to digital game development for education including (1) how digital games can be used to shape behaviors in a target population; (2) how iterative design can be used to build effective software; (3) how to use a commercial game engine; (4) the basics of the C# programming language; (5) game asset creation; and (6) the principles of object oriented programming.

Featured Presenters



Joe Bisz is a part-time educational games designer and an Associate Professor of English at CUNY Borough of Manhattan Community College. Not so long ago, he received a Ph.D. in Creative Writing and English Literature from Binghamton University. Since then he has sailed his theoretical ship into a few ports of the world, including gender & sexuality studies, Popular Culture & Sci-fi, and games-based learning. His critical work has been published in *Reconstruction: Studies in Contemporary Culture, Transformative Works and Cultures*, and his creative writing in a dozen journals and anthologies including *Diagram*. His free time is mostly taken up revising a novel titled *World Without End*, set in New York City in 1982, and developing a game-based learning management system (LMS) called *College Quest*. “In teaching, we would call it scaffolding. In game-based learning, we would call it a game.” (See Joe’s website at <http://joebisz.com>)



Dr. Victoria Mondelli, a native of New York City, joined Mercy College in 2012. She directs faculty development for teaching and learning across our campuses. Under her direction, OTEEL raises awareness for best practices across the curriculum and in the disciplines. Tori and the OTEEL team assist faculty in the adoption of sound pedagogical principles and practices. They offer individual consultations, discipline-specific teaching circles, and co-host faculty learning communities with faculty partners. Additionally, via the Faculty Center for Teaching and Learning, Tori raises awareness for the value of the Scholarship of Teaching and Learning, educational innovation with technology, Open Educational Resources (OER), and classroom techniques to check the students' "pulse" on learning. With an active research agenda in teaching and learning, as well as in history, Tori publishes and presents on SoTL topics, the history of education, and women's history. She also enjoys being a guest facilitator for learning alongside faculty colleagues at Mercy and CUNY. Currently, she is participating in EDUCAUSE's Breakthrough Models Academy to find collaborative opportunities and solutions to the most pressing issues in Higher Education, today.



Robert O. Duncan is an Associate Professor of Behavioral Sciences at York College, with joint appointments in Biology (Neuroscience subdivision) and Psychology (Cognitive Neuroscience subdivision) at the CUNY Graduate Center. Dr. Duncan's primary research interests are (1) to study the physiological mechanisms of visually guided behavior in healthy individuals and (2) to develop novel functional magnetic resonance imaging (fMRI) techniques to quantify neuronal, vascular, and metabolic contributions to neurodegenerative visual disorders. Dr. Duncan also studies the intersection of game-based learning and undergraduate research. Games are excellent learning management systems that are capable of both teaching and assessment. He teaches students how to develop games and digital technology to inform, teach, and shape behavior. These games strive to incorporate everything we know about psychology, neuroscience, education, and game design into the learning experience. You can find him at <http://transformativegames.org>



Deborah Sturm is an Associate Professor of Computer Science at the College of Staten Island, where she teaches undergraduate and graduate courses. She designed and teaches two gaming electives and introduced an area concentration in game development. Dr. Sturm is the faculty coordinator for the Faculty Interest Group in Gaming and Pedagogy under the auspices of the Faculty Center for Professional Development. She was the Co-PI and a Project Director on a NSF-STEM grant, "Science and Technology Expansion via Applied Mathematics (STEAM)," an NSF-funded program to expand undergraduate STEM education. Through this and other grants, she collaborates with members of the Psychology Department to design and develop research apps for children on the Autism spectrum.



Abstracts

*Contact information listed for corresponding author

THE COUNCIL HAS SPOKEN: A DECISION-MAKING EXERCISE USING GAME-BASED LEARNING

Jacob Adler

BRONX COMMUNITY COLLEGE, CUNY
jacob.adler@bcc.cuny.edu

Students in higher education develop their worldviews and ethical outlooks as they undergo their first true learning experiences as adults. In doing so, they must learn to make decisions based on the results of their studies and to implement them both as individuals and as part of society as a whole. In the interest of facilitating this type of learning, I propose an interactive demonstration of "The Council," a semi-cooperative game of my own design with elements of role-playing, risk/reward considerations, cooperative bargaining, and debate-style interaction. Players are asked to discuss and ultimately cast a vote on an issue either real or fictitious, but have the ability to garner additional voting influence by means of opposed dice-rolling mechanics and through the formation of mutually-beneficial verbal agreements (which may be either honored or disregarded as they see fit). The situation is further modified by the utilization of concealed "trait cards" which inform the personalities and desires of each player and grant them mechanical bonuses or penalties depending on their actions, facilitating more complexity and nuance to the decisions of each player. The purpose of the game is to help players assume the roles of decision-makers in one of many different situations, whether they are historical, contemporary, fictional, or allegorical. In doing so, it will both foster interest in the subject matter (which could include History, English, Political Science, Law, Communications, etc.) and to help players develop their own complex decision-making and ethical skills in a higher education setting.

LEVELING UP YOUR CHARACTER

Brooke Allen^{*1} & Jingyu Sui²

¹Viral Virtue, Inc. & ²New York University
brooke.t.allen@gmail.com

In 2011, I created a series of 54 questions printed on a poker deck. They concern topics such as Gratitude ("What am I grateful for?"), Personal Narrative ("What has been my story so far?"), and Accountability ("Who holds me accountable?"). The deck of questions has been used in freshman seminar classes to prepare students to get the most out of college and with seniors to help them get the most from life after college. They have been used by high school students preparing for college, by job seekers, and even by game designers creating characters for narrative games. Now, I have teamed with a professional game designer to create Cards Against Inanity (available for free download at <http://CardsAgainstInanity.com>). This game pairs the original 54 design questions with complementary inane ones that help players debug their cognitive distortions. Examples include: Annoyance ("Why is everything so annoying?"), Misery ("Why has my life been so miserable?"), and Blame ("Why do people think everything is my fault?). Participants will form teams and use the cards to play Who in the World is Mycroft Holmes and will learn to try on new character traits by answering insightful questions as if they are admired referent others. Then we will discuss the importance of role-play and interrogative self-talk in living life by design rather than by default.



CARDS AGAINST INANITY - GAMES THAT HELP YOU LIVE A BETTER LIFE

Brooke Allen*¹ & Jingyu Sui²

¹Viral Virtue, Inc. & ²New York University

brooke.t.allen@gmail.com

Cards Against Inanity consists of decks of playing cards on which are printed reflective questions. They are released under creative commons; go to <http://CardsAgainstInanity.com> to download and print them for free. There you will also find rules for games you can play with the cards. One deck contains "Sane Questions" that you ask yourself to build a robust philosophy of life. Examples include: "Do I have what I need for the future?" "How am I influenced by other people?" "How will I become more skilled, knowledgeable, and wise?" A second deck contains "Inane Questions" that bog people down and that can lead to despair. Examples include: "Why are things getting worse?" "Why is everything so hard to understand?" and "What is wrong with me?" The unconscious mind answers the question our conscious mind presents to it, and that is why it is important we ask the right questions that have good answers and that inspire us to find better ones. Uses report that playing with these cards can help them identify cognitive distortions, understand their emotions, improve their thinking, and upgrade their lives. They do this by first imagining what a better person might look like and later they "step into" the role to become that person. We invite you to use Cards Against Inanity to invent both new games and a new you.

RESEARCH, INTERPRETATION, PLAY: BILLY BUDD AS ROLE-PLAYING GAME VIA IVANHOE FOR WORDPRESS

Jeff Allred

HUNTER COLLEGE, CUNY

jeff.allred@hunter.cuny.edu

In the 1970s, Roland Barthes famously promoted a "writerly" mode of reading, in which readers no longer consume texts by simply reading them, but "play" texts like (in Barthes's metaphor) amateurs gathered around a piano performing a score. Using the Ivanhoe concept developed by textual scholars at the University of Virginia in 2000, Jeff Allred (English, Hunter College) recently had students materialize Barthes's abstraction, transforming Herman Melville's Billy Budd into a role-playing game. Students chose roles in and around Melville's text (e.g., characters, like Billy Budd or Captain Vere, Melville himself, editors, critics) and performed a version of the text collaboratively. The experiment generated increased engagement and fun, to be sure, but it also encouraged students to develop more sophisticated skills in the discipline, as they collaborated with librarians to incorporate significant literary research into the play, examining literary critical, biographical, and cultural historical sources to enhance their play.

THE BRIDGE: A COMPOSITION GAME

Robin Andreasen

SOUTH TEXAS COLLEGE

fafnir16@gmail.com

The game is called "The Bridge." In English Composition, students wrote their first paper and read chapters on writing concepts from a textbook. Students with highest grades are the Rescue Team. The rest of the class is stranded on an island, with a bridge connecting them to the main land. The Rescue Team will try to help them get to safety before the bridge collapses. How to cross the bridge: they can write their way to safety (short assignment that Rescue Team will read and vote them to safety); they can take a multiple choice test (computers needed in the classroom); they can complete a quest designed by Rescue Team, involving trick Composition questions. One Challenger can



replace one member of the Rescue Team at the end. Those who remain on the island will write an additional take-home paper about how they will survive on the island.

PLAYING WELL WITH OTHERS: KINGSBOROUGH'S COMMUNITY OF GAMERS

Mary Ortiz & Grace Axler-Diperte*

KINGSBOROUGH COMMUNITY COLLEGE, CUNY

gaxler-diperte@kbcc.cuny.edu

When we think about our ideal classrooms, we often picture students actively engaged and exploring the subject matter, demonstrating knowledge, and maybe even having fun. Games and other forms of active learning fulfill these ideals, but designing activities and lessons that teach, engage, and challenge can be daunting. We gathered faculty and staff from diverse fields together in a Faculty Interest Group (FIG), as part of the Kingsborough Center for Teaching and Learning (KCTL). The KCTL has over 1,000 participants, and is dedicated to sharing best practices to enhance professional development. The Game-Based Learning FIG focuses on the use of analog and digital games in the classroom. We aim to link novice game developers with the vocabulary and mechanics of game design. Many participants reported having infrequently used or designed games previously, the goal of the group was to provide a space to explore and ease entry into the discipline of Game Based Learning. Participants brainstorm, design, and play-test games in a collaborative and relaxed environment, while sharing resources and experiences. Over the past two semesters we have used game-creating tools to develop and discuss games in a wide range of subject areas, from exploring value systems to infectious diseases. Common discussions include how and when to use games, and what makes a game a good fit for a particular lesson? In this presentation we will share our Game-Based Learning experiences, ideas, and energy over the last several semesters, to inspire like-minded communities in CUNY and beyond.

NARRATIVE & INFORMATION IN VIRTUAL REALITY

John Benton

NEW YORK UNIVERSITY, SCHOOL OF VISUAL ARTS

john8enton@gmail.com

This is a lecture on Storytelling and Information Design in VR and immersive Tech that I delivered last August at the NYU Game Center and again in September @ the Jump into VR conference... I do the talk as a performance in VR with what I am seeing projected behind me as I speak. It's an amazing way to communicate and learn! Soon we will be able to enter these lectures remotely in social VR. An Amazing way both learn and develop ideas! Please see my Medium Article on it:
<https://medium.com/breathe-publication/embodiment-in-vr-a-tiltbrush-talk-aed672aad042>

HICCUP HOSPITAL: AN INTERPROFESSIONAL BOARD GAME

Shari Salzhauer Berkowitz

MERCY COLLEGE

sberkowitz@mercy.edu

Interprofessional education is the mandate for training students in the health professions, although there is no clear consensus on how best to do it. Hiccup Hospital is a low-stakes board game, where undergraduate and graduate students in occupational therapy, physical therapy, speech-language pathology and health care (nursing or physician assistant) can play to learn together. Players move around the board in a familiar way, choosing cards as they land on spots. Most cards review academic content, such as "which muscles contract on inhalation," but the Hiccup Cards present bumps in the healthcare road. For example: Your patient refuses to get out of bed; the family insists on feeding foods not on the patient's diet. All the students collaborate to find solutions to these



hicups in the patient's care. There is only one token going around the board during a game; that is, the token represents one patient that all allied health students are trying to get discharged from Hiccup Hospital. In this way, students work together to advance the patient to home, rather than competing against each other. Data from piloting with students will be presented.

JEOPARDY! A LOOK AT THE RELATION BETWEEN STUDENT CONSUMERISM AND INCREASE IN KNOWLEDGE

Heidi Bertels

COLLEGE OF STATEN ISLAND, CUNY

heidi.bertels@csi.cuny.edu

Jeopardy!® was used to review classroom materials before the final exam. A pre-test post-test design was implemented to test for changes in subject matter understanding. To implement this design, students were asked to 1) individually respond to pre-test questions (in-class), 2) play Jeopardy! in student teams (in-class), and 3) individually respond to post-test questions (in-class). Students were also asked about their perceptions about playing games in the classroom. The responses to the pre-test and post-test questions and student perceptions were recorded using audience response technology. By comparing pre-test and post-test scores, I found that students' understanding of subject matter increased and they perceived the quality of their education as higher. I also tried to determine whether the degree of increase in knowledge was correlated with certain student traits such as high proneness to boredom, low intrinsic motivation, and student consumerism (this data was collected via online survey before the review). Students with these characteristics are generally more at risk for academic under-performance and linked to a reduced GPA, "skipping" of lectures (Mann & Robinson, 2009), lower academic achievement (Maroldo, 1986) and leaving education all together. There was a significant effect for student consumerism in the sample, meaning that students with a high level of student consumerism benefited disproportionately from reviewing the material using Jeopardy! Other significant correlations were not found, presumably due to low power ($n = 63$).

THE COURSE AWAKENS: MOVING BEYOND GAMIFICATION

Stallard Carolyn

THE CUNY GRADUATE CENTER

cstallard@gradcenter.cuny.edu

Gamification, which involves the use of game elements in non-game contexts, is often misconstrued as a synonym for game-based learning. The aim of this presentation is to clear up confusion surrounding gamification and GBL for educators interested in moving beyond surface-level extrinsic motivation. The presenter will share feedback gathered from students over three semesters of her "gamified" course and will demonstrate how educators can combine gamification and game-based learning in their teaching, incorporating playful learning principles as a course is built rather than by adding them on top of pre-existing structures. The presenter will share tips for creating an overarching course story/theme and changing classroom lingo (assignments become "quests," grades become "experience points," etc.) to match the chosen narrative. After the presentation, participants will work in groups to create a storyline and alter the lingo for a course of their choice.



CONCEPTUAL FRAMEWORK TOWARD MAKING AN INFORMED DECISION TO IMPLEMENT DIGITAL GAME BASED LEARNING IN HIGHER EDUCATION

Mary Ann Comunale

DREXEL UNIVERSITY COLLEGE OF MEDICINE
mc375@drexel.edu

"Deficiency in decision-making ranks much higher than lack of specific knowledge or technical know-how as an indicator of leadership failure" (John C. Maxwell). It is important for higher education faculty to make an informed decision on whether to proceed with implementing game based learning (GBL). The conceptual framework presented is based on an international multi-case study of early adopters. Although GBL is increasingly popular in K-12 education, higher education has been slow to implement this innovative pedagogy. This work seeks to build confidence in the decision making process. The fact that an instructor has to make a decision to implement DGBL indicates there were alternative pedagogical methods considered. The decision to move forward with one method over another would benefit by being based in an understanding of what moving forward with that decision will require in terms of both personal and institutional resources and having clearly defined goals. Making an informed decision increases potential for heightened instructor confidence, successful game implementation, and improved student outcomes. But what information is required to make an informed decision? A pedagogy that works for one instructor in a particular course may not work for another instructor. How do faculty decide if GBL is a pedagogical tool that they should be advancing in their curricula? Following a presentation of the study and the resulting conceptual framework, the attendees will be given an opportunity to apply the framework to their specific situations, experiences and decisions.

EVALUATING TRANSFER OF KNOWLEDGE USING CD4

HUNTER™ IN AN UNDERGRADUATE BIOLOGY POPULATION

Mary Ann Comunale^{*1}, Carla Brown², Vincent Mills¹, Andrew Bishop¹, Brian Wigdahl¹ & Sandra Urdaneta-Hartmann¹

¹DREXEL UNIVERSITY & ²GAME DR. LTD.
mc375@drexel.edu

The replication cycle of HIV is a complex process and it is a topic commonly taught in biology, microbiology and immunology programs in higher education. With the goal to enhance learner experience and outcomes in these and related disciplines, we set forth a plan to develop a series of digital mini-games to supplement the curriculum. CD4 Hunter™ is the first mini-game we developed to facilitate learning about the first step in the molecular mechanisms HIV uses to infect its target T cells. During game play, students take on the role of the HIV to locate, bind and infect specific target cells before being overcome by the immune system. The learning objectives of the game are aligned with learning objectives of introductory topics about the process of HIV infection in courses taught in our graduate programs and in advanced undergraduate virology courses. To determine the effectiveness of the game to meet the proposed learning objectives, we measured undergraduate freshman biology student knowledge prior to playing the game and immediately following game play in a focus group setting. The pre/posttest was designed to limit the element of guessing at answers by including a "Yes, I know the answer" and a "No, I am guessing" response to correlate with each question. The methods of measurement and analysis of the results of the study will be presented. Future plans to evaluate in the graduate student population will be discussed.



GAME ON, PYTHON! TEACHING PROGRAMMING WITH NARRATIVE GAMES

Reneta D. Lansiquot, Tamrah Cunningham* & Candido Cabo

NEW YORK CITY COLLEGE OF TECHNOLOGY

tdc306@nyu.edu

Problem solving and computer programming courses are gateway courses with low passing rates that result in student attrition and transfer out of computer science degrees. Over the last seven years, we found that teaching computer programming in a context where students develop videogame narratives using Alice (a 3D programming environment to create interactive animations) increases student retention and success. In this presentation, we will discuss how to incorporate game design as a context to teach Python or other programming languages. In the classes that we will discuss, students will be tasked with creating short, choice-based adventure games. Fashioned after games made with an independent game developer coding program, ChoiceScript, students will first be tasked with writing a story that is then pitched to the class. ChoiceScript will provide examples of game structures, such as branching narratives that are easily transferable to Python. Students will not learn an additional language; instead, they will play ChoiceScript games and implement salient game mechanics into Python. In the participating classes, once the students pick the stories that they favor, they will then split up into groups to make the stories come to life. The games that they will create must have multiple branching paths, multiple endings, stats, and an inventory that affects the progression through their story. Students will work together to create playable demos of their stories as their end-of-semester projects. Our hypothesis is that by using game narratives as a context, students will be more engaged with learning and retaining programming fundamentals.

LEVELING UP: A QUALITATIVE STUDY OF TEACHERS' PERCEPTIONS OF HOW GAMEPLAY INFLUENCES TEACHING PRACTICES AND STUDENT ENGAGEMENT

Hyle Daley

GEORGE MASON UNIVERSITY

hdaley@gmu.edu

Over the past decade, there has been a surge in educational gameplay implementation and investigation. Educators and learning scientists began looking at games as more than, simply, a form of entertainment, but rather as a means to engage learners and influence behavior (Young, 2017). Numerous researchers recognize the varied impact of different game elements and how those elements impact different aspects of student engagement (Gee, 2007; Kapp, 2012; Deterding, 2012; Baek, 2010; Chou, 2016; Buckley & Doyle, 2016). However, teachers wishing to bring game elements into their classrooms are faced with myriad choices, challenges, and what many consider, a steep learning curve. This study explores the perspectives of five teachers (elementary through higher education) who actively include gameplay in their classrooms to various degrees and in various forms to better understand how and why these teachers draw from games including what kinds of games and game elements they perceive as being more influential at motivating and engaging students to learn. Teacher's perspectives of educational gameplay were conceptually grouped as motivation to include gameplay, their experiences implementing gameplay, overcoming adversity, and change in teaching philosophy.



GAME-BASED LEARNING IN THE VIRTUAL WORLD

Salie Davis* & Mark Lewis

SUNY EMPIRE STATE COLLEGE

salie_davis247@esc.edu

I am proposing a virtual world experience to advance the understanding of how inexpensively and easily an educator can create Game-Based-Learning in higher education. This will include educational game-play prototypes to demonstrate how gamification in the virtual world can be beneficial. I may be participating from a distance with an onsite co-facilitator. Participants will enter the virtual world via a pre-made avatar through a virtual world viewer such as Firestorm. The participants will need to have some experience in the virtual world and be comfortable with all basic movement and navigational tools. The interaction will serve as an overview for educators who have not yet considered the use of virtual worlds for educational games. The focus will be on expanding the participants knowledge to move beyond the concept of the virtual world as a simulated environment alone, into an interactive game-based space using scripting in objects and gaming concepts to engage students and encourage active learning. I will be using examples in virtual world game play that are designed to instruct the educator on possible uses of the virtual world environment to enrich the learning experience of students. This will incorporate educator resources, tutorials, examples and game play prototypes. The goal will be to have the participants observe the virtual world through a guided learning experience, encouraging transactional discussion.

MAKING “CHOOSE YOUR OWN ADVENTURE”— STYLE TUTORIALS WITH TWINE

Robin Camille Davis

JOHN JAY COLLEGE OF CRIMINAL JUSTICE, CUNY

rob.davis@jjay.cuny.edu

Learn how to make easy click-through tutorials using Twine, a popular, open-source lightweight app originally designed for interactive fiction. We have adapted Twine to create online tutorials for the library at John Jay College of Criminal Justice. Twine stories are straightforward to create, edit, and put online. The app allows for nonlinear storylines, meaning readers could have several choices in how to move ahead in a step-by-step guide. For example, in a tutorial about troubleshooting research problems, these choices could be “I’m finding too many articles,” “I’m finding off-topic articles,” and “I’m finding few articles or none at all” — with tailored guidance for each situation. Twine lends itself to quick click-throughs as well as thoughtful storytelling. Additional features, like item inventories, can turn a Twine story into a text-based game. In the first half of this session, I will demonstrate one of our tutorials and give a behind-the-scenes look at how Twine enables storyboarding and editing. In the second half, I will guide participants through creating their own tutorials. Participants who brought laptops can use Twine’s free online app themselves. The Twine app outputs an HTML file bundled with everything it needs to work, so there’s no installation involved. Those without laptops can begin brainstorming nonlinear tutorials on paper. Both activities are hands-on and useful as an exercise in designing interactive, game-like how-to guides.



"ESCAPE THE LIBRARY!" INFORMATION LITERACY AND COLLABORATIVE LEARNING

Robin Camille Davis

JOHN JAY COLLEGE OF CRIMINAL JUSTICE, CUNY
robdavis@jjay.cuny.edu

We got students engaged with the Library... by encouraging them to escape it! This poster presents the annual game coordinated between the Lloyd Sealy Library and Student Academic Success Programs (SASP) at John Jay College of Criminal Justice. Based on the principles of active and collaborative learning, this timed "escape the room"-style game is designed to introduce students to the physical library while guiding them through typical online tasks, such as finding a book in the catalog. The game's central mystery is based on a real 1922 murder trial transcript housed in the Special Collections. Students use research skills to find clues, such as a New York Times article written the day after the murder. Since we first presented this game at the 2014 CUNY Games Conference, over 600 first-year and transfer students have participated in the game. Overall, student and faculty feedback has been highly positive. The poster will include lessons learned along the way,: how we kept the game hands-on without burdening library staff, how we partnered with SASP to make the game a First Year Experience event, and why we pivoted from an all-digital game to a hybrid digital-analog game.

GAME BASED LEARNING IN THE VIRTUAL WORLD - AN INTRODUCTION

Salie Davis* & Mark Lewis

SUNY EMPIRE STATE COLLEGE
Salie_Davis247@esc.edu

This will be a pre-recorded video tour of the virtual world experience to advance the understanding of how inexpensively and easily an educator can create Game-Based-Learning in higher education. This will include educational game-play prototypes to demonstrate how gamification in the virtual world can be beneficial. I may be participating from a distance with an onsite co-facilitator. There will be time allotted for questions at the end of the video. The interaction will serve as an overview for educators who have not yet considered the use of virtual worlds for educational games. The focus will be on expanding the participants knowledge to move beyond the concept of the virtual world as a simulated environment alone, into an interactive game-based space using scripting in objects and gaming concepts to engage students and encourage active learning. I will be using examples in virtual world game play that are designed to instruct the educator on possible uses of the virtual world environment to enrich the learning experience of students. This will incorporate educator resources, tutorials, examples and game play prototypes. The goal will be to have the participants observe the virtual world experience, encouraging transactional discussion.

GK GBL GAME'S CORNER

Marcus Del Valle*, Elizabeth Bishop, Maya Faison, Matthew Wallace & Ahmed Ali

GLOBAL KIDS INC.

marcus@globalkids.org

Global Kids Inc. (GK) believes in the value of learning through experiences and empowering youth to become community leaders to their peers throughout their middle school and high school careers and global leaders prepared to tackle challenges on the global level after their college graduations. Our focus on bringing out youth voice through all of our projects has lead us in many different and creative directions in terms of curriculum. Throughout the years Global Kids has created many serious educational games that our Digital Learning and Leadership division of GK has been at the head of. For this reason, we have some ideas that we believe would be a perfect fit for the CUNY



Games Conference. On the Arcade floor at BMCC we plan to set up a small station with our Macbook computers running the online programs created by our students. The programs include TaleBlazer games created through our Haunts curriculum, Scratch games that reflect on global issues students saw impacting their local community, and a developing piggy bank game to educate students on financial literacy. Somewhere adjacent, should there be space available, we plan to run a workshop, in 30 minute intervals, about social mobility and structural barriers, and finally we would have a table area set up to play an original GK game called Feminist Bingo where students learn vocabulary on feminism and women's rights discourse. These games will be a major part of the presentation day prior, should both Global Kids' proposals be accepted. This is an ideal situation as the attendees will be able to view game design from a curriculum standpoint as well as experience the educational gameplay.

RAT RACE EDU

Marcus Del Valle*, Elizabeth Bishop, Maya Faison, Matthew Wallace & Ahmed Ali

GLOBAL KIDS INC.

marcus@globalkids.org

During the summer of 2017, Global Kids developed a workshop to teach participants about social mobility and structural gatekeeping around the world. Students will play through a fun and hectic, but controlled, relay race that showcases the challenges to attempting to live the "Good Life." The title of the game is Rat Race Edu and it focuses on the kinds of local and global obstacles that prevent people from acquiring an education and the challenges which stem from it. Players get divided into four different groups that start at the same line for the first round of the relay race. All players run to the "Good Life Table" to try and grab different aspects of the good life (this is a table is filled with monopoly pieces, monopoly money and other cut outs of necessary assets like a home, electricity, running water and a phone etc...). Players are then stratified on that line to four different starting points and facilitators will use pre-made notecards with different movement restrictions based off of the barriers to education that exist for many students around the world. The higher your education the closer your team is to the "Good Life Table," however, the closer you are to the table the more difficult your movement modifier will be. In the end, players get a look at the barriers that exist structurally for people around the world but can also how creativity, perseverance and intelligence (not just schooling) can lead you to the "Good Life."

GLOBAL GAMES FOR CHANGE CATALOG

Marcus Del Valle*, Elizabeth Bishop, Maya Faison, Matthew Wallace & Ahmed Ali

GLOBAL KIDS INC.

marcus@globalkids.org

(1) NYC Haunts - Reviving Leaders of the Past: Global Kids Inc.'s NYC Haunts program aims to help participating youth foster computational thinking, design thinking, collaboration, storytelling, and communication skills as they create mobile, geo-locative alternate reality games that explore local history. Historical figures, events of impact, and geographical changes are explored through both digital and field research methods. Afterwards, a story is formed based on learned information about the community. This co-created experience can then be shared onto an app, for Apple and Android devices that anyone in the area where the game is located, can play it. With the use of TaleBlazer, a blocks-based software environment made for playing and creating location based games, Haunts has resurrected MC Heavy D in the Bronx with a scavenger hunt for his lost lyrics. It has put players inside the cleats of Jackie Robinson as he emerged as the first black man to play major league baseball. Haunts has even reached Japan and allowed players relive a Global Kids field trip of a lifetime! However, the curriculum is not only for students interested in game design. Due to the wide range of activities, and scope of the design and development process, students have the chance to grow through a variety of challenges that build their skills and support their problem



solving abilities. This presentation will reflect on how the game design curriculum has impacted youth through Global Kid's work and close with a look into what Haunts will resurrect in the future.(2) Feminist Bingo - The Social Justice Remix: Girl Hack, another of Global Kids Inc.'s premier programs, aims to empower young girls through explorative conversation and technology, with a heavy focus on coding and tech literacy, through workshops during after school hours. Girl Hack seeks to provide empowering information, such as enlightening students about social justice movements worldwide and the women at the center of them. In order to make workshops engaging and accessible for students, Gilr Hack experiences gamified environments and has created games to explore vast contents. Much like a traditional game of bingo each player is given a card with 25 spaces. Each space is filled with a vocabulary word that relates to feminism. Participants are asked to listen and/or read the definition from a screen and determine which word best fits this definition. Definitions are read until a winner emerges victorious; to win, players must successfully chose five words in a row that match the given definitions. As they move throughout the game, players can gauge their familiarity with the jargon of Feminism. At the conclusion of the game each participant receives a leaflet with a few key terms and cartoons to illustrate the reality of the terms discussed. Terms used include TERF (trans exclusionary radical feminist), Intersectional feminism, women of color, and more. This presentation will focus on the power of youth empowerment through tech and the ability of young girls to become motivated to fight for their own rights through the experience of a game based learning.

ELLIE BEAGLE: THERAPY DOG

Kelli Dunlap

MENTAL HEALTH AND GAMES SPECIALIST

dunlappsyd@gmail.com

Ellie Beagle: Therapy Dog (EBTD) is a visual novel adventure game. Ellie, an anthropomorphic therapy dog, investigates the memories of her therapy clients and uses skills of deduction to uncover what ego defense mechanisms (as defined by Freud) each client is using to cope with their current stressor. Although each canine client's presenting problem is dog-specific, such as barking at the mail man or digging up the yard, the therapeutic process around establishing rapport and fostering insight is based on real therapeutic techniques. The game was designed and developed by clinical psychologist and game designer Kelli Dunlap. The game has been piloted with both mental health professionals and students. Player feedback has focused mainly on empathizing with the dogs in the scenarios. Players have also been able to verbalize an understanding of the topics presented after the play session. The game does not require previous psychological knowledge to play, understand, or enjoy. EBTD was a featured game at the Civics and Social Impact presentation and arcade at Games for Change 2017.

CONNECTING OVER CARDBOARD: EXPLORING TABLE TOP GAMES IN HIGHER EDUCATION

David Eng

ST. THOMAS AQUINAS COLLEGE

deng@stac.edu

Games have demonstrated to be intuitive, challenging, and engaging. But can we use games-based learning to educate college students? Turns out we CAN use table top games to facilitate a connection in an academic environment. This presentation highlights the findings of a doctoral dissertation where game structure, self-determination, social connection, and strategy all provide insight on how to better serve and support undergraduate students in student affairs practice. Practical applications as well as theoretical findings are discussed. "Current higher education focuses on a teacher centered pedagogy (Ahn & Class, 2011) where students benefit but are not the



primary consideration for learning. Conversely, experiential learning (Kolb, 1984; Kolb & Kolb, 2005) focuses on students in the learning process. This is accomplished through a socialized and personalized environment that can be implemented through the application of games-based learning (Kiili, 2005). This presentation shares how undergraduate students at a small liberal arts college made sense of game play in an academic setting. This doctoral dissertation study enrolled 12 undergraduate students in order to actively understand how games-based learning is implemented through the application of experiential learning theory (ELT). Interpretative phenomenological analysis (IPA) was applied as a qualitative inquiry approach in understanding the meaning making process of participants. Findings from this study indicated that students' meaning making from game play was highly contingent on the structure of the game, opportunities for self-determination, social interaction with other players, and strategic reasoning in the game environment. This presentation shares the detailed findings from this study as well as provides practical applications for higher education professionals and faculty to apply games, gamification, and games-based learning into their practice.

LIGHTWEIGHT NETWORKED ART GAMES

Joshua Fishburn*, Austin Merritt & Robin Friedman

THE COLLEGE OF NEW JERSEY

fishburj@tcnj.edu

We created three lightweight multiplayer game prototypes that were focused on poetic player interactions in a real-time online environment. The prototypes were built with node.js, socket.io, p5.js, and the Phaser JavaScript framework. Each team member led design and programming on their own game prototype, experimenting with different components of peer-to-peer interaction. In addition to the use of open-source web technologies, our team practiced iterative game design techniques and paper prototyping. We tested digital and non-digital prototypes amongst ourselves and with new students at TCNJ's freshman orientation, where we received valuable feedback on each of the games. As we developed technical know-how and game ideas, it became clear that we'd have specific design questions to explore: 1. What is an appropriate level of communication, both diegetic (or in-game) and nondiegetic (external to the operating game mechanism, e.g. an instructions screen), to design into the play experience? 2. How do we balance the creation of collaborative play experiences with the desire for individual players to feel that they have a meaningful play experience? 3. How can we design around the fact of network latency? The resulting three videogames demonstrate a variety of poetic uses of networking. One, Speak, challenges players to create a shared language through gestural communication of their avatars. Another, Orchard, experiments with a symbiotic relationship between three separate games. The third, Lightning Bugs and Fireflies, changes depending on how many players are playing at once. All three are playable in modern web browsers.

LEARNER-CENTERED TEACHING, GAME-BASED LEARNING, AND DEVELOPMENTAL APPROACHES IN THE CONTEXT OF TEACHING PROGRAMMING

Joshua Fishburn

THE COLLEGE OF NEW JERSEY

fishburj@tcnj.edu

I've been using learner-centered teaching techniques (Weimer, 2013) for the last two years with some positive outcomes in my classes. I've also been resistant to making my courses too game-like and have balked at the more overt transformation of course syllabi into skill trees and experience points. Game-based learning obviously requires more than changing language on a syllabus. It, and learner-centered teaching are attractive precisely because they aid teachers who take a



developmental approach to their students and who teach complex technical or interdisciplinary curricula. What I've been curious about, and would like to explore in this proposed talk, is the relationship between game-based learning and learner-centered teaching. Specifically, my goal is to review the literature and simultaneously stake out a position on a useful overlap of game-based learning and learner-centered teaching. I'll also weave in my own experience teaching computer programming to beginner undergraduates in the context of these ideas.

COMPOSITION LESSONS LEARNED FROM CO-DESIGNING EDUCATIONAL ARGs

Kathryn Frew^{*1}, Derek Hansen², Kari Kraus¹, Elizabeth Bonsignore¹, Anthony Pellicone¹ & Skylar Hoffman¹

¹UNIVERSITY OF MARYLAND & ²BRIGHAM YOUNG UNIVERSITY

kkaczmar@umd.edu

Composition instructors have long known that project-based learning can create intrinsic motivation for writing due to the authenticity of the tasks, resulting in better writing (Thomas, J. W. (2000). A review of research on project-based learning). Gamerunning provides one such authentic context for writing where college students must take their content knowledge and assessment of the rhetorical situation, particularly audience, to craft messages that propel the progress of other players. In this presentation, I will describe how we included undergraduate students as gamerunners for our NSF-funded educational Alternate Reality Games DUST and The Tessera, requiring them to apply theories of affordances and rhetorical analysis skills to compose messages in different media both as proxy players and as game characters. In my Writing in the Wireless World class, students found the authentic, guaranteed audience much more motivating than other public-facing projects which felt "like screaming into a void", based on the amount and speed of audience feedback they received. One challenge of ARGs is their ephemerality; they are played live only once, making it difficult to sustain as a learning context. In response, our research team has created a replayable virtualized case study similarly using a narrative participatory experience to drive educational goals. In Microcore, students play as interns for a fictional medical tech company, completing professional work correspondence such as proposals and press releases in a multimedia interface. It is my hope that showing our evolution through these educational games can inspire other instructors to transform their authentic project experiences for future use.

WALKING IN RUINS: A CLEMSON UNIVERSITY MOD FOR FALLOUT 4

Samuel Fuller

CLEMSON UNIVERSITY

sjfulle@clemson.edu

This arcade demo features "Walking in Ruins," an original mod/unofficial DLC for Fallout 4. The presenter/designer re-imagines his university campus in a post-nuclear-apocalypse setting, and invites convention-goers to step into it & consider the significance of designing personal narrative-spaces by modding 3D games. The mod was designed to exhibit some of the theoretical affordances of videogame modding within the context of Gregory Ulmer's "Electracy" apparatus: specifically, the ability of modders to put pieces of themselves into an existing game, to play with & re-configure digital assets to make something that feels new, to construct electronic monuments to real-world tragedies, and to advance subversive rhetorics within mainstream videogames. Many proponents of "digital rhetorics" see great potential in videogame design, but are unable to suggest a viable path for individuals outside the sphere of "the industry" to follow. The presenter's dissertation, "Modding as MyStory: (Re)Making Videogames with the Ulmerian Apparatus," argues for modding to be embraced as a practice within the rhetoric/composition classroom, bridging the technical divide that keeps many with great ideas & unique perspectives from engaging in game design. "Walking in



"Ruins" features: a large 3D landscape generated by actual satellite elevation data, making its worldspace a highly precise representation of the real-world; architecture based on real buildings on Clemson University's campus, made by creatively re-appropriating Fallout 4's existing assets; and a variety of interactive elements, including collectable artifacts, books with fragments of rhetorical theory, hack-able computer terminals containing secrets, NPCs with full voice-acting & branching dialogue paths, and more.

UTILIZING SOCIAL DIGITAL GAMES IN A RESIDENTIAL CURRICULUM

Reginald Gardner

BINGHAMTON UNIVERSITY

Rgardne2@Binghamton.edu

This poster presentation will investigate how social and party games stimulate participatory education and social interaction between people in college environments. In the experience of college students, many who have had access to games in their youth and those who have not at this point in their lives, competitive party games like Mario Party, Mario Kart, Super Smash Brothers, Halo, and Guitar Hero, have in some way played a part in their interactions with other students in residential environments. Cooperative party games like Rockband, Left 4 Dead, Just Dance, and Jack Box Games have been included in similar stories. Some of these titles are even used in different student activities programs in order to get students to interact with those they might not do so with naturally. It is my belief that there is something fundamentally different about interactive games that allow them to work as a social lubricant. This can be utilized in a more structured way as a part of a residential curriculum - to promote tangential, social, emotional, and peer-based learning.

THE VIABILITY OF COLLEGIATE ESPORTS WITHIN ESTABLISHED COLLEGE SPORTS STRUCTURES

Reginald Gardner

BINGHAMTON UNIVERSITY

Rgardne2@Binghamton.edu

As eSports continues to grow not only nationally, but internationally, institutions have begun to adopt program which reward students for their performance in playing competitive digital games. However, as eSports has grown and developed there has remained a fundamental difference between competitive gaming and physical sports, and it isn't the physical contact. Because of the limited income and sponsors of eSports teams, games, and tournaments, they have in many cases remained meritocratic, while physical sports have saturated the United States culturally, and have been able to maintain established teams and drafting. Every player and team, despite their record, continue to earn money and play, while eSports teams must continuously prove their ability in tournament play. Today's institutions are also heavily familiar with the NCAA and other large colligate sports conferences that who's rules may or may not promote the best play or ensure that the best teams win. It is unlikely that institutions will continue to invest in eSports without the guarantee that their teams can keep playing, get exposure, and promote their institution. In this poster, we will explore the intricacies of many different competitive games' eSports structure and compare them to current college sports structures in the hopes that we may find a solution. The range of competitive titles may include, but is not limited to: Super Smash Brothers, StarCraft, Traditional Fighting Games (Street Fighter, Tekken, Marvel Vs. Capcom, Injustice, Mortal Kombat, Guilty Gear etc.), First Person Shooters (Call of Duty, Halo, Overwatch, Counterstrike: Global Offensive), and MOBAs (League of Legends, SMITE, Dota).



COMPARISON OF LEARNING EFFICIENCY WITH AND WITHOUT RELEVANT EXTRINSIC REWARDS IN GAMIFIED PSYCHOLOGICAL STATISTICS CLASSROOMS

Evan Grandoit^{*}1, Rose Bergdoll¹, Jenny Chan¹, Laura Rabin¹, Devorah Kletenik¹, Chelsea Chung¹, Wei Zhang², Ecem Olcum⁴, Chris Menedes¹, Ali Rishty¹, & Beliz Hazan³

¹BROOKLYN COLLEGE (CUNY), ²QUEENS COLLEGE (CUNY), ³THE CUNY GRADUATE CENTER & ⁴UNIVERSITY OF CENTRAL FLORIDA

evan.grandoit@gmail.com

Educational gamification has been shown to improve student self-perception of competence (Hong & Masood, 2014). However, evidence of the relationship between extrinsic rewards and perceived competence in gamified classrooms is uncertain (Mekler et al., 2013). In an effort to elucidate this relationship and facilitate learning, we altered psychological statistics laboratories into gamified environments and offered varying degrees of rewards. Results showed an association between performance and perceived competence, only in students of the gamified condition with task and performance contingent rewards, indicating a possible impact on students' ability to correctly match their feelings of comprehension to their objective performance.

GAMING AND COMMUNITY: EXPLORING CONNECTIONS IN THE WRITING CLASSROOM

Beth Greene

CENTRAL PIEDMONT COMMUNITY COLLEGE & SHAW UNIVERSITY

beth.greene@cpcc.edu

The theme of Gaming and Community can be utilized in several disciplines, but this presentation is based on experiences with utilizing this theme in First-Year Writing. Students choose a game to focus on and explore the community surrounding it before inquiring into an intersection between the two concepts. This has resulted in several intriguing student projects, including in-person versus virtual interactions with card and board games like UNO, the effect of inclusivity on community members of games like Dungeons and Dragons, access-based hierarchies in franchises like The Sims, the formation of support group sub-communities in games like Arma 3, moral responsibilities and obligations in Cards Against Humanity, and the rise and fall of fad games like Pokémon GO! By exploring games that students are familiar with, either first- or second-hand, they gain an enhanced understanding of how communities are formed and how they function. Through peer interactions and end-of-semester presentations, students also learn from each other's projects, furthering their grasp of the concept of community, which in turn leads to improved comprehension of how the discourse communities they are entering via their major studies function. Since students begin their inquiry project with something they thoroughly enjoy and understand—most could be considered experts in their chosen games—they are more receptive to learning about not only the concept of community, but other concepts as well, including communication, team work, sponsorship, research, conflict and resolution, critical skill development, diversity, and inclusivity.



GAMING ANTHROPOLOGY: TEACHING CULTURE AND POWER THROUGH GAMES AND DESIGN

Krista Harper^{*1}, Samuel Collins² & Matthew Durlington²

¹UNIVERSITY OF MASSACHUSETTS (AMHERST) & ²TOWSON UNIVERSITY

kharper@anthro.umass.edu

Anthropologists have taken an interest in designing games to teach and communicate anthropological ideas for decades, from Bateson and Mead's "Democracies and Dictators" (1940) to Tsing and Pollman's "Global Futures" (2005). The American Museum of Natural History recently featured "Social Impact Games", based on social science, to explore concepts of race and issues of sweatshop workers. Anthropologists can and should be involved in this emerging field, because of our role in studying and imagining different ways of engaging with the world, and our interest in exploring multimodal platforms for the dissemination of anthropological ideas. Panelists will discuss how the experiential and empathetic qualities of games work as a medium for learning anthropological concepts and theories. Game narratives and mechanics convey meaning and engage players in a worldview that resembles sociocultural anthropology's core method, ethnography. Since many popular games are based on colonial and ethnocentric premises, we invite our students to reimagine, "hack", and decolonize games as a way to develop their "anthropological imagination." We present pedagogies and prototypes articulated by anthropologists at #AnthropologyCon2017 as well as our own individual experiments in game-based learning in anthropology courses.

CRITICAL TRENDS IN PSYCINFO

Thomas Heinzen

WILLIAM PATERSON UNIVERSITY

heinzent@wpunj.edu

Since the mid-19th century, PsycINFO has become the most comprehensive archive of psychological research. This poster portrays (in five graphs) PsycINFO trends that suggest what future psychologists might be teaching and how they might be teaching it. The first graph describes the dramatic overall growth of the PsycINFO database (~18,000 in 1910-1919; 1.7 million in 2010-2019). Four more graphs portray the more rapid growth in the frequency and percentage increase in the database referencing game design and case studies. Word counts related to game design included "gamification," "game(s)" and "game design" both with and without "gaming" (often referring to gambling) and "game theory" (the research paradigm). Under both conditions, game design terms increased approximately six fold from the 1990s through 2019. To estimate references to case studies ("case study," "case studies," "case report," and "case reports"), the percentage increased from approximately 1.5% (1950-1959) to 4.6% (in 2010-2019) of the database. These trends suggest that future teachers may need to teach novel paradigms (game design) and integrated methods (case studies). The PsycINFO archive is such a rich database that we make no claim that these trends are more or less predictive compared to other trends available for future research.

WHAT HAPPENED TO JOHN DOE?: GAMING IN THE HEALTH SCIENCES

Scott Henkle

LONG ISLAND UNIVERSITY, BROOKLYN

scotthenkle@gmail.com

Two years ago, LIU-Brooklyn received a Macy Foundation grant to deal with a common Health Science education problem: Interprofessional Education (IPE) is required by college accreditors and critical for students, but it is also unwieldy to coordinate. Adding whole tracks in IPE is often impossible, as is coordinating IPE elements across disciplines, the 16 departments of LIU-Brooklyn's



health sciences, and student courses. This is particularly true where dissemination is thought to depend on the lecture format, and in those disciplines where content is prescribed from the students' first semester to their last. The solution came in the form of a game: more specifically three online modules centered around an ongoing role playing game (currently using Adobe Captivate) which can be dropped into existing courses with minimal disruption. During play, students direct the journey of "John Doe," a man suffering from homelessness and addiction. They guide him through hospital admission, surgery, recovery, discharge, home care, community care, readmission, and finally toward cycle-ending public health responses. "What Happened to John Doe?" forefronts student collaboration (the primary goal of IPE), as they together determine Mr. Doe's experience. The game and its pedagogy—a blend of didactic and experiential learning—are worth sharing, particularly in settings where experiential learning is traditionally undervalued. As the game's primary author, and as a product of the CUNY system (and more than a few of its digital platforms!), I would be honored to share this work at the CUNY Games Conference.

THE USE OF INTERACTIVE GAMES AND ACTIVITIES TO IMPROVE STUDENTS PUBLIC SPEAKING SKILLS

Ashlie Klepper

QUEENSBOROUGH COMMUNITY COLLEGE, CUNY

Aklepper@qcc.cuny.edu

As with any specific skill, practice makes perfect. One cannot simply become a great basketball player by reading a manual. They need to be on the court, dribbling and shooting, practicing day in and day out until they get great. The same goes for Public Speaking. As much as a textbook and a lecture teaches, a student won't really learn until they are playing in the game. My class is a 4 month long scrimmage filled with drills to get them comfortable with public speaking, something most students and people in general, are scared of. I use a variety of games in my class to get my students up and moving. Some involve rubber ducks, some involve play-dough and some rely strictly on their imagination. One thing I have consistently noticed semester after semester is reverting back to some childlike games allow my students to practice and enjoy public speaking in a fun, stress-free environment. This presentation will introduce the research that supports the use of games in the public speaking classroom, as well discuss 3 effective games I use in my own classroom that I have found really helps my students comprehend course content.

GAME DEVELOPMENT WITH A SERIOUS FOCUS

Devorah Kletenik* & Deborah Sturm

BROOKLYN COLLEGE, CUNY

kletenik@sci.brooklyn.cuny.edu

We report on our experience teaching two serious game development courses at two CUNY colleges. In addition to teaching basic game programming using Unity, we give an overview of serious games, discuss Gee's Principles of Learning and demonstrate and evaluate serious games from a variety of disciplines. Students work in small teams to design and develop serious games that teach a college level topic that include both learning and assessment. As part of the project, students are required to evaluate their games and measure the impact of their games through pre- and post-tests. Peer feedback is an important component of the development cycle. We found a number of benefits when students create games with a purpose instead of pure-entertainment games: 1) It gives students a meaningful goal that helps increase motivation and engagement, 2) It gives students a clear focus for their project and encourages creativity, 3) It offers more appeal for non-gamers, including women, and 4) It can serve as a hook to involve undergraduates in research. Data from student surveys shows high level of engagement and satisfaction with the courses. A number of students chose to participate in serious games research projects after taking the course, and presented their work at conferences and game expos.



CRITICAL PLAY WITH HISTORY

Jeffrey Lawler*, Patrick Rael & Sean Smith

CALIFORNIA STATE UNIVERSITY LONG BEACH

jeffrey.lawler@csulb.edu

Can games teach serious history? Is it possible to think of modern, historically-themed tabletop games as legitimate interpretations? How does the medium of games uniquely represent the past? What kinds of literacy are required to think critically about modern tabletop games as historical arguments? Modern board games have come a long way from the days of Monopoly and Risk. A new generation of thinking has made tabletop games a \$1.4 billion industry in North America, with steadily rising sales. As they have become more popular, they have taken on an ever wider array of topics, many historical. Popular games such as Ticket to Ride depict the history of railroad development, while games such as Carcassonne let players develop a medieval town. More complex games take on difficult topics such as the breakdown of the Roman Empire, European wars of religion, or the attempt to assassinate Hitler. This paper recounts the author's effort to build an upper-level college-level History course around modern tabletop games. Offered at Bowdoin College in Fall 2017, "Historical Simulations" sought to interrogate modern tabletop games themed around six historical subjects: the age of exploration and colonization, the American Revolution, the framing of the U.S. Constitution, Lewis and Clark's frontier explorations, the Underground Railroad, and the election of 1860. This paper will survey the objectives of the course, its methods, and its outcomes. The presentation will include a short video clip of students' game labs and reflections. Given the growing significance of history in games of all types, Rael calls for enhancing students' "ludic literacy" by practicing serious game criticism.

In what ways can history and higher order historical thinking be incorporated into Game Based Learning? In particular, to what extent can a card game use counterfactuals to sever the teleological connection that many students associate with historical causation? While other types of games, video games in particular, have grown in popularity, card games provide a possible way to integrate historical thinking and learning with minimal investment. The game attempts to incorporate historical information while addressing higher order ideas of historical process such as a causation, agency, and teleology. These issues can be difficult for students to apply to their historical learning, as they often look at the past simply as the way things happened. While the game uses the assassination of Abraham Lincoln as a way to create structure and meaning, Lincoln is peripheral to the interaction of the other historical actors. In many ways the game is designed to teach the possibilities and difficulty of interaction between different social groups, and class informs much of the interaction and ability to consume and use information. While historical information is important and relevant, a key pedagogical component is the cooperative nature of the game. Each character in the game is a direct derivative of an actual individual and has a built in personal story based on their social standing. My presentation investigates the pedagogical rationale behind the creation of the game, the development and struggle incorporating historical thinking as a component of the game's mechanics, and the consumption of historical information by students who played the game. The process of development and feedback from students demonstrated the difficulty but potential usefulness of card games to teach historical information and ideas.

Over the past three decades, video games and gaming have evolved from a niche market and nerd culture oddity to an omnipresent form of mass media that has equaled and in some cases surpassed the film industry in popularity and global earnings. Many of the most popular games are set in historical eras, engage in historical narrative, or actively immerse players as historical figures. Those who have spent any time in a history classroom recognize that these games have had a lasting impact on students' historical understanding and shaped their understanding of those historical eras.



At the same time, it is estimated that nearly two-thirds of college students play video games somewhat regularly. Of those students who regularly engage in gameplay, many are playing history based games like the widely popular Assassin's Creed, Call of Duty, Civilization or Battlefield series. The continuing excitement about history driven games and the use of historical themes within video games speak to the necessity of studying the implications and usefulness of video games as historical sources, artifacts, and pedagogical tools.

This paper explores the author's creation of a course "HIST 306: Playing the Past: Games as Historical Narrative, Public Memory, and Cultural Representations" at California State University, Long Beach that teaches students how to read video games and gives them skills to challenge the historical narrative within them. The goal of the course is to reveal the deeper historical meaning in games and to place marginalized characters in more historically active roles. Ultimately the paper reveals how we can use video games as a pedagogical tool to understand and interpret history. A tool that will provide students with a new set of skills that when combined with traditional historical and interdisciplinary methods offer a new window on the past.

COLLECT THEM ALL

Christopher Leary

QUEENSBOROUGH COMMUNITY COLLEGE, CUNY

Cleary@qcc.cuny.edu

At the end of every class period, I ask students in my English classes to anonymously write at least half a page on any topic they want. I collect these texts as they walk out the door and whoever makes it on time to the following class is rewarded with a random text written by an anonymous classmate. These random texts can be kept if they want them or traded away if they don't. To facilitate the trading of texts, I oversee a simple market with "fake" money as the medium of exchange. By the end of the semester, punctual students accumulate around 25 texts, they arrange those texts in a table of contents, and they write an introductory preface that explains their selection criteria. My presentation will demonstrate how the aforementioned market functions with the aforementioned fake money.

THE PLAYTESTING'S THE THING

Mark Lewis

SUNY EMPIRE STATE COLLEGE

mark.lewis@esc.edu

Playtesting is an integral aspect of the game design process. This presentation will examine how a playtesting ethos is incorporated in an undergraduate level Game Design and Development course and in a graduate level Digital Games, Simulations and Learning course. These courses serve distinctly different types of online student populations and both courses have students with a wide range of experience with playing games, technology and design. The incorporation of playtesting techniques early in the course work and throughout the courses is designed to encourage students to play games and observe others playing games with a critical viewpoint that informs an iterative design process. A discussion of areas where students experience both successes and difficulties will be included.



THE PLAYABLE COMIC BOOK SYLLABUS

Andrew Lucchesi

WESTERN WASHINGTON UNIVERSITY

Andrew.Lucchesi@wwu.edu

In this play-along poster session, I will demonstrate the playable syllabus design I use to turn my 35-student course on rhetorical analysis, into a student-directed, collaborative experiment in writing and analyzing comic books. Using simple materials (a game board printed on a single 11x17 sheet of paper), the playable syllabus lays out the course's possible assignments on a visual grid, arranged into suggested, but not rigid, pathways. Students choose their routes through the course, using their personal game board to choose assignments, plan collaborations, select deadlines, and track their progress toward their desired grade. Players who attend this session will get a basic rundown on the design and functionality of this playable syllabus. I will have blank game boards on hand for those who want to try adapting it to their own teaching context. We will talk through the challenges and affordances of this student-directed, self-paced approach, and I will demonstrate how these pros and cons play out using a few case studies from my student data. Finally, I will demonstrate some of the ways I am using this low-tech tool to gather quantitative data about the myriad decisions students make in an open-structure classroom.

SHARING COMIC-BOOK KNOWLEDGE THROUGH PLAYABLE SYLLABI

Andrew Lucchesi

WESTERN WASHINGTON UNIVERSITY

andrew.lucchesi@wwu.edu

When I decided to teach a 35 student, writing-intensive course about writing and reading comic books, I wanted a curriculum that would allow students to a) produce a huge amount of writing and drawing, even if they were not experts with visual arts or visual rhetorical analysis; b) teach each other the skills and sensitivities they'd need to do this writing and drawing; and c) not overwhelm me with the task of assessing so many students producing so much. The playable syllabus I built allows every student to choose an individualized path through the course assignments, collaborating freely, and submitting projects as they're finished (rather than on fixed deadlines). In essence, the tool lays all possible assignments for the course onto a game board that allows students to both choose their assignments and also track their progress. Students present their work during class time, earning points (collecting stamps) as they work their way toward their desired grade. This format allows students to continually demonstrate drawing and analysis techniques for one another, allowing for productive cross-pollination of skills while also drawing out shy or self-critical students into riskier, more exciting work. My talk will focus on the basic design principles I employed in the playable syllabus. I will show a range of data gathered from the course, including time-lapse images of the evolving game boards, interview testimony from the students, and the beginning stages of a class-wide quantitative analysis of student's individual course trajectories.

USING TWINE TO CREATE AN INTERACTIVE GRAMMAR ASSIGNMENT

Karin Lundberg* & Kate Lyons

HOSTOS COMMUNITY COLLEGE, CUNY

klundberg@hostos.cuny.edu

Twine (<http://twinery.org/>) describes itself as "an open-source tool for telling interactive, nonlinear stories." It is similar to the print-based, "Choose Your Own Adventure Series" (<https://www.cyoa.com/>) of books. A user playing a Twine game reads a passage and then makes a choice about how the story will continue, by clicking on a link. This presentation is about the creation and implementation of an interactive, non-linear story using Twine, which encourages ESL



students to learn and practice grammar concepts as they play the game. Presented by the game's creators, an ESL faculty member and a librarian, the presentation aims to explain the benefits of this gamified approach over more traditional grammar assignments where students fill in blanks or select multiple choices on a worksheet. Instead, students engage in reading a meaningful story-structure based on relevant course content. As they read through the story they have to make choices identifying correct grammar structures. By interacting with the text, they are becoming a part of the story. Thus, as they move through the game, they are constructing meaning while also singling out grammar. The interactive story ends on a cliffhanger, and the second part of the assignment is for students to write an ending for the game. Their cliffhangers depend on their previous choices as they moved through the story. Thus, as learners they have an impact on the outcome of the game, and in writing their own endings, have ownership over the story.

MASTERING Tedium

Alec McClure

HOSTOS COMMUNITY COLLEGE, CUNY

amcclure@hostos.cuny.edu

Mastering Tedium is a text-based allegorical game that uses the regular chore of laundry to juxtapose life's necessity of action with the futility and impermanence of acting for the mortality-obsessed mind. This mindset is the product of a life deprived of simple everyday pleasures. Games and media often entertain users through engaging these simple pleasures, despite often being considered "a waste of time" or "pointless." They provide both a form of necessary escapism and a form of expression that reflects a partial construction of the world in which they are created. Excerpt from Fernando Pessoa's *The Book of Disquiet*: "It is said that tedium is a disease of the idle or that it attacks only those who have nothing to do. [...] it attacks people who are predisposed to it and those who work or who pretend they work [...] are less apt to be spared than the truly idle. Nothing is worse than the contrast between the natural splendour of the inner life, with its natural Indias and its unexplored lands and the squalor [...] of life's daily routine. And tedium is more oppressive when there's not the excuse of idleness. The tedium of those who strive hard is the worst of all. Tedium is not the disease of being bored because there's nothing to do, but the more serious disease of feeling that there's nothing worth doing. This means that the more there is to do, the more tedium one will feel."

MASTERING Tedium: LEARNING FROM ALTERNATIVE DESIGN PRACTICES

Alec McClure

HOSTOS COMMUNITY COLLEGE, CUNY

amcclure@hostos.cuny.edu

What can the design of a game teach us about the system that inspired it? How can we move beyond the idea of games existing exclusively for fun and entertainment, instead using game design itself as a pedagogical tool and a mode of artistic expression? How can the mechanical design of a game system better reflect and serve its purpose, avoiding discordant superimpositions? Games are often derided as both a mindless form of distraction and tool for escapism. This presentation invites educators and students to think critically about how we can design experiences that better reflect the systems that inspire them. In doing so, we will recount the design process of Mastering Tedium, a game about the intersection of laundry and poet Fernando Pessoa's concept of tedium, showing how the design of expressive models in the form of games can better help us analyze and understand the systems they represent. Furthermore, this talk explores how we can use the design of unconventional games as a tool for understanding. Alec McClure is the designer of Mastering Tedium and an assistant professor of game design at Hostos Community College in the Bronx, New York.



GAMES FOR ENGAGEMENT

Alec McClure

HOSTOS COMMUNITY COLLEGE, CUNY

amclure@hostos.cuny.edu

This short 10-minute presentation would serve to inform and inspire educators by detailing some successful interactive activities that have been used to increase engagement in one teacher's classroom. Employing novel and impromptu activities with unexpected interactions keeps students and instructors highly engaged, allowing for a more dynamic classroom environment. Participants will learn what worked, what didn't work and the benefits of using these various strategies for engagement in one's classroom. This presentation should serve to inspire the audience to return to their own spaces and think about how we might use experiential learning with an improvisational style to better engage our audiences both inside and outside of the classroom. List of Games to be Discussed: Game Idea Gambling, Code Challenges & Project Greenlight.

SIMGLOBAL: BUILDING A SERIOUS ROLEPLAY COURSE FOR THE SOCIAL SCIENCES

John McKnight*, David Runyon & Brittni Linn

HARRISBURG UNIVERSITY OF SCIENCE & TECHNOLOGY

jmcknight@harrisburgu.edu

John Carter McKnight: Teaching with the SimGlobal System - Dr. McKnight will discuss the origins of the SimGlobal system for live action roleplay of a response to a complex humanitarian/natural disaster scenario in the undergraduate classroom. He will address scenario creation, learning objectives, and lessons learned from the assessment of data collected from students, facilitators, and the instructor during the initial run of the scenario in a senior-level course at a STEM university. He will address issues identified in the literature addressing entertainment and artistic live-action roleplay and serious gaming, and their impact on a student learning environment, along with the challenges of teaching within a semester-long immersive roleplay environment. David Runyon: Game Mechanics and Facilitation for SimGlobal - Mr. Runyon will discuss the development of game mechanics for SimGlobal, and the challenges of building a system robust enough for 45 hours of classroom play across a full semester, as opposed to systems designed for 4 to 10 hours of classroom use. He will explain game mechanics, technological augmentations to a core tabletop system, and the role of facilitator in the SimGlobal system. Brittni Linn: SimGlobal: A Student Perspective - Ms. Linn is an undergraduate student who took the SimGlobal course in 2017 and is acting as a facilitation assistant for the 2018 course. She will discuss the student experience in the immersive classroom, the challenges of learning within a prototype system, and the role of simulation within a STEM curriculum. SimGlobal is a noncommercial product in early prototype, and all our materials are publicly available.

BUILDING A BRIDGE BETWEEN GAME-BASED LEARNING IN HIGHER EDUCATION AND CULTURAL INSTITUTIONS

Jessica Ochoa Hendrix^{*1}, Lindsay Portnoy¹ & Mande Holford²

¹KILLER SNAILS & ²HUNTER COLLEGE (CUNY)

jessica@killersnails.com

Game-based learning can be the bridge between higher education and cultural institutions to broaden participation across academic disciplines. In this talk, we will share successful examples developing educational games with local institutions such as the American Museum of Natural History (AMNH) and the New York Hall of Science (NYSCI). Partnerships between higher education and cultural institutions and community centers are mutually beneficial as the institutions of higher



education are able to innovate on instructional delivery while community partners are able to educate the public about their diverse collections. Building off our successful collaborations with two landmark institutions, AMNH and NYSCI, we will discuss the following in our talk: 1) ways in which unique attributes of partner cultural institutions and community centers may be highlighted through created games, 2) how middle, high school and college students at partner institutions can co-construct game-based learning experiences, 3) how student participation helps increase engagement in the learning process, and 4) how students in higher education demonstrate knowledge acquisition when they are part of the process of developing game-based learning. The talk will conclude with opportunities for enacting game-based learning in informal settings such as cultural institutions while sharing mechanisms to assess learning to fuel future instruction and innovate on traditional forms of learning.

GAME UP YOUR MATH! NEW, INNOVATIVE DIGITAL GAMES FOR DEVELOPMENTAL ALGEBRA

Kathleen Offenholley

BOROUGH OF MANHATTAN COMMUNITY COLLEGE, CUNY

kathleenOffenholley@yahoo.com

Developmental mathematics is often a negative experience for college students, so digital games can be a great way to reach them, bringing the positive emotional experiences of play to the classroom. Yet most available math games are for elementary school, and are based on skill and drill. Access is also an issue, since creating a good digital game can be expensive. This workshop will showcase three innovative digital mathematics games for college-age students created with an NSF-ATE grant and available for free download. The games target beginning and elementary developmental algebra, as well as pre-calculus. Participants will get to play the games on iPads provided by the presenters. Non-mathematicians are encouraged to come play! Emphasis will be placed on how to use the games to improve student learning and engagement. The presenter will model how to encourage student buy-in and participation, how to engage in post-game debriefing so that students become conscious of what they have learned from the game, and how to transfer that knowledge to new situations. The presenter will also discuss how the games were developed, and will discuss the evaluation results. Games are available at:

<https://mathgamesforstem.wordpress.com/>

BOARD GAME DESIGNED FOR FRESHMAN SEMINAR

Andrew Peterson

FERRIS STATE UNIVERSITY

andrewpeterson@gmail.com

Freshmen don't know what they don't know about college. It is the goal of this board game to let students 'play' college. This shifts the typical freshmen seminar course from talking about general things everyone knows to playing a game. Rather than saying "you need to manage your time wisely", the students get to juggle priorities like part time jobs, study groups, and random life events. Students have to meet with advisors and find a degree, pick courses to enroll in, and then manage priorities for studying. The game isn't designed to be fun; it's designed to foster conversation that is relevant to the success of the student. If the students can fail in a quick and cheap simulated college environment and then discuss what happened, it should create a meaningful experience to an otherwise disengaged population. Likewise, if they succeed, they can have a conversation about the process. All of a sudden, they have an experience that they can use to contribute to the conversation rather than just sitting and listening to someone else talk about what to expect. In an ideal classroom, this concludes with the student modifying the game. What variables should be added, what has happened over the semester that should be added to the 'random encounters' deck? What



needs to be emphasized, what should be devalued, how could they modify the game to better reflect the struggles they encountered?

APPLYING COGNITIVE SCIENCE TO THE USE OF ASSESSMENTS IN GAME-BASED LEARNING

Lindsay Portnoy^{*1}, Jessica Ochoa Hendrix¹ & Mande Holford²

¹KILLER SNAILS & ²HUNTER COLLEGE (CUNY)

lindsay@killersnails.com

What does the science of learning tell us about how people learn and how can we apply that knowledge to measuring learning in game-based learning? Get ready to play! In this session we'll explore what learning sciences say about how people learn best, how these principles apply to game-based learning, and then talk about ways to assess learners in higher education by extending inquiry and re-engaging learners through digital and game-based assessments. Grounded in cognitive and motivational research we'll dive in and dissect the science of learning and how games offer opportunities to innovate on instruction and assessment in higher education through the innovative use of digital tools paired with engaging gaming mechanics. We'll start by exploring the three extant theories of learning and discover ways to use digital and game-based assessments to fuel instruction in higher education. You will experience digital tools that formatively assess students while engaging them in active learning and together we'll build a shared resource around how to best utilize formative assessments to measure authentic learning in higher education starting this spring.

VIDEO-GAME THEMED REVIEWS FOR MATH COURSES

Spyro Roubos

BROOKDALE COMMUNITY COLLEGE

sroubos@brookdalecc.edu

Come see reviews for Calculus, Math for Liberal Arts Majors, and Basic Skills courses. These are dynamic reviews relying on student choice, but also in the theme of familiar Nintendo video game franchises for fun. Some are designed to take an entire class time as a competition, and others are made for a quick 5 minute review at the beginning of class. Come check out the different styles of game-based learning.

CREATING DYNAMIC PPT REVIEW GAMES

Spyro Roubos

BROOKDALE COMMUNITY COLLEGE

sroubos@brookdalecc.edu

If you're tired of using half-functional, hard to modify Jeopardy! PPT templates then this is the right workshop for you. In this interactive session, we will first explore four very different formats for reviews that can be done before a test or after a challenging topic requiring individual attention. All four formats involve popular video game franchises. The first format explores giving students choice in what topics to cover and in what order - turning control over to them. The second format showcases - like any good video game - how to create a review with replay value beyond the initial run in class. The third format involves using Visual Basic for Applications (VBA) to use a simple scoreboard system for competitive reviews. Finally, the fourth involves quick mini-reviews meant for the beginning of class. All participants will leave with a functional template that can serve as a foundation for the different review formats that are discussed. Instructions are provided for all goals in the template should time be an issue.



BUSINESS EDUCATION GAMES FOR BEGINNERS

Christopher Salute

LONG ISLAND UNIVERSITY GLOBAL, BOLD MEDIA

christopher.salute@liu.edu

Gaming and game-based learning are employed all over academia: History, Sciences, Social Sciences, etc. But, rarely, do we see the seriousness of business studies encapsulated in a classroom game. However, the exchange of money (rewards), wins and losses, business world rules, and so many other aspects of the worlds of business, marketing, finance, accounting, and economics lend themselves perfectly to the mixture of gaming and business. Data from Generation X, Y, and Z suggest that they learn better when interacting and being part of the lesson. But, top rated (and top accredited) business schools do very little to involve their students. There is a major disconnect or void between the applied learning and the theory that gaming fills! Learn a survey of business education ideas, discuss best practices in business games, and bring your ideas! Learn how to build and implement a business game, easily!

DO MILLENNIALS REALLY LEARN DIFFERENTLY?

Christopher Salute

LONG ISLAND UNIVERSITY, AIDER SOLUTIONS

christopher.salute@liu.edu

What is a millennial? Do we even know what the generation encompasses? And, if we do, are they so much different than previous generations? In a study conducted over 1000 participants, we review the digital prowess of millennials and Generation Z people versus the general population, and compare their learning preferences amongst traditional learning, digital learning, and game based learning. Gender, age, and socioeconomic demographics are also compared. How do the different generations make use of technology at home, at work, and in the classroom. And, does learning actually differ amongst the generations? Come for a discussion on technology, generations, and learning.

FAKE NEWS, REAL LEARNING: USING NEWSGAMES TO TEACH CIVIC & INFORMATION LITERACY IN HIGHER EDUCATION

Karen Schrier

MARIST COLLEGE

kschrier@gmail.com

Are we creating civically engaged college students? Do they have the ability to navigate news sources and engage in constructive argumentation – online, offline, with their roommates, or across the table in the cafeteria? Teaching civics is integral to democratic engagement, community participation, and interpersonal, cultural, and global understanding. However, educators have been struggling with how to creatively and appropriately incorporate these skills into higher education and the college classroom. This is particularly essential as college students and young adults are known as the least civically engaged populations in terms of electoral behavior (such as voting) and local government participation (such as town halls), possibly because they do not feel empowered, heard, or that their values matter in the political sphere (Syvertsen, et al., 2011; Torney-Purta, Richardson, & Barber, 2004; CIRCLE, 2016). It is also problematic that college students are not more civically engaged because democracy requires all citizens to be active participants, but also because adolescence is often a time when people establish their political views (Syvertsen, 2011; Lyons & Alexander, 2000; Pateman, 1970). This short presentation will share examples of games and best practices on how to use these games to teach essential civic and information literacy skills in higher education. I will focus on the use of newsgames (or games that express a current event,



topic or perspective, and/or enable practice of relevant news literacy skills) to help college students explore current events and engage in informed discourse in a classroom setting. Gaming might be one way to engage college students in civic skills practice as games are extremely popular with this age group (ESA, 2017), and may help motivate young adults to engage with civic systems in a playful and relatable way (Schrier, forthcoming). For instance, I will discuss strategies and best practices for having college students play Revolution 1979 to learn about personal point of view on the events leading up to the 1979 Iranian Revolution, or Mission US to consider moments from history (e.g., Civil War, Revolutionary War) through the eyes of an adolescent. Students can explore both the migrant and border patrol perspectives in Migrant Trail or analyze the accuracy of The Voter Suppression Trail in portraying U.S. voting inequities. Through games, they can also better understand fake news and how it is spread and replicated. For instance, one game, Factitious, explores the challenges of choosing which news is "fake," whereas Fake it to Make it invites players to take on the role of a person trying to spread fake news and earn money.

THE TRANSMEDIA CLASSROOM: LEARNING, PLAY AND TECHNOLOGY

David Seelow

REVOLUTIONARY LEARNING & COLLEGE OF SAINT ROSE

davidseelow@gmail.com

As Professor Henry Jenkins has argued millennials live a convergent culture where all forms of media intersect in a complex web of transmedia storytelling. Reading a story or watching a film does not capture the frantic activity of today's students. Rather, students engage television-traditional, subscription based, streamed; radio-satellite and conventional; film; video/digital games; animations; digital and print texts; plus the world of fan culture. Moreover, students today produce texts, not just consume them. Students make games, post blogs, and run You Tube channels and more. How can a classroom and a class that meet twice week reinforce student creativity, tap into transmedia phenomena and help students make sense of the multiple meanings that converge on a single "text"? In a very popular course called Superheroes and American Culture I used transmedia textuality as the "subject" and a game-based learning environment where all students created their own superhero teams in a version of JLA or The Avengers to embody the experience of a superhero team as they simultaneously discussed, wrote, analysed and synthesized the cultural impact of American superheroes from the Golden Age of the late 1930s to today. For the workshop, I will use Batman as a Case Study and describe how the comic and character morphs through both cultural transformations- the social hero of the 1930s, the camp player of the 1960s to the dark knight of Christopher Nolan, and media- comic book, television series, animated series, Lego movie, video game series, graphic novel, film trilogy, toys, and merchandising tool. I will present this through the game-based learning lens where I show how student teams work and reinforce content in a way relevant to their own lives. I will play and show student work as models. The interactive component will have the participants break into their own superhero teams and complete a mini project as a way to experience how active learning can merge traditional analysis with student production.

GAMES AND STORYTELLING FOR DESIGN FOUNDATIONS

Scott V. Swearingen & Eunkyoung L. Swearingen

The Ohio State University

swearingen.16@osu.edu

Today a great deal of our lives has been co-opted by games for either entertainment purposes or as a function of the societal marketplace. Whether we are playing a game of Catan at the table or acquiring points for brushing our teeth with a new electric toothbrush that tracks user input and rewards us through an app with even more merchandise, the gamification of our daily routines and the narratives that are designed to support them is immense. When considering the impact that games have on our day-to-day activities, Game Design and Storytelling are natural points of



departure when teaching Design Foundations to a generalized audience of beginning students with evolving interests in the design of spaces and objects, as well as digital, print and time-based communication projects. Because of the diversity of the students' interests, our goal is not to teach game design per se, but to contextualize foundational knowledge through a 'playful' process that students already engage in (and are engaged by) every day. Game Design and Storytelling also serve as useful vehicles for meeting our primary course objective: a collaborative application of visual feedback to interactive, spatial, and experiential media. These shared experiences (and in particular the development of them) both accelerated and enhanced student learning in our classroom while yielding a high level of engagement that was critical to its success.

WALL MOUNTED LEVEL

Scott V. Swearingen & Eunkyoung L. Swearingen

The Ohio State University

swearingen.16@osu.edu

'Wall-Mounted Level' is a collaborative, multiplayer game that is projected onto a hand drawn cityscape that was laser-cut and assembled into a relief sculpture. Using projection-mapping and other compositing techniques, players move their characters into, out of, and across the fractured environment that doubles as a metaphor for their internal landscapes. Our motivation for creating 'Wall-Mounted Level' was to embrace tangible surfaces as mediums for games to exist in, and for the interactions between players to occur in person. The verbal communication and physical touch that takes place between the players is especially important to us in terms of human-facing interactions as it extends the game's narrative of 'reconciliation'. For more information, please visit: <http://wizaga.com/wml.html>

ENGAGEMENT AND IMMERSION: UNIQUE CHALLENGES FOR USER EXPERIENCE IN GAMES

Ulysee Thompson* & Adam Spryszynski

NEW JERSEY INSTITUTE OF TECHNOLOGY

ust3@njit.edu

Game-based learning developers and game development programs regularly overlook the importance of presentation with regards to player engagement and immersion. Even professional user experience designers regularly look at games from the perspective of accessibility without considering if their core experience aids or hinders player investment. In this presentation we will examine the unique problems that games present in building player trust as a tool to engage and immerse the audience in the experience. Of particular interest will be how the issue lies at the intersection of animation, graphic design, user experience, and cognitive psychology.

FEAR NOT ARTHROLOGY: THE ANATOMY OF A GAME

Sabrina Timperman*

Mercy College

stimperman@mercy.edu

Learning about anatomical features requires many hours of repetition and students often perceive the information to be boring and monotonous. I wanted to create Anatomy games that were fun, competitive, and easy to play, to pique the interest of students and get them more excited about learning the material. I did not want a typical trivia question game, as that seemed too much like exam questions put on index cards. I also wanted a game that both taught the students the content they needed to know as well as helped them to remember it. Creating games, I theorized would help in the learning process, by requiring students to be more active participants. I wanted to move



away from straight lecturing and embrace a more active learning pedagogy. I intended to flip the classroom, using games as some of the in class activities students complete. To meet this objective I created a handful of games for my Anatomy of Domestic Animal course at Mercy College. These games ranged from an Arthrology Memory card game to an Anatomy Cranium board game. In this presentation I will describe several of these games and the benefits of using them in the classroom as well as share some ideas for games I want to develop in the future.

LET'S PLAY CD4 HUNTER™, AN EDUCATIONAL MOBILE MINI-GAME ABOUT HOW HIV INFECTS T CELLS

Sandra Urdaneta-Hartmann^{*1}, Carla L. Brown¹, Vincent Mills¹, Andrew Bishop¹, Mary Ann Comunale¹ & Brian Wigdahl²

¹DREXEL UNIVERSITY COLLEGE OF MEDICINE & ²GAME DR. LTD.

slu22@drexel.edu

Few games exist that provide the visual science learner an accurate picture of complex processes at a cellular level. CD4 Hunter™ combines fast-paced game play with science learning to showcase the first step of the complex and dynamic replication cycle of HIV: binding and entry. The game provides an opportunity to learn about the structure of HIV and T cells, and how they interact to result in infection by binding the proper viral structure with the proper receptor/co-receptor pair on T cells. This game uses a behaviorist approach, tasking players to enter the bloodstream and search for specific target cells, to infect. The goal is to grow the viral population, while evading the immune system. There are a limited number of choices the player can select, and the feedback received is corrective. A correct choice is rewarded by binding, entry and results in an increase in viral load, while an incorrect choice produces no response and forces the player to continue to search for the correct receptor/co-receptor pair. This mobile application was developed by a team of faculty, and undergraduate, graduate and postgraduate trainees across different disciplines. It was originally intended as an educational resource for undergraduate and graduate students enrolled in biomedical science programs, but it has also been used as a public health education resources in workshops. Its effectiveness in teaching is being evaluated. CD4 Hunter is available for free download at the Apple App and GooglePlay Stores. Use your own device or one of ours to play.

DESIGN AND DEVELOPMENT OF CD4 HUNTER™, AN EDUCATIONAL MOBILE GAME ABOUT HOW HIV INFECTS T CELLS FOR HIGHER EDUCATION COURSES IN MICROBIOLOGY AND INFECTIOUS DISEASE

Sandra Urdaneta-Hartmann^{*1}, Carla L. Brown¹, Vincent Mills¹, Andrew Bishop¹, Mary Ann Comunale¹ & Brian Wigdahl²

¹DREXEL UNIVERSITY COLLEGE OF MEDICINE & ²GAME DR. LTD.

slu22@drexel.edu

Despite advances in scientific discoveries and in pedagogy, how we teach complex scientific concepts to college and graduate students in the life sciences has not changed much: lectures and reading textbooks and primary literature. We hypothesize that learner experience and outcomes can be improved by introducing 3-D digital games to supplement the curriculum in microbiology and related disciplines, but there is a dearth of such games targeted to life sciences programs in higher education. We propose to develop a series of digital mini-games based on topics commonly taught across various courses in microbiology, infectious disease and related disciplines. CD4 Hunter™ is the first mini-game we developed to facilitate learning about the first step in the molecular mechanisms HIV uses to infect its target T cells. This is the first of a series of planned mini-games based on distinct stages of the multi-step HIV replication cycle. CD4 Hunter requires students to play as HIV to locate, bind and infect specific target cells before being overcome by the immune



system. The game was designed based on specific curricular learning objectives, which players must apply in order to succeed in the game. Attendees to this presentation will learn about the interdisciplinary model we implemented to design, develop and launch CD4 Hunter in the Apple and GooglePlay App stores. The model integrates faculty, and undergraduate, graduate and postgraduate trainees across different disciplines, in the iterative process of game development. Intellectual property, dissemination, implementation and evaluation strategies will be discussed; as well as future directions.

"THE KEYWORD GAME": ENCOURAGING COMMUNICATION AND PROMOTING LANGUAGE IN THE LIBRARY

Leslie Ward* & Heather Huggins

QUEENSBOROUGH COMMUNITY COLLEGE, CUNY

lward@qcc.cuny.edu

Students at Queensborough Community College are required to take Speech Communication (SP211) as part of their curriculum. One of the main goals of this course, as described in the college catalog, is, "perform research and gather credible evidence from both primary and secondary U.S. sources to create both informative and persuasive speeches." In order to do this, students are made familiar with credible resources through a library information literacy session. However, because this class is a requirement, it is often one of the first classes students enroll in at QCC and thus is the first introduction to college level research and resources. This requires an approach to information literacy that divides research technique into its fundamental components, beginning with keyword development. The "Keyword Game" requires students to come up with as many words related to their assigned keyword in order to win. The results inspire a fiery debate on the meaning of words not just in context to their course work, but also to their personal lives and experiences. This can help students relate their education to the real world in a way that lectures sometimes miss. Speeches are made when students feel words overlap and points should be reassigned, encouraging communication with which students are more comfortable. The goal of the game is to have students consider the meaning of the words they use, especially as they move between the resources they select for their research as well as the speeches they give in class.

LIGAND QUEST

Ryan O'Hara, Andy A. Mechalakos, Jonah B. Warren* & Sheila L. Molony

QUINNIPAC UNIVERSITY

jonah.warren@quinnipiac.edu

Ligand Quest is an educational video game created as a part of a collaboration between the Game Design and Development program and School of Nursing at Quinnipiac University. The game was designed to teach nursing and medical students core concepts of pharmacology. Each level in Ligand Quest begins with a short vignette narrated by silhouetted characters that defines a particular problem for the player to solve. After a problem is framed, the action shifts to inside one of the characters bodies. Players then fling ligands around the screen to achieve goals. Players can attach ligands to receptors, block them with competitive and noncompetitive antagonists, and release enzymes. In addition to eight prebuilt levels, the game also features a level editor. The level editor allows players to choose the number and names of the ligands, the organs affected, the number and location of the cells and receptors, and the initial dialogue among other things. Created levels can be played by others by sharing generated XML files. It was envisioned that creating levels for the game could be a part of an assignment on pharmacology within a nursing or medical school class. A study of the game's efficacy as a learning tool is currently being conducted. Watch a trailer of the game here: <https://www.youtube.com/watch?v=316NLzjUK6M>



CARDIOMEDIC

**Khaled Abu-Ghazaleh, Nathan, B. Williams,
Jonah, B. Warren* & Sheila, L. Molony**

QUINNIPAC UNIVERSITY

jonah.warren@quinnipiac.edu

CardioMedic is an educational video game prototype created as a part of a collaboration between the Game Design and Development program and School of Nursing at Quinnipiac University. In CardioMedic, the player takes control of a nanobot injected into a patient's body to regulate their heart rate. A supervisor at Science Corp, the company that created the nanobot, guides the player through the body one task at a time. The prototype consists of a number of short introductory levels that show the player how to control the nanobot, collect ligands, select items from an inventory, use ligands to power the nanobot, and attach ligands to receptors in cells to affect the patient. The player must navigate the nanobot through the body and use a grappling hook like device to collect and place ligands along the way, giving the game a unique interactive feel. The final level challenges the player to repeatedly attach ligands to receptors in order to regulate the patient's heart rate. Watch gameplay footage here: <https://www.youtube.com/watch?v=SxB3QT8Xbx>

FACILITATING SUCCESSFUL COLLABORATIONS IN THE CREATION OF EDUCATIONAL GAMES FOR NURSING STUDENTS

**Jonah Warren*, Sheila L. Molony, Cory A. Boyd, Carolyn M. Macica,
Mary A. Glendon & Eileen M. Hermann**

QUINNIPAC UNIVERSITY

jonah.warren@quinnipiac.edu

Often, due to the amount of content that needs to be communicated within a nursing curriculum, it can be necessary to teach important concepts rapidly, making it difficult for students to fully grasp the underlying systems involved. In order to address this, Game Design and Development and Nursing faculty and students at Quinnipiac University have worked together to create a number of educational game prototypes addressing topics particularly challenging to undergraduate nursing students. This has taken the form of two interdisciplinary collaborations involving over 50 students and 12 faculty from three different schools at the University over the past three years. These collaborations have resulted in number of positive outcomes. It has facilitated conversation and developed relationships amongst faculty and students in different disciplines, it has exposed students to new perspectives and ways of thinking, it has challenged participants to work outside of their comfort zones, and has resulted in the creation of two fully functional educational games currently being used in the nursing curriculum to facilitate student learning. A description of these projects will be discussed along with a number of lessons learned and strategies for enabling successful student collaborations in the development of educational games for nursing.

CODE CONTROL

Devorah Kletenik, Kwan Holloway & Mike Williams*

BROOKLYN COLLEGE, CUNY

mikewilliams76901@gmail.com

Code Control is a game developed in Unity with the intent to further expand programming ability by having player's complete code fragments using drag and drop tiles to fill in logic holes. Structurally, the game play is a traditional side scrolling game where player's move through levels solving coding challenges required to progress. Each level focuses on a different programming function: Level 1 - Arithmetic Operations; Level 2 - Conditional Operations; Level 3 - Array Operations; Level 4 - Loop



Structure Operations; & Final Level - Cumulative Challenge. Where Code Control differs from many educational games is that our attempt was to blur the line between educational and retail games. We used design techniques in order to enhance learning outcomes, for example; we created the game to be played non-linearly, where players can attack any functional area in any order, and players only need to complete a certain percentage of challenges before attempting the final cumulative portion. Furthermore, we added a story element to Code Control, attempting to contextualize the scenario in which the player is tasked with the mission of saving scientists aboard an out of control space craft. Finally, Code Control features player upgrades that allow them to move faster, a double jump feature for them to jump higher, and bombs to blow up walls exposing the hidden narrative fragments throughout the game world. Utilizing Code Control in conjunction with traditional instruction gives potentially struggling students visual context for some functional topics covered in introductory CS coursework. We also wanted to make this experience as engaging and fun as possible to further incentivize player retention.

DIS/INFORMATION NATION: VOTER PERSONAS AND DIS/INFORMATION LITERACY IN THE 2016 PRESIDENTIAL ELECTION

Lydia Willoughby^{*1}& Iris Finkel²

¹SUNY NEW PALTZ & ²HUNTER COLLEGE

willougl@newpaltz.edu

Dis/Information Nation is an information literacy role playing game in the model of Reacting to the Past Game (RTTP). RTTP uses role play to set personas who interact with each other in a jigsaw, working together toward a larger goal in group decision making or collective action. Dis/Information Nation follows much of this same pattern of RTTP games, but problematizes the structure for students by asking them to engage in the creation of voter personas. As game play unravels, dis/information is excavated as a concept; dis/information in this context is information that is intentionally misleading and that is used to target specific communities, playing upon the emotional bias of community groups. Students are assigned viral articles to fact check. In order to evaluate content, quality of the article is assessed based on the availability of the content in other publications/media, the type of publications in which the story appears to detect bias, and whether the article is opinion or journalism. The article and research will inform the role development students undertake as part the assignment, and make visible the explicitly iterative nature of research and fact checking. The game employs the four basic moves of Michael A. Caulfield's Web Literacy for Student Fact-Checkers: Check for previous work, Go upstream from the source, Read laterally, and Circle back. The objective is for students to a) create a persona of a voter, b) Identify, Evaluate, and Situate the Information and Media sources their persona uses to read news.

DEVELOPING A MOBILE-COMPATIBLE INTERACTIVE GAME FOR CHEMISTRY

John Ziegler*, Vicki Flaris & Edward Lehner

BRONX COMMUNITY COLLEGE, CUNY

john.ziegler@bcc.cuny.edu

We are working towards the development of a short game for chemistry courses, starting with some freely available online tools and scaling this initial game into fully developed content. The game will ask students to exercise skills relating to naming of molecular compounds and stoichiometry while proceeding through a level-based narrative. The final game would incorporate at minimum the social element of class leaderboards, displaying, for instance, the top ten scores in the class (further social elements are desirable, but will depend on the complexities of incorporation). As a further incentive, "achievements" can be included, perhaps allotting "badges" and/or real-world rewards such as extra points on an assignment. If the game's initial implementation proves successful, we hope to partner with faculty to create short skill reinforcement games for other



courses and disciplines, such as math, in which students often must overcome significant skills deficits. This project offers more and different opportunities for students to remain engaged with coursework and with their classmates. Studies have shown that pedagogical games improve working memory and potentially decrease test anxiety. In addition, many students are already comfortable using smartphones for study and research, as well as for social communication. Many also already engage in some type of mobile gaming, and mobile games should therefore yield increases in student engagement and success by providing portable, flexible, and fun additional practice, while leaderboards, achievements, and rewards give students a reason to return to the game and practice further.



General Statistics

Registered Attendees	172
Full-time	67
Part-time	48
Students	48
Other	25
Total posters and oral presentations	66
Posters and arcade demos	21
Oral Presentations	45
<i>10 minute shorts</i>	25
<i>30 minute talks</i>	20
Allure of Play Workshop	32
Introduction to Unity Programming	40

Day 1: Monday, January 22, 2018**9:00 am – Conference Welcoming****Events: Concourse Lobby****Registration & Coffee****Welcome & Opening Remarks****Speed Networking**

Meet a new expert in game-based learning every 5 minutes. Quickly extend your network of contacts in the field. Meet future collaborators and domain experts from academia, educational design, and professional game development.

10:00 am – Session 1**Health & Cognitive Sciences: C197**

Applying Cognitive Science to the Use of Assessments in Game-Based Learning – Lindsay Portnoy, Jessica Ochoa Hendrix, Killer Snails; Mande Holford, Killer Snails/Hunter College (30 minutes)

What Happened To John Doe?: Gaming In The Health Sciences – Scott Henkle, Long Island University-Brooklyn (10 minutes)

Facilitating Successful Collaborations in the Creation of Educational Games for Nursing Students – Jonah B. Warren, Sheila L. Molony, Cory A. Boyd, Carolyn M. Macica, Eileen M. Hermann, Quinnipiac University; Mary A. Glendon, Southern Connecticut State University (10 minutes)

Hiccup Hospital: An Interprofessional Board Game – Shari Salzhauer Berkowitz, Mercy College (10 minutes)

Easy Ideas for Instructors to Incorporate: C198

Conceptual Framework Toward Making an Informed Decision To Implement Digital Game Based Learning in Higher Education – Mary Ann Comunale, Drexel University (30 minutes)

Playing Well with Others: Kingsborough's Community of Gamers – Mary, T. Ortiz, Grace L. Axler-DiPerte, Kingsborough Community College, CUNY (10 minutes)

Games for Engagement – Alexander B. McClure, Hostos Community College, CUNY (10 minutes)

The Use of Interactive Games and Activities to Improve Students' Public Speaking Skills – Ashlie Klepper, Queensborough Community College, CUNY (10 minutes)

Critical Play with History (Panel): C201

Jeffrey C. Lawler, Sean Smith, California State University Long Beach; Patrick Rael, Bowdoin College

Composition & Storytelling: C202

Narrative & Information in Virtual Reality – John Benton, New York University/School of Visual Arts (30 minutes)

The Bridge: A Composition Game – Liana V. Andreassen, South Texas College (10 minutes)

Composition Lessons Learned from Co-Designing Educational ARGs – Kathryn Kaczmarek Frew, Kari Kraus, Elizabeth Bonsignore, Skylar Hoffman, University of Maryland; Derek Hansen, Brigham Young University; Anthony Pellicone, New York University (10 minutes)

Games and Storytelling for Design Foundations – Scott V. Swearingen, Eunkyoung L.

Swearingen, Ohio State University (10 min)

11:00 am – Break**11:15 am – Session 2****STEM Games: C197**

Game Up Your Math! New, Innovative Digital Games for Developmental Algebra – Kathleen Offenholley, Borough of Manhattan Community College, CUNY (30 minutes)

Developing a Mobile-Compatible Interactive Game for Chemistry – John R. Ziegler, Vicki Flaris, Edward Lehner, Bronx Community College (10 minutes)

Design and Development of CD4 Hunter™, an Educational Mobile Game about How HIV Infects T cells for Higher Education Courses in Microbiology and Infectious Disease – Sandra Urdaneta-Hartmann, Vincent Mills, Andrew Bishop, Mary Ann Comunale, Brian Wigdahl, Drexel University; C. L. Brown, Game Dr. Ltd. (10 minutes)

Evaluating Transfer of Knowledge using CD4 Hunter™ in an Undergraduate Biology Population – Mary Ann Comunale, Sandra Urdaneta-Hartmann, Brian Wigdahl, Vincent Mills, Andrew Bishop, Drexel University; C. L. Brown, Game Dr. Ltd. (10 minutes)

Easy Ideas II: C198

The Course Awakens: Moving Beyond Gamification – Carolyn Stallard, CUNY Graduate Center (30 minutes)

Game Based Learning in the Virtual World: An Introduction – Salie Davis, Mark Lewis, SUNY Empire State College (10 minutes)

Building a Bridge Between Game-Based Learning in Higher Education and Cultural Institutions – Lindsay Portnoy, Jessica Ochoa Hendrix, Killer Snails; Mande Holford, Killer Snails/Hunter College (10 minutes)

Leveling Up Your Character – Brooke T. Allen, Viral Virtue, Inc. and Jingyu Sui, New York University (10 min)

Gaming Anthropology: Teaching Culture and Power Through Games and Design (Panel): C201

Krista Harper, University of Massachusetts Amherst; Samuel Collins, Matthew Durington, Towson University

Twine & Writing Games: C202

Making 'Choose Your Own Adventure'-style Tutorials with Twine – Robin Camille Davis, John Jay College CUNY (30 minutes)

Using Twine to Create an Interactive Grammar Assignment – Karin Lundberg, Kate Lyons, Hostos Community College CUNY (10 minutes)

12:15pm – Lunch (on the town), Casual Gaming, and Posters
Grab lunch with friends in the city (or bring your lunch), partake in casual gaming, and view the posters in Rooms C203-205.

1:45 pm – Session 3

Computer Science & Game Design: C197
Learner-Centered Teaching, Game-Based Learning, and Developmental Approaches in the Context of Teaching Programming – Joshua A. Fishburn, The College of New Jersey (10 minutes)

Game Development with a Serious Focus – Devorah Kletenik, Brooklyn College CUNY; Deborah Sturm, College of Staten Island CUNY (10 minutes)

Game On, Python! Teaching

Programming with Narrative Games – Reneta D. Lansiquot, Tamrah D. Cunningham, Candido Cabo, New York City College of Technology CUNY (10 minutes)

The Playtesting's the Thing – Mark A. Lewis, SUNY Empire State College (10 minutes)

Engagement and Immersion: Unique Challenges for User Experience in Games – Ulysee S. Thompson, Adam Spryszynski, New Jersey Institute of Technology (10 minutes)

Mastering Tedium: Learning from Alternative Design Practices – Alexander B. McClure, Hostos Community College CUNY (10 minutes)

Fact Checking & Research: C198

Dis/Information Nation: Voter Personas and Dis/Information Literacy in the 2016 Presidential Election – Lydia Willoughby, SUNY New Paltz, Iris Finkel, Hunter College (30 minutes)

Fake News, Real Learning: Using News Games to Teach Civic & Information Literacy in Higher Education – Karen L. Schrier, Marist College (10 minutes)

"The Keyword Game": Encouraging Communication and Promoting Language in the Library – Leslie Ward, Heather Huggins, Queensborough Community College CUNY (10 minutes)

Research, Interpretation, Play: Billy Budd as Role-Playing Game via Ivanhoe for WordPress – Jeff Allred, Hunter College CUNY (10 minutes)

Global Games for Change Catalog (Panel): C201

Marcus A. Del Valle, Elizabeth Bishop, Maya Faison, Matthew Wallace, Ahmed Ali, Global Kids

Comics & Active Learning: C202

The Transmedia Classroom: Learning, Play and Technology – David Seelow, Revolutionary Learning/College of Saint Rose (30 minutes)

Sharing Comic-Book Knowledge through Playable Syllabi – Andrew J. Lucchesi, Western Washington University (10 minutes)

Do Millennials Really Learn Differently? – Christopher Salute, Long Island University/Aider Solutions (10 minutes)

Fear Not Arthrology: The Anatomy of a Game – Sabrina M. Timperman, Mercy College (10 min)

2:45 pm – Snack & Coffee Break**3:00 pm – Session 4****Business & Finance Games: C197**

Collect Them All – Christopher Leary, Queensborough Community College CUNY (30 minutes)

Business Education Games for Beginners – Christopher Salute, LIU Global/Bold Media (30 minutes)

Course Review Through Games: C198

Jeopardy! A Look At the Relation Between Student Consumerism and Increase in Knowledge – Heidi M.J.

Bertels, College of Staten Island CUNY (30 minutes)

Creating Dynamic PPT Review Games – Spyro Roubos, Brookdale Community College (30 minutes)

SimGlobal: Building a Serious Roleplay Course for the Social Sciences (Panel): C201

John C. McKnight, David Runyon, Brittni Linn, Harrisburg University

Role Playing Games, Narrative, & Story: C202

The Council Has Spoken: A Decision-Making Exercise Using Game-Based Learning – Jacob M. Adler, Bronx Community College CUNY (30 minutes)

Rat Race Edu – Marcus A. Del Valle, Elizabeth Bishop, Maya Faison, Ahmed Ali, Global Kids (30 minutes)

4:00 pm – Break**4:15 pm – Arcade Demos (C203-205)**

Board Game Designed for Freshman Seminar – Andrew Peterson, Ferris State University

CardioMedic – Khaled Abu-Ghazaleh, Nathan B. Williams, Jonah B. Warren, Sheila L. Molony, Quinnipiac University
Cards Against Inanity: Games That Help You Live a Better Life – Brooke T. Allen, Viral Virtue, Inc. and Jingyu Sui, NYU
Code Control – Devorah Kletenik, Kwan Holloway, Mike Williams, Brooklyn College CUNY
Defense Circuitry – Matthew Besser, Irtiza Syed, College of SI

Ellie Beagle: Therapy Dog – Kelli N. Dunlap

Fear Not Arthrology: The Anatomy of a Game – Sabrina M. Timperman, Mercy College

Game-Based Learning in the Virtual World – Salie Davis, Mark Lewis, SUNY Empire State College

CK GBL Games Corner – Marcus A. Del Valle, Elizabeth Bishop, Maya Faison, Matthew Wallace, Ahmed Ali, Global Kids

Hiccup Hospital: Let's Play! – Shari Salzhauer Berkowitz, Mercy College
Let's Play CD4 Hunter™, A Mobile Mini-game About How HIV Infects T Cells – Sandra Urdaneta-Hartmann, Vincent Mills, Andrew Bishop, Mary Ann Comunale, Brian Wigdahl, Drexel University; C. L. Brown, Game Dr. Ltd.

Ligand Quest – Ryan P. O'Hara, Andy A. Mechala, Jonah B. Warren, Sheila L. Molony, Quinnipiac University

Lightweight Networked Art Games – Joshua A. Fishburn, Austin M. Merritt, Robin J. Friedman, The College of New Jersey

Mastering Tedium – Alexander B. McClure, Hostos CC, CUNY

Videogame Themed Reviews for Math Courses – Spyro Roubos, Brookdale Community College

Walking in Ruins: A Clemson University Mod for Fallout 4 – Samuel J. Fuller, Clemson University

Wall Mounted Level – Scott V. Swearingen, Eunkyoung L.

Swearingen, Ohio State University

5:15 pm – Problem-solving session



Acknowledgements

Interactive Technology and Pedagogy Certificate Program

Steve Brier, Founder and Coordinator

<http://www.gc.cuny.edu/itp>

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The City
University
of
New York



The CUNY Games Network