



**Our effort is to be your launch platform**

# **THE GRADUATE STUDENT NEWSLETTER**

**ISSUE II**

**FEBRUARY 25, 2013**

## **A Call for Innovative Research**

At birth, Science was distinguishable and independent.

Galileo did astronomy, Shakespeare did playwright, Einstein physics, Darwin biology, and so on...Every field was unique in its own respect. That is how it was treated too. Then, as the scope of science expanded it reached a particular threshold. Beyond this point it started encroaching other areas. Local transportation began with bicycles and went on to automobiles. They reached their peak and could evolve further mainly because of the introduction of electronics. One field branched out into many. And now you have hybrid, electric and hydrogen cars. Evolution of knowledge has made different fields dependent.

On a different note, science is evolving into the likeness of man. It had become dependent and social. Control systems represent governments with its form of control in its areas. Robots are made to look like man. And so on.... We are one narcissistic race!!!

Anyways, it is this dependency of science that requires that we become aware of many fields. Which bring us to the reason why other research and interests are as important as any. Alexander Pope in his poetry 'An Essay of Criticism' has mentioned, "a little learning is a dangerous thing". We will strive to keep you out of danger....

We are infants in the realm of knowledge. Infants, with potential to peep out of this tiny earth into the large vastness of space. In the words of Eden Phillpots, "The universe is full of magical things, patiently waiting for our wits to grow sharper."

By Sanjeev Gangadharan  
GSC, Newsletter Chair

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## Welcome to the second issue of the Grad Cannon!

The Grad Cannon is the Graduate Student Council's first newsletter- representing the medium by which graduate students can launch their ideas and potential, as the components of the newsletter will be written by students themselves, with faculty and various entities on campus contributing as well.

This edition serves as the first in a series of issues that will focus graduate student research at the University of Florida. A "Call for Innovative Research" was requested in order to garner the diverse views and types of research that current graduate students are involved and interested in.

Articles vary from descriptions about students' own research, interesting

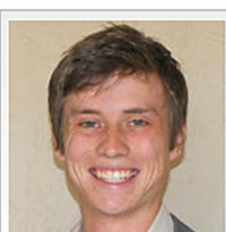
research studies in specific fields, or an opinion piece on something students found in the literature. The goal is to expand graduate students' knowledge of the research that exists external to their own field and to educate each other on what's going on in various departments. Thank you for the amazing response. There were so many articles and we could incorporate only some of them into the issue. Unpublished ones will be preserved for the later issues.



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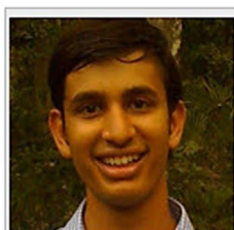
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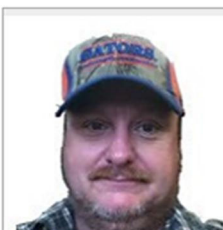
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We hope that this issue provides an opportunity to express graduate students' perspectives in research, extend knowledge to the graduate student population, as well as develop an appreciation for the work that each student conducts during their career at the University of Florida. We welcome your comments and feedback, which can be provided on the Graduate Student Council website at [gsc.sg.ufl.edu](http://gsc.sg.ufl.edu). Feel free to send us topics for future Grad Cannon issues or anything that may spark your interest as a graduate student.

Enjoy!

Hoang Nguyen-Huu

Irma Campos

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Aoran Liu

Joshua o Neumann

Tushar Bhattacharyya

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Ian Holton

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## New Smartphone Apps Engage Citizen Scientists

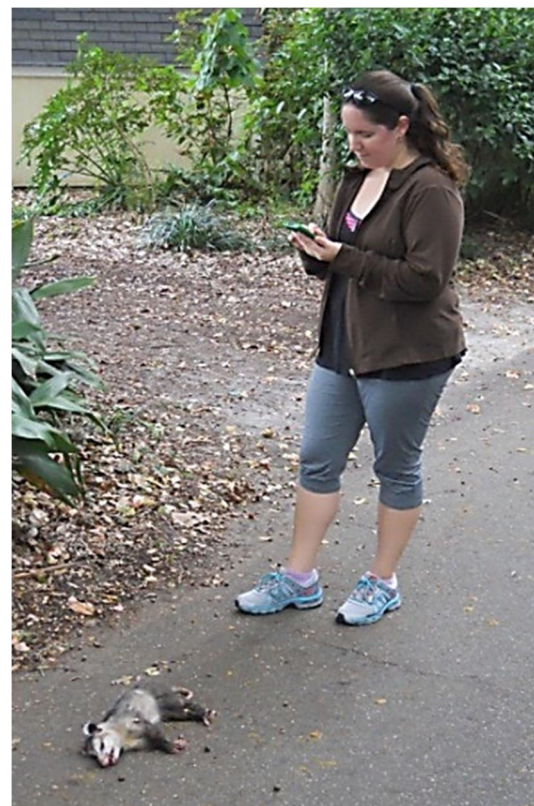
By Erin Bradshaw Settevendemio

"Oooh, what is that ahead? A raccoon?" I sit up in my seat for a better look, peering excitedly at the furry mound in the road. "Oh, no, it's not." My husband rolls his eyes at my disappointment in the large clump of Spanish moss. We near the bridge over Possum Creek and I watch both sides of the road for any overnight casualties; armadillos are especially common. Do I just have morbid curiosity in dead animals? Definitely, not, but I sure am intrigued when I see one!

On any given day you might spot a citizen scientist pulled over on the side of the road, snapping photos of roadkill. It's not the pretty pictures, and definitely not the odor in which we are interested. Fortunately for scientists, the advancement in technology has also come with an ability to log data at any given moment. Taking advantage of this, Imperial College London has created a smartphone app called Epicollect that was originally intended for epidemiological research; the app has now spread to other areas of science. Dr. Danielle Garneau, Ph.D., a professor of Wildlife Ecology at the State University of New York College at Plattsburgh, has augmented the

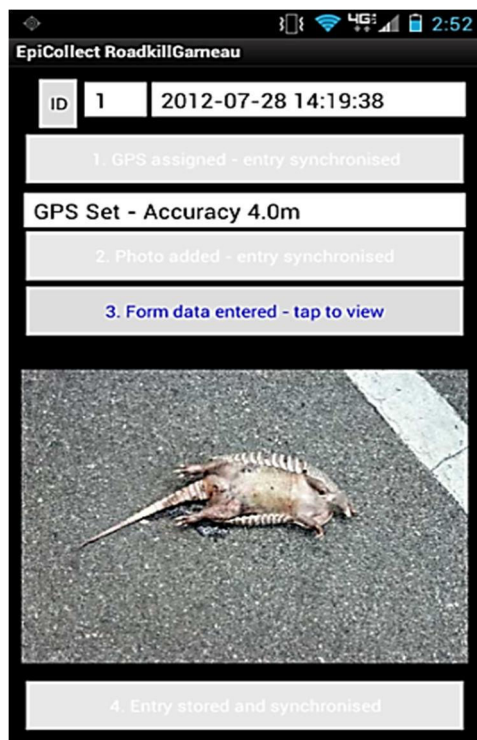
app by creating two wildlife research "forms" for Epicollect. The roadkill form, RoadkillGarneau (case-sensitive), uses new smartphones' capabilities of cameras and GPS to log particular location, recent weather events, surrounding habitat, roadway and traffic details, and roadkill species. Similar to what you might see on CSI, the insects and/or scavengers feeding on the dead animal is indicative of the length of time it has been there, and body size of the creature is often associated with the duration it remains on the road. "Hot spot" areas of roadkill can be revealing of a species' movement patterns and provide information for Department of Transportation for where fencing or signage may be beneficial. This is especially important for animals of concern, such as threatened or endangered species.

If roadkill doesn't spur your interest (and it very well may not), the second form Dr. Garneau has created, WildlifeBlitzGarneau (case-sensitive), might be more your style. It's a great accompaniment on nature walks and hikes, and a fun way to engage children. Similar to the RoadkillGarneau, WildlifeBlitzGarneau also requires weather, GPS coordinates, species information such as observed behaviors, habitat, and a picture; although sometimes it can be challenging to capture an image of a live animal before they escape. Fortunately, you do not need cell phone reception in order for the app to gather GPS coordinates. This app can be a great way for citizens to become familiar with organisms in their area, including mammals, birds, insects, and fish (so don't forget your phone when you're out fishing!). Additionally, it can have important implications if non-native or invasive species identification and spread; however, this is why a picture is important for confirmation.



If you're not sure what the animal is or don't have the time to enter all the form data at the time of logging, you can save the form and return to it at a later date; there are a number of free field guide apps that can aid with animal identification. After completing the forms, the entries are uploaded to an online website and can be viewed on a map and filtered for specific habitats, times of day, etc.

Dr. Garneau's app projects are a great way for citizen scientists to take action in their community and learn at the same time. For helpful instructions for iPhone and Android, as well as links to the Epicollect website to see your own logs (map and associated data), see Dr. Garneau's website at [http://bit.ly/\\$5YtSS](http://bit.ly/$5YtSS). Don't have a smartphone? Don't worry! Dr. Garneau has additional resources and instructions on her website (above) so that anyone can obtain the GPS coordinates of their location by zooming in on Googlemaps, right-clicking and selecting "What's Here." You will also need to e-mail the picture image directly to her with your information ID so it can be linked to the uploaded form. As always, keep in mind "safety first" when pulling off the road or approaching wildlife. And have fun!

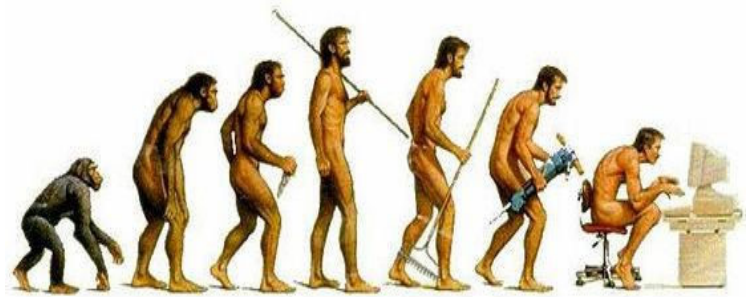


## The Twitter Revolution in Anthropology

By Rachel Wayne,  
MA Student in Anthropology

In August 2012, researchers at the University of Wisconsin in Madison released the results of their survey on bullying. While previous surveys had been done by GLSEN and the School Safety Advocacy Council, to name a couple, none of them had moved beyond a cross-sectional model that relied upon individual reports. The UWM team, however, took an innovative, if unusual, approach and analyzed the bullying itself—at least in the online domain. By analyzing tweets that referred to a bully or bullying incident, they estimated that about 50,000 English-language tweets per day describe real-world bullying or constitute cyberbullying. Neither the applications of this research method nor the implications of its results can be overstated.

Social media analysis has particular uses for anthropological research. Relying on the ethnographic methods of in-person interviews and participant observation is sometimes not feasible, especially with regard to sensitive issues, at-risk populations, and minors. However, media analysis certainly has ethnographic potential; its theoretical models of framing and accumulation mirror the models of situated cognition and historical particularism in anthropology, and its method of semiotic analysis is hardly dissimilar from the ethnographic practices of cognitive mapping and lexical compilation. The problematic equation of “doing” anthropology with ethnography thrusts upon the researcher the burden of ethical and methodological obstacles in defining a population for study. Rather than studying a village, an anthropologist may study in a village; moreover, the village may be constituted by text-based participation, to borrow Michael Warner’s definition of a



and psychological surveys conducted on the public (2002:54). The UWM team finds these methods unsuitable to their topic: “The sample size is typically in the hundreds, and participants typically write 3 to 4 sentences about each bullying episode. Such a small corpus fails to assess the true frequency of bullying over the population” (Xu et al. 2012:657). The Web 2.0 generation of anthropologists may think of social media as user-generated ethnographic data, and indeed the sheer size of a delocalized sample seems quite appealing.

The 2004 buzzword “Web 2.0” described a tidal wave of Web-based programs and aggregators that emphasized fluidity, decentralization, and creativity over stasis, monopoly, and duplication. Web 2.0’s applications to advertising and political campaigns are almost painfully obvious. Twitter was founded in 2006 and has since grown at an almost unfathomable rate. According to the Vertical Measures Internet marketing firm, since 2008, Twitter users have increased in number by 855 percent. Although much of the information contained in tweets is repetitive or banal, and thus unsuitable for scientific study, the UWM research demonstrates that many tweets can constitute data. In addition, Twitter itself is both a venue for a multi-sourced public and an artifact developed by 107 million people in myriad sociotechnological contexts, and thus ripe for anthropological analysis.



public. In analyzing the characteristics and problems of a society, Warner rejected polling and other market research, which bear an uncomfortable similarity to many sociological

The UWM researchers’ methodology falls short of ethnography by removing the agent as the focus of enquiry. However, it examines the ideological function of a technology that shapes a social behavior; moreover, it demonstrates the cultural attributes of Twitter as a venue, tool, and community, and suggests the cognition of the tweeter is linked to the sociopolitical mind of who composed the tweet. Particularly, by assuming that cyberbullying has a link to real-world bullying, we can, by studying bullying tweets, examine the mediated behaviors and distributed cognition that produce, influence, and define bullying behavior. Tweets about bullying (traces of bullying, as the UWM team calls them) not only correlate to real-world events, but also demonstrate the relevance of the participatory community to a real-world institution. Indeed, the UWM team coded the tweets for the bullying roles defined by bullying expert Barbara Coloroso; by examining real-world social roles as they played out in a mediated venue, they identified two additional roles ontologically linked to



social media that likely have real-world counterparts: the reporter and the accuser.

Second, with increasing applications of ethnography to digital technology, the ethical considerations of research on Web users must be seriously considered. The lack of direct contact with informants does not absolve the researcher of ethical concerns, especially considering the particular behavioral attributes of online spheres of interaction. Care must be taken when "conducting research on provocative issues such as sexting, how to be fair to participants/communities, and how to resist the cooptation of research to feed moral panics" (Aslinger and Huntemann 2013:10). Because cyberbullying is a criminal offense in 35 states, researchers must consider the legal ramifications of implicating particular users who engage in cyberbullying. In addition, they must resist any temptation of "baiting": as encouraging informants to recreate traditional practices in the field is ethically and academically irresponsible.

Combining anthropology with a media studies approach also situates anthropology at home, enables applied anthropology, and validates anthropology in both of these contexts (ibid.:12). However tempting it may be, we must be careful not to over-nativize the population for study, it is far more effective to localize or contextualize research on online behavior in the socially constructed "real world" (Coleman 2010:490). Indeed, a large amount of digital ethnographic research has emphasized a particular political or ethnic group in the context of their virtual interactions (ibid.:496). In addition, applied anthropologists and social activists have engaged in these virtual spheres to promote minority rights, educate and unite disenfranchised or diasporic groups, and challenge hegemonic ideologies. Twitter itself is both the mirror and the tool of social change, as groups like the Human Rights Campaign and projects such as "tweet-offs" for charity demonstrate. Young anthropologists concerned about their marketability will find that media-based research applications are as innumerable as trending topics on Twitter.

## The High Stakes of Finding your Feet in the University – A Wake up Call to the Academic Departments

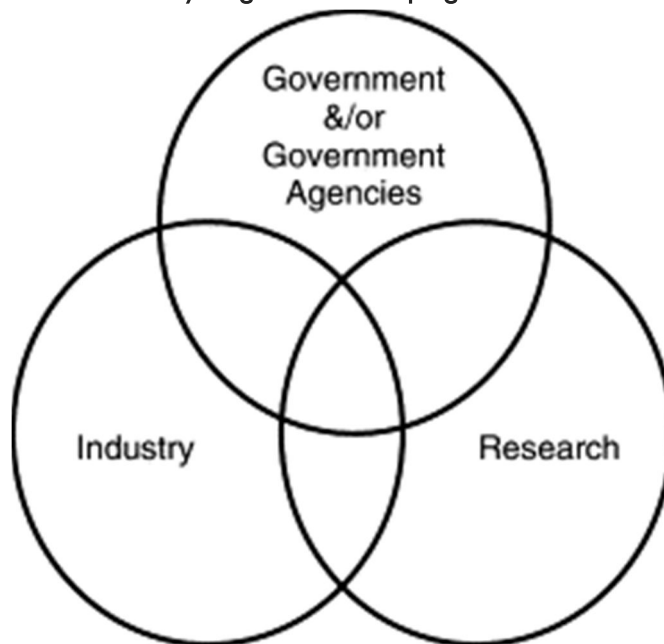
By Oghenekaro Omodior

Graduate Assistant - Research/Doctoral student,  
Dept. of Tourism, Recreation & Sports Management

Once upon a time, the university system was doing so well; there was enough finance for almost anything and everything academic. Industrialization, human population and economic growth resulted in the proliferation of academic programs and departments. At the time, they were all offspring of necessity and it was not an issue to worry about since all the programs were relevant and there was enough cash flow to pay the bills, and finance all forms of teaching, service and research. Unfortunately, those days are gone. Economics of scale is increasingly dictating that only the most relevant and viable academic programs and departments stay afloat in the current scheme of things. Academic program coordinators, department chairs and deans are increasingly being asked to justify why their programs should not be scrapped altogether or subsumed by other programs. A few questions beg for answers and a lot of academic programs cannot afford to look the other way and pretend as if all was well.

I was hoping I would be able to tell a story or better still draw an analogy that would demonstrate why action is necessary, but then I remembered I had never been a good

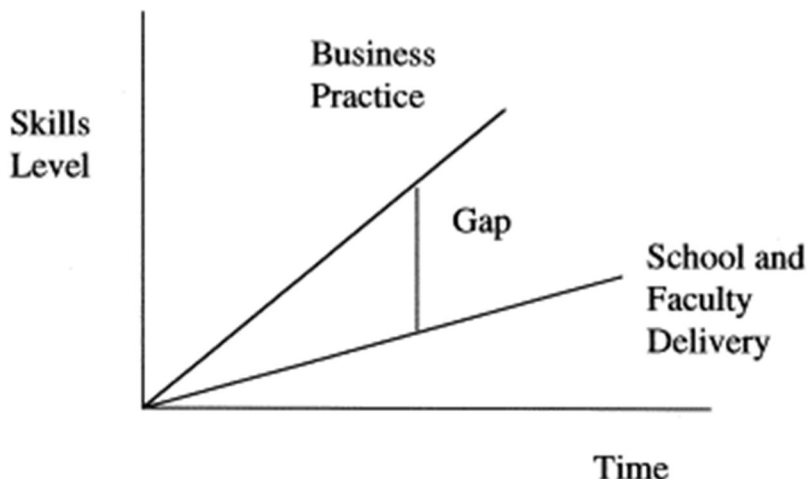
story teller neither am I good at analogies. The best I could do was to go back and look at certain historical events, hoping that in the end it will be an interesting analogy. I chose to focus on a product – crude oil and some of the players and characters including the changes and transformations that has taken place therein. Hopefully, at the end of this abridged series of historical events, there will be food for thought for academic programs in universities.



In 1852, Abraham Gesner discovered how to distill Crude petroleum by heating it and separating its various elements. One of the elements was kerosene. This was a great discovery because at the time candle and whale oil were the only sources of light. Within a year of Gesner's discovery his Kerosene works was producing 5,000 gallons a day and the search for more crude petroleum became critical. By 1859, 34 startup companies were producing 5 million dollars' worth of Kerosene annually. George Bissell, a fortune hunter hired Edwin L. Drake to investigate the presence of oil in Western Pennsylvania. Having no technical background, Drake sought drilling help from William Smith and together they drilled for oil in Titusville. At some point they used the battering ram and later the steam engine for drilling and on

August 29 1859, Drake made what has been regarded as the most important oil find in history. Almost overnight, a new town sprang up at an oil field near Drakes well. By mid-1864, 'Pithole' had 15,000 residents, had its own post office which handled over 10,000 mails daily, its own newspaper, had over 50 hotels and the burden houses were too numerous to count. Then in January of 1866, the wells began to dry up. Fortunes that had been made overnight vanished just as quickly. Within a year, the town was deserted. A parcel of land that was sold for 2 million dollars in 1865 was auctioned for Four dollars and thirty seven cents. Edwin Drake, the man responsible for the most important oil strike in history died penniless in 1880.

Enter John Davidson Rockefeller. He got into the oil business almost as an afterthought. Already a wealthy man in his early 20s, he saw the future in the oil business one cold fall day in 1863 when a new railroad reached Cleveland. Now Cleveland was linked to the Oil regions of Pennsylvania. In 1864, he bought his first oil refinery, parted ways from his partner in the commodities business, formed new alliances with the likes of Henry Flagler. By 1866, sales from Rockefeller Kerosene alone reached 2 million dollars. They had made their fortune and were both determined to protect themselves from the chaos of economic instability and they took concrete steps to bring this to fruition. By the



time Rockefeller died in 1937 he was worth 1.9 billion dollars (Eugene Kolomiyets, 2007)

Let us leave the individual players for a while and take a look at the product – oil – and how it had undergone transformation overtime. In the early days of the oil industry, the methods used for refining were different from what is obtainable in the modern industry. Individuals like Samuel M. Kier used horizontal cylindrical stills which were only capable of holding 5 to 6 barrels of oil at a time. Still with the passing of time other fractions from crude oil apart from Kerosene became useful and the refining process changed accordingly. Thomas Edison's discovery of the electric bulb also caused a shift in the demand for kerosene as many households had to replace oil lamps with these bulbs thus reducing the kerosene market, which also would have meant a shift in priorities. Fortunately for those already in the business Henry Ford changed the Landscape with the large scale production of vehicles which meant more demand for other petroleum products. In the course of time US companies discovered oil in other regions of the world. Even

though oil refining started in the US the largest refineries in the world today are located in other regions of the world such as Venezuela, South Korea, India, Singapore, and Saudi Arabia (Aaron & David Rachovich, 2011). From the early days of using battering rams made out of white-oaks for drilling (Ginsberg, 2012) to the use of wooden trenches and wooden barrels, the oil industry has metamorphosed into one which deploys the latest state of the art technology, use of sophisticated controls and computer systems, advanced pipe materials and corrosion techniques in its operations. The transformation witnessed by the industry would have required that operators make rapid transformations in their operations and practice if they were to remain relevant. Companies would have needed to form new alliances, abandon previous ways of doing things, adopt new strategies, technologies, new visions and missions, and become more proactive for example if they are to remain relevant. End of story.

Perhaps in this sequence of events lie some lessons for academic departments who in the past were doing very fine by all indices of measurement, but suddenly are faced with the challenge of institutional competitiveness and why justifying their relevance appears to be increasingly demanded by the powers that be, due in part to current economic and political constraints. Different reasons are responsible for the existence of different academic departments. The climate may have remained the same for a few of these departments, but for several others the wind of change blows continually. To remain relevant and competitive it is necessary that most of these departments do some soul searching and make the needed adjustments. Demographics of the university are constantly changing. Gender, race, ethnicity for example have changed both at faculty and student levels (graduate/undergraduate). Social, political, economic, and environmental and health issues have not remained the same over time. For some programs, these changes may require that they adjust their curriculum at some point to address some of the social, political, economic, environmental, health or other pressing problems facing modern society. Some other departments may need to readjust the focus of research studies towards areas more relevant to the dynamics of modern society. This may necessitate a change in departmental vision and mission statements and subsequent adjustment in goals and objectives, both short and long term. For others, the changes needed could be injection of fresh blood into the system and in some other cases aligning with other departments and programs or a shift in focus between graduate and undergraduate training depending on which best serves the interest of the program. Whatever the case may be, departments cannot just fold their arms and do nothing in an ever changing society. History has taught us that nothing stays the same. Individuals, institutions and programs that stood the test of time are those that have changed with change. Those that continue to bask in the glory of the past will wake up one morning to the rude shock that all they have to hold on to is that – the past! Academic programs within universities cannot afford to shirk this responsibility; they cannot afford to put off till another day what needs to be done today. The time to act is now!



## Modelling in Agriculture

By Shankar Kaji Shakya

Potato is one of the major crops worldwide. It is cultivated in different agroecological zones of the world. Late blight is one of the major constraints for potato production. The causal organism *Phytophthora infestans* is ubiquitous. The disease is much more known for famous Irish famine disaster in 1840s which led to the death of one million people and migration of more than million from Ireland to Northern US. Since then the disease is being highly studied. Just typing Late blight in Google will result 1,960,000 results which shows its importance.

Late blight is present year round in those places where potato cultivation is done throughout the year. Highland of Andes is one of the places where potato is cultivated year round thus makes the survival of pathogen possible. It is interesting to know that highland of Andes is actually the center of origin of potato.

The climate change is certain to affect the crop production system of Andes and may raise the question of food insecurity in those areas. The pathogen quickly responds to the changing climate thus making difficulty in managing and controlling the disease. The old clonal population



of the pathogen is continuously being replaced by the new ones. And the new populations are quite aggressive compare to older ones. So, it becomes very necessary to determine the effect of climate change on potato production system in context of cultivation, soil carbon, pest and disease attack and the economics.

This concept led to collaboration between International Potato Centre (CIP), Lima, Peru and University of Florida, to work towards solving this issue. There are people working on

crop modeling, soil carbon dynamics and economics. My part is disease modeling. I will be working towards developing the disease model of late blight and integrate it with the other model. The site of study is highland of Ecuador. Here in UF I perform a series of experiments at Emerging Pathogen Institute (EPI) and Epidemiology Lab at Department of Plant Pathology.

*Phytophthora infestans* has been defeating us since 1843. There is no way to get rid of pathogen but through simulation modeling it can be better managed.

## Gamble or consume - Why do people buy and keep buying sports lottery tickets?

By Luke Lunhua Mao

College of Health and Human Performance

Both gambling and sports are ancient and ubiquitous. The magnitude of dollars involved in gambling is staggering - 2.6 trillion U.S. dollars were spent in 2007 worldwide (Morss, 2012). Most Americans have participated in some form of gambling, whether it involves purchasing a lottery ticket, playing fruit machine, placing a bet at the track, or making a bet with friends in an office pool (Welte, Barnes, Wieczorek, Tidwell, & Parker, 2002). What ties gambling and sports together is that people like betting on the outcomes of sporting events. Although representing only 2.6% of legalized gambling market, sport gambling has become the fastest

growing gambling segment, with an annual growth rate of 14.7% in the past five years (AAP News, 2012). For instance, in the U.S. sport gambling represents 9.86% of the sports industry (Zhang & Cianfrone, 2011). In 2011, 2.88 billion U.S. dollars was legally wagered in Nevada's sports books, representing less than 1% of all sports betting in the U.S. Approximately \$93.9 million was wagered on the Super Bowl in the state's sports books in 2012 according to the Nevada Gaming Control Board, and the event earned net income of \$5.1 million for the Nevada sports books (American Gaming Association, 2012).

The burgeoning of sports gambling is a puzzle. Gambling markets in general cannot simultaneously yield profits for both sides of gambling participants (Sauer, 1998). The sports lottery market is even worse. With higher take-out ratio comparing to other forms of gambling and extremely low probability of winning, the average expected return on one dollar lottery ticket is between 40 and 60 cents (Thaler & Ziemba, 1988). Lottery ticket is evidently a type of "negative asset", and usually a poor investment. Yet, people continue to buy lotteries, in droves anyway, violating the standard economic assumption of rationality and risk-aversion in human behavior (McCaffery, 1994; Quiggin, 1991). Therefore, from a traditional point of view, buying sports lottery apparently is a gamble, a game of chance.

Alternatively, we may argue buying sports lottery is a consumption practice. Instead of physical substance that is internally consumable, players may consume the excitement, the suspense, or the dream of the game. Conlisk (1993) offered an elegant treatment of experiential utility of gambling. He posited that there is a tiny utility residing in the characteristics of gambling, because gambling typically involves games with relatively simple rules, the probability of winning is typically straightforward or easily to conceive, the resolution of uncertainty is rather quick and often in entertaining ways, and gambling is typically not associated with disastrous consequences. By adding an arbitrarily small utility function of gambling to an otherwise standard expected utility function, Conlisk derived a Small Gamble Theorem and a Lottery Theorem, which specifies the boundary conditions that an individual will accept a gamble.

The lottery play as consumption argument is particularly tenable with regard to sports wagering and sports lotteries. Through an analysis of the betting volumes of the National Basketball Association (NBA) and National Hockey League (NHL) obtained and aggregated across three on-line sportsbooks for the 2008-09 season, Paul and Weinbach (2010) found that betting behavior is much like fan behavior as key fan-attributes, such as the quality of teams and the availability of television coverage, were shown to have a positive and significant effect on betting volume. García and Rodríguez (2007) examined the impact of having a professional football team in the Spanish First or



Gambling. It's just as addictive.

Second Division in a certain province on the amount of sales of football pools in Spain (La Quiniela). They estimated a demand equation using a panel data set at the provincial level for the years 1985-2005. Their results showed that having a club in the top divisions has a significant effect on sales of La Quiniela. Specifically, they found that draws with the absence of First Division matches were associated with 53% reduction in sales. They suggested that the finding justifies why clubs' association receives 10% of the revenue generated by La Quiniela and are asking to increase this percentage.

My study examined this sports lottery as consumption hypothesis by using a set of draw-to-draw provincial-level sales data of the Shengfu Game. This game, launched in 2001 in China, is similar to La Quiniela in Spain, Premier10 in UK, Sports Select in Canada, and Delaware Sports Lottery in U.S. Each draw of the

Shengfu Game involves 14 soccer fixtures selected from a wide range of soccer leagues and tournaments, including British Premier League, German Bundesliga, Italian Series A, Spanish Primere League, the UEFA Champions League, and the Asian Cup. Players have the possibility of choosing the final result of each fixture from among three alternative results: home win (3), draw (1), and away win (0). To win the first prize, players have to choose correctly on all the 14 matches listed in the parlay. Those correctly predicting 13 results win a second prize. Through time series regression analysis, my study shows that the fixture composition has a significant impact on the demand after controlling effective price, prediction difficulty coefficient, and other marketing environment specific variables. The results show that draws





composed of English Premier League and German Bundesliga are associated with 60% increase in sales comparing with the baseline, draws composed of a mixture of different leagues and tournaments. In contrast, draws composed of less popular leagues, such as Veikkausliiga

(Finland), Segunda Division (Spain), and Eliteserien (Norway), sell averagely 30% less comparing with the baseline. My study supports the sports lottery as consumption argument, and has managerial implications for lottery administrators and club managers.

## The Development of a framework for Evaluating Evidence in Evidence-based Healthcare Design

By Daejin Kim<sup>1</sup>, Claire Su-Yeon Park<sup>3</sup>, Donna Felber Neff<sup>4</sup>, Maruja Torres-Antonini<sup>2</sup>

Department of Interior Design, College of Design, Construction and Planning: Doctoral student<sup>1</sup>, Associate Professor<sup>2</sup>

Department of Adult and Elderly Nursing, College of Nursing: Doctoral student<sup>3</sup>, Associate Professor<sup>4</sup>

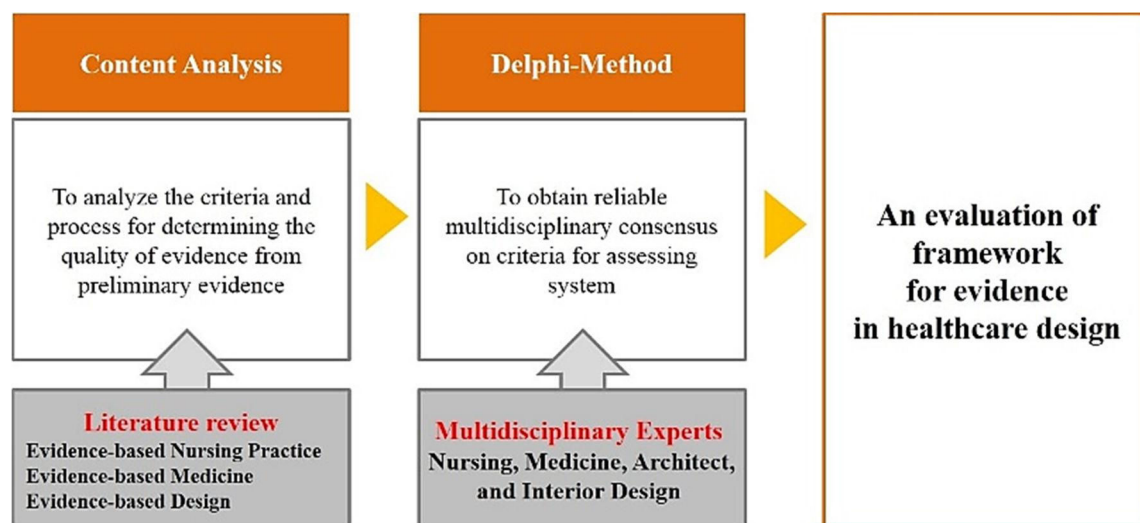
Evidence-based Design (EBD) represents a paradigm shift in the field of healthcare design because it provides scientific evidence about the building process, therefore producing more clear designs. Thus, it is crucial to understand: 1) what is the best available evidence for healthcare environment design? and 2) what is the degree of reliability and validity of the specific evidence from previous design research? In particular, because research quality and evidence credibility vary, the top levels of evidence are more applicable to research and design projects. In this context, a hierarchy of evidence and assessing system will offer practitioners and researchers a reliable guideline to determine the gold standard of evidence. Given that the main clients for healthcare design are healthcare professionals, as well as designers and researchers, the guideline should consider its applicability for these groups.

Evidence-based Design (EBD) represents a paradigm shift in the field of healthcare design because it provides scientific evidence about the building process, therefore producing more clear designs. Thus, it is crucial to understand: 1) what is the best available evidence for healthcare environment design? and 2) what is the degree of reliability and validity of the specific evidence from previous design research? In particular, because research quality and evidence credibility vary, the top levels of evidence are more applicable to research and design projects. In this context, a hierarchy of evidence and assessing system will offer practitioners and researchers a reliable guideline to determine the gold standard of evidence. Given that the main clients for healthcare design are healthcare professionals, as well as designers and researchers, the guideline should consider its applicability for these groups.

Because there has been little discussion regarding a framework for evaluating evidence in the field of EBD, the purpose of this study is to verify criteria for assessing evidence in Evidence-based Design and to create an appropriate evaluation framework. Therefore, the main questions addressed in this study will include: 1) how do people determine the level of evidence? 2) What are the

criteria used to assess the evidence? 3) How reliable are the criteria?

This study is unique because it will use an extensive keyword-driven literature review and content analysis to draw the preliminary framework, which includes the criteria and process for determining the quality of evidence. Statistical analysis will be conducted to establish the frequency and correlation among the criteria emerging from the literature. Finally, a framework will be created through the Delphi-method by 30 experts in the fields of nursing, medicine, architecture and interior design, and this will be



Research Method Flow Chart

done to obtain the most reliable multidisciplinary consensus. Reliability, validity, effectiveness, appropriateness and feasibility of the evidence will be tested through the framework.

It is expected that the framework generated is a point of departure for a larger discussion on the validity and reliability of existing healthcare design evidence. It can contribute to developing an evidence-based, user-friendly healthcare design that not only will help determine the best applicable evidence, but also ensure safer healthcare environments for our clients.

## THE SOOTHING BREATH

By Tushar Bhattacharya

What if someone gave you the key to handle your mind? What if you knew that it is possible with a tool you always possessed?

The mind is like a horse that gallops from one thought to another. So, as we sit to study, our mind goes on a trip into yonder. It is natural for the mind to break free from monotonicity and run towards anything that it finds different, sensational and out of the ordinary. We know that the mind works in a way quite different than how the body does. If you think that come what may, today you won't think about the delicious raspberry pastries that you had yesterday, you would end up having that as your most predominant thought.



The nature of the mind is to move outward and to anything that is pleasant. So, to bring the mind to where you want it to be, you need to have a few tricks up your sleeve. The trick is simple and the tool has been there with you ever since you came into this world. The first and last act of life- Breath!

If you observe, our breathing patterns vary with our emotions. Imagine a bright sunny day and you driving by the countryside. As you

stop by to take in the scenery and view the magnificence ahead of you, you take a deep breath to sink in the view. If you observe carefully, when you are happy and calm, your breath is long and deep like when you smell a flower. On the other hand, when you are furious, your breath is fast paced and when you are low and depressed, it is shallow and shaky. We notice that there is a closely knit connection between the state of our mind and our breath. But how do we transform our breath to handle our mind?

Sudarshan Kriya (SKY) is a controlled respiration technique taught at the workshops offered by the Art of Living Foundation and the International Association for Human

Values. Its effects have been researched on open and randomized trials, both in healthy populations and in populations with

psychological disorders. Research suggests that SKY may reduce depression, anxiety, and stress, and that it increases well-being, optimism, and mental focus (Bhatia et al., 2003;

Janakiramaiah et al., 2000; Kjellgren et al., 2007; Kochupillai et al., 2005; Murthy et al., 1998; Vedomurthachar et al., 2006) and that it can help improve emotion regulation (Gootjes et al., 2011). These effects may be mediated by benefits to the immune system (Kochupillai et al., 2005) and improvements in the antioxidant defense mechanisms (Sharma et al., 2003; Sharma et al., 2008).

With a plethora of active research in this area, I stumbled upon the research conducted by a couple of scientists who wanted to study the

effect of Sudarshan Kriya on relieving exam stress. The study conducted on 43 undergraduate participants revealed that exam stress resulted in the increase of total cholesterol, triglycerides, and hematological parameters like neutrophils, lymphocytes and platelet count. It was observed that with three to six weeks of practice of SKY, the elevated lipid profile and hematological parameters were reduced and lymphocyte levels showed improvement.

Another study compared 30 minutes of SKY breathing, done six days a week, to bilateral electroconvulsive therapy and the tricyclic antidepressant imipramine in 45 people hospitalized for depression. After four weeks of treatment, 93% of those receiving electroconvulsive therapy, 73% of those taking imipramine, and 67% of those practising this breathing technique had achieved remission.

To examine the effects of SKY on depressive symptoms, 60 alcohol-dependent men were randomly assigned to two weeks of SKY or a standard alcoholism treatment control in Bangalore, India<sup>1</sup>. After three weeks, scores on the standard depression inventory dropped 75% in the SKY group, as compared with 60% in the standard treatment group. Levels of stress hormones-cortisol and corticotrophin, dropped in the SKY group, in comparison to the control group. The authors suggest that SKY might be a beneficial treatment for depression in the early stages of recovery from alcoholism.

Researchers have also suggested that yoga and breathing techniques can be a helpful practice for patients with post-traumatic stress disorder (PTSD). A recent study suggests that Sudarshan Kriya helps reduce the symptoms of post-traumatic stress disorder (Descilo et al., 2009) and helps curb addictive behavior such as substance abuse (Brown & Gerbarg, 2005; Kochupillai et al., 2005).



In an era where we research our options before making decisions, the findings of research undertaken to

quantify the power of breath is astounding. In fact, breath IS the key to surviving any and every situation life throws at you.

continued the practice over time, and found myself to be a changed man. From being an angry, irritable, shy and introverted person I have transformed to a confident, calm, energetic yet relaxed individual. I can now go the extra mile without being panicky about it.

Apart from research, I would base my conviction on my experience, too. Having attended the course offered by the Art of Living sometime back, I have

You will find, that a mind that is calm lets you complete more tasks in lesser time. You take lesser time to study than you usually took. Creativity and latent talents blossom spontaneously. I strongly recommend every individual to experience the magic of breath. Make the time, see for yourself, how every breath is worth the "breathe".



## Empowering Parents of Students with Disabilities

By Dana Kasian

School of Special Education, School Psychology,

Collaboration among school professionals has become an increasingly important topic in the field of special education. As special education classroom teachers and paraprofessionals are required to receive more specialized training and a push for inclusion has resulted in regular education teachers to educate themselves in special education practices, administrators are also finding themselves obligated to get involved in their schools' programs.

Campus-wide education and implementation of such programs as RtI, or Response to Intervention, and other professional development has helped the special education classroom come from isolation into the view of mainstream. However, this push for teaming and collaboration may be a rising topic in the field, but historically it has not always been the case. There are many schools where there is still a struggle to educate, collaborate, and support the special education classroom, student, and parent.

### Response to Intervention

As we began implementing RtI, we have encountered a plethora of pitfalls. The wide implementation of this tiered system to screen and address academic and behavioral needs of all learners as early as preschool is a forward-thinking idea that should be used consistently throughout each school, but the inconsistent training methods, lack of resources and support staff have made this novel initiative questionable in many cases.

and Early Childhood Studies

If best practices are properly implemented, RtI is an evidence-based, data-driven system that combines regular and special education, ensures progress and addresses both NCLB (No Child Left Behind) and IDEA (Individuals with Disabilities Education Act) appropriately. From personal experience, I have not yet seen an appropriate or correct implementation due to lack of administrative involvement as well as lack of support staff require to aid in the RtI process.

### Communication at School

As the special education system works out the kinks of a widespread solution such as RtI, collaboration among school teams can be a step toward success. The special education teacher is the point of contact for all communication for each student, whether it be for the administration, regular educator, paraprofessional, service provider (Speech-Language Pathologist, Physical or Occupational Therapist), and the student's family. As a teacher, one has the job to coordinate communication, keep all team members abreast of the current situation, and ensure that everyone is doing his or her part to stay involved.

Teachers may not have the highest power in the school, but there are many ways to keep the team around you involved and let them know that you crave their input. Although an administrator may not be able to attend to each particular child, an invitation to visit the room will extend a hand of partnership. Quick meetings with service providers, keeping weekly notes with each visit or inviting them to join an activity as part of therapy if they choose will



create a team atmosphere instead of a divide when a child is pulled to a corner or another classroom for therapy.

Working with paraprofessionals in the classroom, the team is often together for the entire day. Open communication, a structured schedule with well-defined jobs and responsibilities, and an open mind for input create a great classroom team.

#### Collaboration at Home

A student's family may be the most important building block in this school team. As the family's point of contact, a teacher should be well-educated in family support services and also in the difficulties he or she may encounter when trying to collaborate with a family, for example, what goals the family has for their child. Cultural differences, fear of judgment, single working parents, and language barriers are just a few of many reasons that families may hesitate to interact with a teacher.

#### Family Support Services

Starting when family support services were not at the forefront of my school's agenda, I developed many ways to make parents comfortable in the classroom. A Parent Resource Center is a great addition to a special education classroom. A teacher can tailor it to the needs of the classroom and include books for parents and children, handouts with helpful websites, flyers about local resources and events and more. It should be kept near the parent entrance and updated frequently to help retain interest in it.



Inviting parents into the classroom as observers and participants may take a few tries, but if a teacher is persistent and the parents accept, they should reap great benefits. To see how the structured school schedule works, how their child performs, and possibly even learn methods or activities to use at home is always both educational and rewarding. Frequent communication from school and availability will help ease a parent's anxiety about communicating as well. As an early childhood educator, I often held meetings to educate and prepare parents about upcoming meetings so they would feel comfortable going into the office, an often intimidating task for a parent of a child with a disability.

Until now, many teachers have been left to research and create approaches such as these on their own, but the idea of parent support in the special education classroom has finally come to the forefront of education and its incredible benefits cannot be ignored.

## The experiences of transfer students participating in dual enrollment programs in Florida

By Anel Rodriduez

In the State of Florida, students can graduate from high school with an Associate of Arts (AA) or Associate of Science (AS) degree and transfer to four-year universities to complete their Bachelor degrees in two more years. Policy makers responding to the demand of the "baby boomers" are creating accelerated educational opportunities (Boswell, 2001).

The Florida legislature instituted dual enrollment programs over 38 years ago. Florida statute FS240.116 (1), enacted in 1973, provides high school students with options such as dual enrollment for college access (Heath, 2008). In

Florida, Senate Bill (SB) 1908 of 2008 requires high school students to maintain a minimum academic standing to participate in dual enrollment. Moreover, this statutory mandate created a new diploma designation for high school students who complete four or more accelerated college credit courses in Advance Placement (AP), International Baccalaureate (IB), and/or Advanced International Certificate of Education (AICE), or who participate in dual enrollment wherein students enroll in postsecondary instruction and receive both secondary and postsecondary credit

(Clark, 2008). Community and state colleges in Florida offer academically gifted high school students, participating in dual enrollment, the opportunity to obtain an Associate of Arts (AA) degree while concurrently completing high school requirements. The two-year program places high school juniors and seniors into college-level courses, often times on a college campus, thus providing a unique experience to the students. By the time dual enrollment students finish high school; they will have simultaneously earned their associate degrees and can transfer to four-year



institutions to complete their bachelor degrees.

The problem of interest is that although some matriculation data is available, no information documenting the persistence rate of dual enrollment students once they matriculate into four-year institutions was identified in the literature. According to Allen (2010), research studies are needed to determine the impact of dual enrollment programs on student access and success in college.

Moreover, a 2007 study of Florida dual enrollment data conducted by Columbia University did not cover a long enough period of time to determine whether dual



enrollment had an impact on degree attainment (Melinda, Calcagno, Hughes, Wook, & Bailey, 2007). In addition, in many cases, dual enrollment transfer students may not have the prerequisites to be considered juniors at the university level (K. Ehlers, personal communication, August 27, 2011).

In her doctoral dissertation about community college experiences of high school dual enrollment students, Heath (2008) suggests as a topic for future studies to look at the notion of transfer shock as it relates to dual enrollment students and at the long-term cost analysis of dual enrollment programs. In many cases, the institution to which the student transfers does not accept all of the transferring student's credits (Bailey, Hughes & Karp, 2002). Questions about the quality of dual

enrollment courses lead to issues regarding transferability of these courses. The University of Florida (UF), for example, has a policy that a maximum of 45 semester hours granted by a combination of AICE, AP, IB and CLEP (College Level Examination Program) credits (<http://www.admissions.ufl.edu/ugrad/trapib.html>) will be applied to a degree program. Moreover, at UF students can only transfer up to 60 credit hours of community college credit as part of the hours needed for

their degrees. According to the UF website, "it is the prerogative of the student's college to determine how transfer credit satisfies the specific degree's course requirements" (<http://www.admissions.ufl.edu/ugrad/frdualenroll.html>). During a conversation with one of the parents of a dual enrollment student, she conveyed that although the student had the prerequisites from the community college, the university made it clear that if the student did not retake the same courses offered by the university, the university could not guarantee the student's acceptance into its concentration program (Dr. Kathy Jackson personal communication). In 2006, a Hunt and Carroll study of Florida dual enrollment students showed that universities give preferential admission to students with AP credits versus dual enrollment

students. The implications of this particular finding may indicate that although high school students in the state of Florida are encouraged to take dual enrollment courses, those courses are not considered as rigorous as AP courses. Hence, choosing to take dual enrollment courses rather than AP courses may limit students' accessibility to higher education. Nevertheless, other research using the NELS:88 national data suggests that dual enrollment transfer students were successful in

transferring almost all of their community college courses (Melguizo, Kienzl, & Alfonso, 2011). Although the Melguizo, Kienzl, and Alfonso study (2011) is a more valid study, the data collected is from a cohort of national high school graduates in the early 1990s and not representative of the state of Florida. In fact, to date, I have

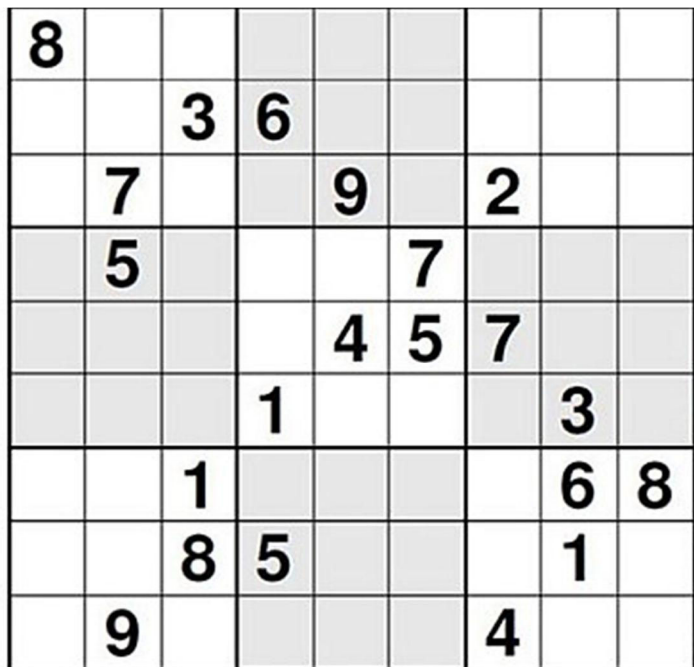
not found any research examining the experiences of transfer students participating in dual enrollment programs in Florida or any other state.

The significance of the study is to improve the dual enrollment program and the support systems at transfer universities so future students will be more prepared to handle their initial transfer to the university level and will find more support once they transfer.

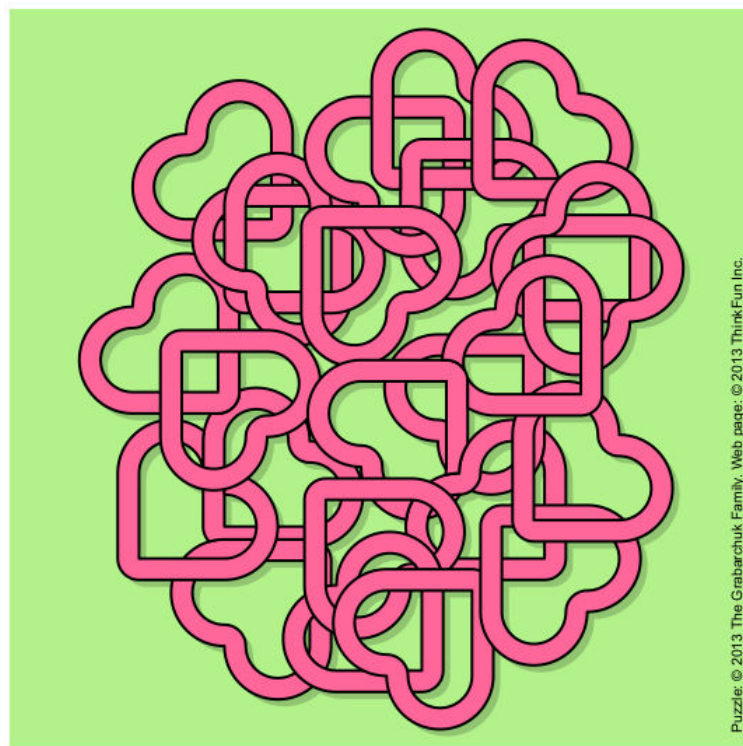
The purpose of this study will be to describe the experiences of, and study the longitudinal effects on, transfer students participating in dual enrollment programs in Florida. I will use a qualitative methodology to answer this and related research questions.

## Toughest Sudoku ever...

By U. K. Odus



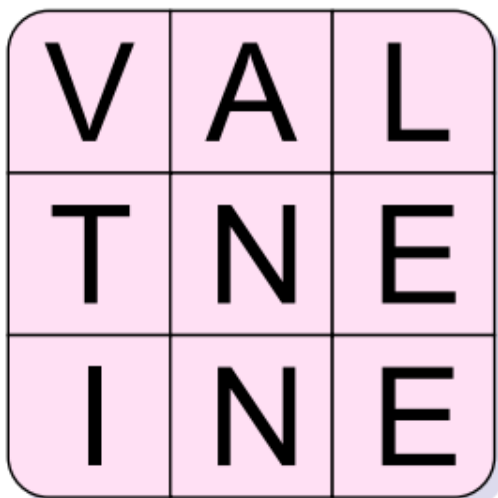
A114473 (c) Anto Inkala www.aisudoku.com



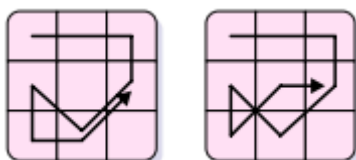
Puzzle © 2013 The Grabarchuk Family. Web page: © 2013 ThinkFun Inc.

In the picture within two dozen tangled hearts, there are exactly four pairs of interlinked ones. Can you find these pairs?

How many different ways can the word VALENTINE be read?



There are eight ways to do it, here are a few;



## Einstein's puzzle - Neighbors

Five people of different nationality live in a row of five houses of different color. Each person prefers a different beverage, smokes a different brand of cigar and keeps a different kind of animal. Can you figure out who owns the fish?

1. The Brit lives in the Red house.
2. The Swede keeps dogs as pets.
3. The Dane drinks tea.
4. The Green house is on the left of the White house.
5. The owner of the Green house drinks coffee.
6. The person who smokes Pall Mall rears birds.
7. The owner of the Yellow house smokes Dunhill.
8. The man living in the center house drinks milk.
9. The Norwegian lives in the first house.
10. The man who smokes blends lives next to the man who keeps cats.
11. The man who keeps horses lives next to the man who smokes Dunhill.
12. The man who smokes Blue Master drinks beer.
13. The German smokes Prince.
14. The Norwegian lives next to the Blue house.
15. The man who smokes Blends has a neighbor who drinks water.

Who owns the fish?



## Announcements:

### ➤ International Student Night & Tailgate – February 22

A fun filled night at the gymnastics meet with free food and gifts for the first few hundred people. Corry Village is hosting an International Student Rally on Friday, February 22nd right before the meet from 5-6 pm. Alberta will be there visiting; we will have some food and drinks, corn hole, and an area to make banners representing their nationalities to take to the meet.

### ➤ Want to get more involved in the Graduate Student Council? Run for a GSC executive board or officer position! Take advantage of this great opportunity to get more involved on campus and help graduate students make the best out of their experience at UF. Nominations are accepted at the February and March meeting, elections will be held in March.

### ➤ I-Cubed had announced the winners of the 2012 Graduate Student Mentoring Award. Take a look at who the winners are :

<http://www.flickr.com/photos/72096919@N02/sets/72157631910938841/>

### ➤ The Communicating Science 2013 Workshop will be held in Cambridge, MA from June 13-15, 2013. The workshop will help graduate students develop the oral and written communication skills they need to communicate their research to their peers, scientists in other fields, and the public. We are now accepting applications from graduate students nationwide in all fields of science and engineering. We have funding available to support travel expenses and accommodations for 30 graduate students. You can find the application and more information about the workshop here:

<http://workshop.astrobites.com/>

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