The Net Generation and Interdisciplinary Teaching

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Thanks to the anonymity of social network sites and mobile device applications, today's undergraduate population blatantly broadcasts displeasures about their academic environs. Lamentations range from complaints about early class hours and professors' idiosyncrasies to more substantial criticisms of pedagogy and curriculum. At the United States Military Academy (West Point) everything has an order--despite the protestations, complaints and ever fickle nature of the Corps of Cadets. That said, whenever negative dialogue appears on the internet's virtual message boards, people take notice. In a recent post to a very popular discussion application, a subscriber--presumably a cadet--derisively catalogued what he or she deemed "worthless" required courses at the academy. EV203 Physical Geography, or "Dirt," was one such course. This comment received several replies and upvotes with cadets voicing their agreement that "Dirt" was unnecessary, unimaginative and irrelevant. Although it seems a hopelessly quixotic task to change the Corps attitude about EV203, we as educators have a responsibility to address student discontent with the curriculum and explore ways to improve course format and relevancy. An approach to reinvigorating EV203 and perhaps other core courses is to employ a robust interdisciplinary methodology in the classroom.

This literature review examines the importance of the interdisciplinary approach to core curriculum courses and discusses the nuances that make the interdisciplinary method so potent—especially in today’s academic environment and given this new generation of learners. The traditional undergraduate population belongs to the “Net Generation” (those born after 1980) and is usually tethered to a technology leash that includes smart phones and tablets with internet access (Barnes, et al. 2007). As such, it is rare that any task whether recreational or academic is isolated from the chiming demands of instant messages or snapchats. There is a vast quantity of literature that explores whether the Net Generation is more adept at handling multitasking than its Generation X and Baby Boomer predecessors—particularly in the academic environment (Rosen and Blanco, 2008; Carrier, et al. 2009; Williams and Chinn, 2009). A savvy educator
engages the cognitive flexibility of the student and expands the curriculum to incorporate concepts related to the main lesson objectives. Ideally, reaching outside the boundaries of the subject at hand serves two purposes: 1) it helps contextualize lesson material and 2) it engages student interaction.

This review looks at some select articles that address learning styles, pedagogical tailoring and the Net Generation. Regardless of the Net Generation’s multitasking ability, the overwhelming evidence supports the fact that today’s youth can be engaged in far more activities at any given time than older adults. Interdisciplinary learning aligns with the younger generation’s “hypertext minds;” students are able to shift attention quickly, engaging new topics and rapidly recalling previous learning objectives, and they seemingly enjoy integrative group work in the classrooms. (Yang, 2013; Oblinger, 2005; Öncü, 2013). The rapid shifting focal points is beneficial to the learning process because it motivates students by reinforcing learning points by allowing active recall of disparate facts and synthesis of discrete topics. This newer population of students also more readily embrace the transition from Grow’s “Stage 1 Learners of Low-Self Direction” to “Stage 3 and 4 Learners of Intermediate and High Self-Direction” (Grow, 1996). Rather than relying on “explicit directions of what to do, how to do it, and when,” current learning trends involve reaching out and pulling from a rich palette of readily available information (Grow, 1996, p. 168). It is this ability to fuse topics that make interdisciplinary approaches ideal for the Net Generation.

Geography is the model bridging discipline for integrative interdisciplinary approaches. The broad scale of geographical thought provides numerous gateways for other disciplines to be incorporated into lessons centered on the environmental and human landscapes. Again, there is plenty of literature that examines the Geography’s interdisciplinary nature (Baerwald, 2010; Gober, 2004; Skole, 2004). This review highlights just a few scholars who explore the readiness and ease at which multiple disciplines and fields of learning can be interjected into geographic instruction and resultanty enrich the learning experience. The intersection of interdisciplinary teaching and the Net Generation’s remarkable ability for multitasking provides an opportunity to advance beyond single discipline-based learning to process-based learning which challenges students to think critically in order to understand complex issues and themes. The interdisciplinary, multiple stimulus approach also has the ancillary effect of creating a more
dynamic and engaging classroom experience—an ambition shared by educators and students alike.

This review has thus far touted the development and successes of interdisciplinary approaches at West Point both in single course instruction and in multi-disciplinary projects. However, I would be remiss to not point out the unique academic environment at the United States Military Academy. West Point faculty retains a certain advantage over their counterparts at most civilian universities and colleges in that their students, the cadets, are essentially a captive audience. Despite the many activities cadets are laden with on a daily basis, they remain extremely accessible for face-to-face interactions, out-of-classroom instruction, and accountable through their chain of command. Similarly, cadets have unusually unfettered access to their instructors, especially the military faculty members, which bolsters the quality and quantity of student-teacher interaction. Also, West Point faculty members have the luxury of knowing that for the most part the cadets’ ultimate objective from their very first year is to commission as military officers—a more solidly entrenched career goal than their peers at civilian institutions. Thus, one of the best ways to engrain lessons and reify learning objectives is to put things into military or leadership contexts (Ryan, 2014). This can be accomplished through a little ingenuity and by drawing upon the instructors’ career experiences. More importantly, the academy’s rigid and mostly uniform curriculum allows instructors oversight of the fundamentals being taught across the various departments, which in turns allows them to more easily incorporate the interdisciplinary approach.

**INTERDISCIPLINARY EDUCATION FOR THE NET GENERATION**


This article describes the basis for what discipline is in the academic realm and the need for interdisciplinary work. It examines why geographers provide unique assets to an interdisciplinary team since they commonly examine interactions across multiple disciplines. Geography as a discipline spans multiple disciplines; therefore, geographers are providing much needed leadership for interdisciplinary collaboration.
Barnes and her co-authors examine the pedagogical challenges associated with educating the newest generation of college students. They claim that one advantage that educators have is that the Net Generation places a significant value on education and is extremely goal oriented. The current college cohort has a different learning style due to the “age of media saturation and convenient access to digital technologies.” The “net” heavy environment has substantially impacted this generation’s communication and thought processes. Resultantly, the Net Generation prefers interactive lessons and information rich mediums. The authors criticize the educational system that has not matched the technological and informational advances that the Net Generation has grasped onto. Specifically, today’s students are used to the immediacy of information—something that educators are uncomfortable with or refuse to utilize. It is perhaps awkward for a teacher to say “Let me google that…” during classroom instruction. However, for the Net Generation, this is not an issue. The authors conclude that educators must continue to be authorities in the learning process however they should be willing to exploit technology to address the Net Generation’s ability to multitask and quickly absorb mass amount of information from multiple sources.

This article analyzes digital media usage and multitasking among three different generations. The three generations were: net generation (born after 1980), generation X (born between 1965 and 1979) and baby boomers (born between 1946 and 1964). The findings from this research concluded that daily usage of technology and media increased with each younger generation. The research also links multitasking to the amount of working memory required for a task. The tasks completed while multitasking varied by generation. Each generation also preferred the use of different media devises.

This study compared generational differences in multitasking between Baby Boomer, Generation X, and Net Generation. The research concluded that younger generations increase the number of task combinations that are multitasked. The research only partly supported that younger generations find it easier to multitask. The research did not support the hypothesizes that each generation would choose different tasks to multitask or that various task combinations would be easier for younger generations. Ultimately, this research proved that younger generations are multitasking more often and think it is easier than older generations. This research also set the framework for additional study that net generation might have the capability to handling a larger cognitive load than other generations.
Gober’s work recognizes synthesis among disciplines is required to inform the nation about environmental topics. Geographers have the knowledge and expertise to pioneer synthesis between natural sciences, social sciences, and humanities. She also identifies how despite trends in American policy that requires interdisciplinary research geographers also have barriers to overcome. The largest hurdles are being specialization leads to isolation from other academic cultures and the divergent paths of human and physical geography creating a divide among geographers themselves. Gober concludes that it is the diversity of geography is why geography is the right place to lead the synthesis between sciences, social sciences, and humanities.

Grow’s paper translated several concepts from Paul Hersey and Kenneth Blanchard’s leadership model. Grow’s self-directed learning model indicates that students have four stages of learning starting with dependent and ending with self-directed. Learning stages vary by student and vary by class for an individual student. It is the job of the instructor to teach in a way to help the students advance to their next stage of learning with various teaching methods. The teaching styles correlate with the stage of learning, starting with an authority and advancing to a consultant in the final stage. Teachers are adaptive and can teach in a way that connects with students in multiple stages, but the problem lies when the student and teaching stages are severely mismatched. A severe mismatch occurs when stage 1 is paired with a stage 4 and generates resentment and further discourages learning.

Diana and James Oblinger continue the discussion of educational evolution tailored to the Net Generation and the young population’s distinct profile characteristics and attributes. They note that the Net Generation is generally “hopeful and determined” and have strong dislikes for “anything slow and negatively.” As such, today’s students respond to a faster pace, multi-task learning environment that is heavily reliant on technology and various stimuli. The Oblingers compile several articles from fellow educators and researchers addressing the education of the Net Generation. These articles range in topics from understanding information technology and technological tools to communication and curricula in the 21st century. Contributors offer insight into how to harness the instantaneous nature of an information rich environment and adapt it to the current student population’s political, economic, cultural and social framework. *Educating the Net Generation* is a useful resource for instructors at all levels as they search for ways to adapt to the neomillennials fast paced and exciting learning style.

Öncü’s article centers on a study in which two university departments (Science Education, Computer Education and Instructional Technology) provided students to participate in
collaborative projects. The students were then surveyed on their satisfaction of the collective group activity based off of six themes (performing responsibilities, socialization, cohesion, work habits, learning in general, and professional development). The authors of the study point out that collective assignments are beneficial in several ways to include completion of more complex problems that may not have been feasible through individual work and the opportunity to bring together “more diverse points and perspectives.” The theoretical framework for this study is based on situated cognition and the desire to remove the students from contexts within their group norms. Instead, interdisciplinary work with peers fosters negotiation of ideas and practices which has holistic benefits. Ultimately, the authors found that for the most part students from both departments had positive experiences in their collaborative groups and expressed general satisfaction and learning takeaways.

Ryan, Diane. 2014. “Interdisciplinary Learning Assessment, Accreditation, and SENCER Courses: How can they all fit together?” SENCER Summer Institute, University of North Carolina, Chapel Hill, NC. August 1, 2014.
Contributors from the Core Interdisciplinary Team from the United States Military Academy created this presentation that promotes interdisciplinary education not only at West Point but across broad academic domains. The Core Interdisciplinary Team contend that “America’s youth and the way they learn has changed” and therefore “Best practices in higher education are changing as students become open-minded innovators…and problem solvers comfortable with uncertainty and complexity.” In their presentation the USMA team examines how interdisciplinary learning, assessment and accreditation can be achieved. More centrally, the team’s objectives fall in line with directives from the Secretary of the Army’s 2013 letter outlining his Top Priorities which includes “Develop effective energy solutions.” The team’s research cites specific real world energy utilization problem sets that have suitable and relevant interdisciplinary solutions applied: Soldier power systems, alternative energy proposals, fuel logistics models. Although the sciences and mathematics are significantly represented, USMA also relies on the humanities in order to identify ways to explain and solve contested issues. These interdisciplinary approaches are vehicles utilized to reach institutional learning outcomes which included critical thinking, and understanding of connections among disciplines, and creative expression.

Skole begins his discussion with a very convincing assertion that the next century of research in the environmental sciences will have a key emphasis on human-environment intersections and thus requires the amalgamation of scholars from a broad spectrum of disciplines. He speaks to the importance of moving away from “linear problem-response planning” to multifaceted interdisciplinary thinking when dealing with the complexities of the environment and sustainability. Resultantly, the geography should move away from its past of having “contest identities” and instead embrace the melting pot nature where scholars from all academic reaches engage in dialogue and collegial research.

Williams and Chinn examine how technological literacy can be integrated into an interdisciplinary academic setting. They also inquire into how experiential learning can enhance student engagement in the classroom. This article adds the discussion on how to evolve curriculums to match the Net Generation’s learning style. The authors acknowledge the role of technological applications in the classroom however they challenge teachers to tailor their pedagogy in a manner that forces students to think about how they use their technology and internet skills. Specifically, the authors cite three internet applications in their study (Facebook, Youtube, Message boards) and how educators utilized the sites in order to create student communication, interactive projects and feedback statistics. Throughout the course of the study, Williams and Chinn noticed a substantial improvement in student engagement and discussion which in turn highlighted increased learning. The students “intentional engagements” online corresponded with continued exploration of assigned topics and perceived connections to their real life experiences. This web-centric teaching strategy is one of many ways to approach the interdisciplinary and experiential learning method that the Net Generation appears to favor.


In this article, Yang takes a deeper theoretical approach into the examining interdisciplinary education with respect to postmodernist theory. The author traces learning in the modern era where the world was viewed writ large and not subject only to pre-Enlightenment interpretations of individual observations to where we currently are now—diversification of the global academic village that has a greater awareness of all humanity. In context of our project and research, Yang highlights the usefulness of interdisciplinary approaches in the postmodern era. More specifically, the article discusses student autonomy and fostering relative thinking and objectivity rather than subjective foci. Yang concludes her article with an extremely insightful metaphor equating academic endeavors to a building structure. Concrete and steel frameworks reinforce each other in the building process in the same manner that primary, secondary and interdisciplinary educations create supporting intellectual columns in today’s students.