

Augustana Campus Undergraduate Research & Innovative Teaching (ACURIT) Conference

Day 1

Monday, April 25, 2016 Undergraduate Research Conference	
8:30 am to 9:00 am	Coffee-Registration – Allen Berger Introduction and Welcome
9:00 am to 9:30 am	Keynote: Marcelo Ramos (Sts. Paul & Mark School, Laguna) <i>Parten's Play Stages and Social Skills of Selected Children with Autism.</i>
9:30 am to 9:45 am	Break
9:45 am to 11:15 pm	<p>Session 1</p> <p>Nikki Hay (Augustana) <i>Playing with Danger: The 1924 Abortion of Pattie Thelma Burnup</i></p> <p>Kieryn Houlder (Augustana) and Carly Heck (Augustana) <i>Reaching for the Treetops: Student Perspectives on Experiential Undergraduate Learning in the Rain Forests of Costa Rica</i></p> <p>Deanna Funk (Augustana) <i>Blood Glucose Control during Exercise in Islet Transplant Recipients</i></p>
11:15 am to 12:00 pm	Workshop: Dan Miller (Calvin College, Grand Rapids, MI) <i>Using Games in the Social Studies Classroom</i>
12:00 to 1:30 pm	Lunch
1:30 pm to 2:30 pm	<p>Session 2</p> <p>Jamal Alhajmustafa (Zayed University, Dubai) <i>Emirati Undergraduates' Motivational Profiles and Self-Perception</i></p> <p>Abdulla Buali (Zayed University, Dubai) <i>Gamification and Technology in Mathematics: A Pilot-Study in an Emirati University</i></p>
2:30 pm to 2:45 pm	Break
2:45 pm to 4:15 pm	<p>Session 3</p> <p>Trish Ryan (Augustana) <i>The Media's Role in the Power Plays Associated with Dress, Identity and Gender: Media Analysis of Canadian "Crop Top Day" Coverage.</i></p> <p>Wilissa Reist (Augustana) <i>Playing Clothed? An Assessment of Public Discourses towards the Topless Female Body</i></p> <p>Brian Hager (Augustana) <i>A Gamer Gated Community</i></p>

Day 2

Tuesday, April 26, 2015 Teaching Workshop

8:30 am to 9:00 am	Coffee
9:00 am to 10:50 am	<p>Session 1 Jane Bryan (Warwick University, UK) <i>Using the 'Play' Form to Encourage Undergraduate Research and as an Innovative Teaching Technique</i></p> <p>Tina Trigg (The King's University, Edmonton) <i>Monopoly, Modeling, and Gaming Motif: Taking a Risk Teaching</i></p> <p>Mélanie Méthot (Augustana) <i>Playing with Archival Data: Professor and Students Perspectives</i></p> <p>Elizabeth Ramos (St. Paul University, Manila) <i>Using Game as a Strategy in Teaching Principles of Total Quality</i></p>
10:50 am to 11:00 am	Break
11:00 am to 12:00 pm (In the Chapel)	<p>Session 2 Kathleen Corcoran (Augustana) <i>Vocal Performance: From Play to Profession</i></p> <p>Varghese Manaloor (Augustana) <i>Teaching, and Learning within an Interdisciplinary Framework: Experiences from Augustana's India Study Tour</i></p>
12:00 pm to 1:00 pm	Lunch
1:00 pm to 2:00 pm	<p>Session 3 Round Table: <i>Student and Faculty Perspectives on the Independent Research Process</i> Stephanie Gruhlke, Wilissa Reist, Trish Ryan, Nikki Hay, Alexandra Maley, Neil Haave, Shuana Wilton and Roxanne Harde</p>
2:00 pm to 2:15 pm	Break
2:15 pm to 3:45 pm	<p>Session 4 Joana Stocker (Zayed University, Dubai) <i>Institutional, Curricular and Teaching Practices to Promote Undergraduate Research</i></p> <p>Amy Guerber (Augustana) and Louis Amprako <i>Experiential Learning through Simulations</i></p> <p>Janet Wesselius (Augustana) <i>From Plato to Playdough: Bringing the Cognitive Freedom of Childhood Back into Teaching</i></p>
3:45 pm to 4:00 pm	Break
4:00 pm to 5:30 pm	<p>Session 5 Anne McIntosh and Doris Audet (Augustana) <i>Reaching for the Treetops – Faculty Perspective on Experiential Undergraduate Learning in the Rain Forests of Costa Rica</i></p> <p>Dorothy Hill (Mount Royal University, Calgary) <i>Playing Scientist: How Citizen Science</i></p>

[Projects can Enhance Undergraduate Science Education](#)

Neil Haave (Augustana) [Playing with Metacognition to Enhance Learning: An E-portfolio Assignment Rescued Biology Students from a Poorer Final Exam Result.](#)

6:00 pm

Conference Dinner at Stockmen's Chophouse

Marcelo Ramos
Sts. Paul & Mark School, Santa Rosa City, Philippines

Parten's Play Stages and Social Skills of Selected Children with Autism.

Autism is a developmental disability. Being a spectrum disorder, the symptoms and characteristics of children with autism can be manifested mildly or severely and can have a variety of combinations. Among others, this disorder affects verbal and non-verbal communication and social interaction of children.

The study aims to determine the level of Parten's play stages of selected children with autism in a private pre-school special education classroom. Qualitative descriptive research design was used. The children, while engaged in an unstructured play, were observed in their classroom environment for 30-45 minutes for five consecutive days. Three teachers observed the children. The observers video-taped and jotted down their observations. The results showed the level of play stages *vis-à-vis* the social skills of the children. The findings suggest the importance of incorporating play to enhance the social skills of children with autism.

Trish Ryan
Augustana Campus, University of Alberta

The Media's Role in the Power Plays Associated with Dress, Identity and Gender: Media Analysis of Canadian "Crop Top Day" Coverage.

"Play" is not always confined to recreation! This research project critically engages with complex power plays exposed in media coverage of the recent "Crop Top" protests. These events were ignited by Alexi Halket, a high school senior, on May 26, 2015. Halket's principal reprimanded her for wearing what was deemed "inappropriate" for a learning environment. In response, Halket organized a protest, that would see hundreds of students from the Greater Toronto Area attend school the following day in crop tops, with messages written on their clothing and bodies that opposed dress codes for unfairly targeting women. The media coverage composing this corpus is combative at every turn, exposing multifaceted power plays that grapple with issues of identity, age discrimination, class and gender. Specifically, the coverage gives implicit and explicit examples of masculinity as locked in to a diminished capacity to control sexual urges, while femininity is reinforced as the "care taker" of such masculine confinements. Feminist theories do nothing to calm the storm, in fact, the complexities in this arena add fuel to the fire. After laying out the methodological details, a framework of concept definitions provides the foundation for analysis. An exploration of framing techniques, through media headlines, is followed by frequently used words, tones and themes exposed in the coverage. Emerging trends and themes are explored comparatively, from liberal, radical and sex positive feminist perspectives. Analysis of the media coverage, of the "Crop Top Day" events, exposes a plethora of power plays rooted in identity, and gender, through age and class confrontations, that repeatedly show the media as a restrictive agent, enforcing confining societal norms.

Wilissa Reist
Augustana Campus, University of Alberta

Playing Clothed? An Assessment of Public Discourses towards the Topless Female Body

This presentation explores how discussions concerning the female body are presented in Canadian print media. It asks the following questions: how public discourse concerning the topless female framed in Canadian print media and what values does this discourse seek to promote? In this project, I examine every newspaper article pertaining to examples in which females chose to go topless in public from June 1st 2015 to August 31st 2015. A content analysis was then performed in order to identify key themes and motifs. From a theoretical standpoint, this research is rooted in feminist theory and the cultural studies approach. Ultimately this study works to deconstruct the public discourses towards women who do chose to go topless in public. I demonstrate that the image of the topless women existing as a natural part of society challenges the sexual objectivity of women's bodies. This research also shows that public discourses presented within the media work to perpetuate anti-progressive understandings of the female body.

Brian Hager
Augustana Campus, University of Alberta

A Gamer Gated Community

"It's about ethics in games journalism!" This comment can be seen posted, genuinely or sarcastically, in the discussion after virtually every video game article online that even remotely mentions something controversial. The sentiment comes from GamerGate, which some people truly believe is about ethics in games journalism. In reality it's about a group of gamers who are angry that their favourite hobby is changing to be less misogynistic and have stronger female characters rather than the usual nerd fantasies. It's this controversy that is ruining the usually welcoming and open minded gamer community. Normally communities are wonderful things that provide a welcoming environment for you to thrive and enjoy yourself. The gaming community is one that can be especially welcoming. Finding a forum that centres around a game you like can be great. You can even go to a video streaming site and watch someone play, and then start talking with other viewers in the chat window to instantly be a part of something. Plato has done a lot to describe what makes a great community in *Republic*, but he also has a lot to say about what can destroy that community. It's through Plato that we will see how GamerGate is working to weaken and separate the usually terrific gaming community through poor leadership, a lack of education, treating gaming as their own private property, and an unwillingness to change.

Dan Miller
Calvin College, Grand Rapids, MI, USA

Using Games in the Social Studies Classroom

We've all heard the proverb: "I hear—I forget; I see—I remember; I do—I understand." One of the best ways I've found to "do" Social Studies is to play games that replicate a historical situation or illustrate an important Social Studies concept. Games give my students some variety and, when well designed and properly presented, provide powerful learning experiences that are remembered long after lectures and discussions have been forgotten.

The benefits of using games in the classroom are obvious. They give students the opportunity to develop reasoning and decision-making abilities, they promote authentic and holistic learning, and they stimulate student interest in the subject of the game. Of course, anyone who has used games in a classroom knows that there are drawbacks to them as well. They can be very time consuming, poorly designed games purvey misinformation, the very competitive spirit that makes games exciting to students can make them disruptive.

This workshop will provide a description of several games that I use in college-level classes but which are also appropriate for secondary-level students. Participants will discuss best practices and challenges in the use of games and they will receive materials that will enable them to recreate several games for use in their own classes.

Jamal Alhajmustafa
Zayed University, Dubai

Emirati Undergraduates' Motivational Profiles and Self-Perception

Motivation is the stimulation that acts on an organism, initiating and directing behavior. It arises from the environment (*extrinsic motivation*) or from within the individual (*intrinsic motivation*), whereas self-perception is how one sees him/herself. It has been shown that in the academic setting students with a more intrinsically motivated profile and positive self-perception achieve higher academically compared to others who are more extrinsically motivated and have a more negative self-perception. In contrast to the West, where these topics are widely studied, it has seldom been studied in the Middle East. Therefore, this study will explore Emirati undergraduates' motivational and self-perceptual profiles, and the correlations between their different dimensions.

A combination of two questionnaires was used: *Intrinsic versus Extrinsic Orientation in the Classroom Questionnaire* (Harter, 1981) and *Self-Perception Profile For Adolescents Questionnaire* (Harter, 2012), with a total of 54 items. The participants were 225 undergraduate students (82.7% female) with ages between 17 and 41 years old ($M = 20.7$, $SD = 2.96$), studying in different colleges. SPSS was used to conduct a correlation and a one-sample t-test analysis. Results show that there exist significant, high and positive correlations within the motivational orientation's dimensions, and within the self-perception profile's dimensions. Despite that, there is little or no cross-sectional correlation between both motivational and self-perception profiles. The highest correlations were between Preference for Challenge and Curiosity (.37), Preference for Challenge and Independent Mastery (.47), and Job Competence and Scholastic Competence (.34). These results and their implications will be further discussed.

Abdulla Buali
Zayed University, Dubai

Gamification and Technology in Mathematics: A Pilot-Study in an Emirati University

"Gamification" is the use of game elements in non-game different contexts (Deterding, Dixon, Khaled, & Nacke, 2011). In the academic setting recent research revealed that there has been success in improving students' engagement when applying gamification (Goehle, 2013). Even in Mathematics, which is a proven subject where even university students struggle with (Lithner, 2011) the use of games, and technology-based learning have shown that students were more engaged and able to enhance their mathematical skills and academic achievement (Goehle, 2013). However, most of these studies are based in Western countries, being almost non-existent research on the topic in the Middle East.

Therefore, the main goal of this pilot-study is to explore what motivates and challenges Emirati university students in Mathematics, and their perceptions on the use of gamification and technology, using respective conclusions to design the main research. Interviews with six students (50% female), aged between 18 and 22 years old were conducted, as well as a focus group with four Math professors. Content analysis was conducted using Nvivo. Students seem to prefer the use of online lectures to be able to rewind the lecture and recommended that the professor should be detailed and answer questions without making the students feel belittled. Both students and professors identified fractions and percentages as the most difficult content and where gamification would be most beneficial. Based on these preliminary results, suggestions on how to apply gamification and technology in Math will be proposed, as well as the experimental design of the main study.

Nikki Hay
Augustana Campus, University of Alberta

Playing with Danger: the 1924 Abortion of Pattie Thelma Burnup

Working with court documents is never easy. Not only all documents may not have been conserved, but one does not have the advantage of seeing the witnesses, hearing the hesitations, stuttering or confidence exuded, the historian can only interpret what is in front and put it back in its historical context. Pattie Burnup died in October 1924 in a nursing home in Edmonton. She was only 19. Once the medical examiner confirmed she was pregnant, three people were charged with manslaughter and attempt to procure an abortion: the Doctor who performed it, John Hislop, the woman who acted as a nurse, Mrs. Olive Walker, and Pattie's boyfriend James Dawson.

This paper analyzes the case files related to each accusation and draws conclusions on the values, limitations, and the social issues imbedded in the anti-abortion laws during this time.

Kieryn Houlder and Carly Heck
Augustana Campus, University of Alberta

Reaching for the Treetops: Student Perspectives on Experiential Undergraduate Learning in the Rain Forests of Costa Rica

In our course "Field Studies in Tropical Ecology and Conservation" we got to "play" in the beautiful Costa Rican rainforest. We spent five months preparing for the trip, learning about the region's natural history and conservation efforts. What we learned while in Costa Rica cannot be found in a classroom. This trip allowed us to see firsthand the immense biodiversity of Costa Rica and the efforts made to preserve it. This course gave us the rare undergraduate experience of designing and carrying out our own independent research study, guided by our mentors' knowledge. Although each pair of students had their own research focus, we were all involved in each other's data collection thereby strengthening our teamwork and cooperation skills. It is exciting to know our results are useful to those at Osa Conservation and will potentially be implemented in future research or conservation projects. Our tropical experience was not without its own struggles, but they lead us to value our accomplishments that much more. The trip to the Piro Biological Station in the Osa Peninsula of southwestern Costa Rica was a life-changing experience for us and our peers.

Deanna Funk
Augustana Campus, University of Alberta

Blood Glucose Control during Exercise in Islet Transplant Recipients

Background: The replacement of damaged insulin-producing pancreatic islet cells, known as islet cell transplantation (ITx), can be a viable option for patients with type 1 diabetes (T1D) who require improved blood glucose control and have exhausted other methods. However, animal studies indicate that glucoregulation during moderate exercise is abnormal following ITx. To our knowledge, no human studies have been conducted.

Methods: We are recruiting insulin-independent ITx patients over the age of 18 with an HbA_{1c} < 7.5%. Controls without diabetes will be matched for sex, age, activity level, height, and weight. Participants are asked to wear a continuous glucose monitor, keep a food log, and take capillary glucose measurements at least four times per day for six days. A preliminary aerobic capacity (VO_{2peak}) test is performed at baseline followed by two 45-minute testing sessions (one resting and one exercise at ~60% VO_{2peak}) on days three and five of sensor wear. Blood glucose values during the testing sessions are obtained from venous blood samples.

Results: To date, participants have exhibited declines in blood glucose to values below 3.9 mmol/L (hypoglycemia) during exercise. During the resting session, blood glucose was more variable than normal but generally within a healthy range (6.3-10.1 mmol/L).

Conclusion: Exercise at a moderate intensity caused abnormal declines in blood glucose similar to those in T1D in these two participants. This may indicate that ITx does not fully restore the function of islets in response to glucoregulatory stress such as moderate exercise.

Co-researchers: Jordan Rees, Saeed Reza Esghi Toghi, Normand Boule, Peter Senior, Jane Yardley

Jane Bryan
Warwick University, UK

Using the 'Play' Form to Encourage Undergraduate Research and as an Innovative Teaching Technique

Undergraduate legal studies often focus upon significant appeal cases and Acts of Parliament and overlook the routine administration of justice taking place in lower courts up and down the country on a daily basis. In an effort to direct attention towards the neglected 'everyday', to highlight the theatricality inherent in even 'routine' court hearings, and to find material to support a 'then and now' dramatic analysis of criminal justice, a project was undertaken with a group of undergraduates from the Warwick Law School, in conjunction with Warwick Town Council and a local theatre group, to unlock Warwick Town's criminal past and bring to light, and to life in the form of a theatrical play, neglected tales of local nineteenth century crimes and punishments.

This paper outlines the student-led, performance-based project which took as its pedagogic focus the student as researcher and producer. Learning was taken outside the classroom to the Old Court House and the County Records Office in Warwick where the under-explored archives provided a rich repository for students, enabling them to research long forgotten criminal cases heard in Warwick Town's Petty Sessions during the mid-nineteenth century. Stories gleaned from court documents and contemporaneous newspapers were then woven by students into a dramatised re-enactment of a 1850s Petty Session court hearing, performed by students for the entertainment and education of a wide audience, drawn from the university and the local town.

This paper seeks to share the experiences and insights gained from this experimentation with the 'play' as a form of creative, collaborative, open-space teaching and learning, drawing attention to the power of drama both as a driver to encourage independent undergraduate research and as an innovative, 'authentic' means of disseminating this information through performance.



The Old Court House in Warwick Town

Tina Trigg
The King's University, Edmonton

Monopoly, Modeling, and Gaming Motif: Taking a Risk Teaching

Literature professors often encourage students to examine how authors play with language in order to appreciate the craftsmanship and appeal of literary art; after all, much of the power of storytelling lies in

a willingness to engage in imaginative play. To explore serious study through play, this presentation will outline a pedagogical experiment used in a senior-level literature course, *Bite-Sized Reading: North American Short Story*, to unravel an unusual nexus of play in content, form, and approach.

A course module on the short story cycle was designed using principles of Dialogic Learning, emphasizing student participation and a sensory approach (visual, tactile, etc.). The text under consideration, Margaret Atwood's *Moral Disorder* (2006), includes the motif of gaming and plays with form; I complemented this focus with intentional use of play in teaching approach. The central story, titled "Monopoly," functions like a high stakes roll on which the narrator's life and fortune depends. Literally appearing and reappearing in the text, the classic boardgame becomes a pivotal moment in an adult love relationship with children as pawns, unwritten rules exposed, and the risks of life being aligned with property ownership. Through its strategic craftsmanship, the sequenced stories showcase the author's play with gaming ideology – especially risk, chance, and loss.

To complement the text's use of gaming as recurring content and form, I devised an experimental pedagogical approach that involved play. Explanatory theories about the short story cycle were consistently partnered with tactile methods and object-based representations created in class by the students – such as clay modelling and risk cards. In short, students were asked to play – which became an exercise in (ultimately successful) risk taking for the instructor. Although this example of play in content, form, and approach occurred in a literature course, the principles of risk, active play, and unexpected pedagogy are relevant to deep learning across disciplines and, indeed, outside of the university classroom.

Mélanie Méthot
Augustana Campus, University of Alberta

Playing with Archival Data: Professor and Students Perspectives

In the collaborative research seminar, Augustana students explore the field of Canadian Criminal legal history. They learn all the steps of a research project, from the conceptualization of the project to the research methodologies and approaches, experimenting with data interpretation and communication of results. Students acquire valuable archival research experience at the Provincial Archives of Alberta, they learn how to work as a team, and they perfect oral and written communication skills. I will explain the functioning of the seminar, highlight the successes, and point to the limits (pitfalls) of such an endeavour from my own perspective and from students' observations.

Elizabeth Ramos
St. Paul University, Manila

Using Game as a Strategy in Teaching Principles of Total Quality

Teacher-centered learning strategies like lectures are boring for the students especially if the concept is abstract. This applies in teaching "Principles of Total Quality" which is one of the concepts in the course Total Quality Management taken in the college level. Most students in the undergraduate level find it difficult to comprehend the topic because most of them have not had any industry experience.

This research paper documented a learning activity through the use of a game approach in teaching Principles of Total Quality to selected junior Tourism Management tertiary students in St. Paul University Manila Philippines. The game was an adaptation of the strategy used to teach Quality Control to engineering students (Wang, 2003).

The students were divided into 3 manufacturing company groups of five members each and one customer group with six members. The customers' group specified the type and quality of product that they want. Each manufacturing company group recycled the core cardboard of tissue papers into pencil/pen holders and sold them to the customers' group. The manufacturing company group with the highest amount of sales emerged as the winner.

Through role-playing, the students applied the principles of total quality as they simulated the production and marketing process of an organization. They gained a quick appreciation of the five principles of total quality, to wit: a) customer focus and delight, b) process approach, c) continuous improvement and learning, d) empowerment and teamwork, and e) leadership and strategic planning. The students found the approach enjoyable and effective in learning abstract concepts.

Amy Guerber
Augustana Campus, University of Alberta

Experiential Learning through Simulations

Simulations provide hands-on learning opportunities otherwise inaccessible to students as well as opportunities for professors to highlight complex phenomena which can be difficult to otherwise demonstrate. Drawing from my experience using simulations in Business Strategy, I discuss the value of using simulations as experiential learning tools. I will incorporate student testimonials regarding their experiences using a simulation. Finally, I will discuss possible opportunities for using simulations in a 3 week or 11 week term in various disciplines.

Kathleen Corcoran
Augustana Campus, University of Alberta

Vocal Performance: From Play to Profession

There is a significant adjustment for most students entering university vocal performance degree programs. As in other disciplines, students of vocal performance choose their degree program because they are interested in and have already achieved some level of success in their program of choice: they enjoy the subject area and want it to be central to their career. The difference is that before university, vocal study is optional and the transition from naturally-talented-hobbyist to student-skillful-performer is often a difficult adjustment. Prior to university, vocal study was a stress-relieving, 'fun' activity undertaken when all 'work' was completed but then the stress-relief has potential to become the stressor. What was extra-curricular must become the central focus and this involves a significant switch in work habits and broadening of understanding of what is involved in artistic vocal performance. Professors must be aware of this necessary shift in thinking and facilitate the transition rather rapidly to ensure students' success and continued enthusiasm for the discipline. We need to guide these talented and intelligent students over this gap and inspire them to engage in the depth and rigor of the pursuit and simultaneously build an optimism and resilience which can help maintain the joy which brought them to our degree program.

My presentation will outline some teaching innovations designed to facilitate the shift from play to profession and share some feedback on the varying levels of success.

Joana Stocker
Zayed University, Dubai

Institutional, Curricular and Teaching Practices to Promote Undergraduate Research

Nowadays universities are more and more being asked for accountability considering specific and objective academic achievements, which are measured by rankings, publications, impact factor journals, amongst others. Research is clearly one of the most prominent fields where universities are allocating their efforts, including both faculty and students. More specifically, if the research among teachers and graduate students has already a long tradition, the undergraduate research is somehow a recent, but strong, development worldwide. Therefore, studies that explore and share good practices in promoting this type of research activities have been highly incentivized. This presentation seeks to share institutional, curricular, and teaching practices that may contribute to promote research among undergraduate students. At the institutional level, it will be presented an extra-curricular program

designated Undergraduate Research Scholarship Program (URSP), that seeks to provide students with research training and scholarly culture, to prepare students for graduate school, and to empower Emirati citizens to conduct research on issues that are directly related to the United Arab Emirates (UAE). It will also be discussed an on-going proposal to transform this program in a Minor in Research Methods, and its features. At the curricular level, it will be debated strategies to integrate theoretical and empirical research within programs and courses. Finally, at a smaller but not less important dimension, classroom context techniques will be shared. Thus, with a systemic presentation that approaches institutional, curricular, and classroom strategies, it is hoped to contribute to the promotion of the undergraduate research.

Varghese Manaloor
Augustana Campus, University of Alberta

Teaching, and Learning within an Interdisciplinary Framework: Experiences from Augustana's India Study Tour

Every other year, Augustana campus of the University of Alberta offers an inter-disciplinary course, taught between Economics and Religious Studies that engages students to explore the intersections of Religion and Development by taking students to India for approximately 3 ½ weeks. Students and faculty learn about India's development challenges and the role that religion plays in animating works of compassion. This presentation explores the pedagogical underpinnings of the unique experiential learning course. Apart from the logistical challenges of the course, this presentation examines the reasons as to what makes this experience academically and personally rewarding for students and faculty. It will give voice to the intellectual, emotional, and spiritual landscapes of both teacher and student as they grapple with the bewildering array of challenges that India poses to the mind, body, and spirit, as well as suggest how the successes of this course might be mirrored in more traditional classroom settings.

Janet Wesselius
Augustana Campus, University of Alberta

From Plato to Playdough: Bringing the Cognitive Freedom of Childhood Back into Teaching

The psychologist and philosopher Alison Gopnik wrote that we lose our imaginative abilities as we become adults; the adults who have stayed closest to the uninhibited imaginative play of childhood are fiction writers for they "combine the cognitive freedom of childhood with the discipline of adulthood" (2009:73). But because children are wild pretenders—they are willing to consider and explore and play with the most ridiculous possibilities/juxtapositions—that, far from being merely amusing, they can actually learn more than adults can. I explore how we can recapture that sophisticated and philosophically profound capacity to play to enhance learning.

Anne McIntosh and Doris Audet
Augustana Campus, University of Alberta

Reaching for the Treetops – Faculty Perspective on Experiential Undergraduate Learning in the Rain Forests of Costa Rica

Play should be an integral component of undergraduate education; active play both in and outside of the classroom can help to motivate and facilitate student learning. In our class, "Field Studies in Tropical Ecology and Conservation" students get hands-on experience 'playing' in the tropical rainforests of Costa Rica. These first-hand experiences with wildlife and nature provide an ideal venue for high impact learning, especially when they take place in an inquiry-based context. Drawing from our experience in this team-taught field studies course, we will illustrate how field-based studies working with bats, invertebrates, and vegetation, present remarkable opportunities for undergraduate students to acquire natural history knowledge and research skills while exploring the scope, key concepts and methods of

conservation biology in a reflective manner. We will also highlight strategies that helped in enhancing the learning outcomes for the students and in improving the quality of their research. As a result of this experiential learning, not only have students gained an appreciation for the biodiversity and structural complexity of the tropical rain forest biota of Costa Rica, their collective work is contributing substantial knowledge about the flora and fauna that can benefit conservation initiatives at our field research station, Piro Biological Station, in the OSA Peninsula of southwestern Costa Rica.

Dorothy Hill
Mount Royal University, Calgary

Playing Scientist: How Citizen Science Projects can Enhance Undergraduate Science Education

Public participation in scientific research (PPSR) or Citizen Science is the inclusion of volunteer participants in the collection, analysis, sharing, and/or use of scientific data. While the term "Citizen Science" is relatively new, the practice has a long history and includes programs such as the annual Christmas Bird Count. The recent escalation in the development of new Citizen Science projects has brought to the forefront the importance of project design to ensure that data collected by volunteers is easily managed, verified, and repeatable. The benefits of well-designed Citizen Science projects are increased research capacity, open access data, and public engagement. Citizen Science projects can also enhance undergraduate science education. At Mount Royal University ecology and conservation biology students have been involved in Citizen Science projects from design through data analysis. We are also linking Citizen Science and community service learning to enhance student engagement through connections with community partners.

Neil Haave
Augustana Campus, University of Alberta

Playing with Metacognition to Enhance Learning: An E-portfolio Assignment Rescued Biology Students from a Poorer Final Exam Result.

In 2012/13 I piloted the use of e-portfolios in a 2nd-year molecular cell biology course to determine whether they enhance student learning by engaging in students' reflection on their learning. My pilot assignment found 1. The e-portfolio rescued students from a poorer final exam result relative to their midterm exam; 2. E-portfolios can enhance student engagement; 3. Google Sites works well as an e-portfolio platform; 4. Instructors do not need to be technical experts when the e-portfolio platform is embedded in students' everyday digital life; 5. Instructors are able to focus on developing students' learning outcomes associated with e-portfolio assignments when e-portfolios are so embedded; 6. Students may choose whichever e-portfolio platform they prefer, needing only to submit a URL to their e-portfolio for grading.