

## **Cross-Curricular Creativity**

Cross-curricular instruction is a dream of teachers everywhere. Also called interdisciplinary learning, this teaching strategy allows educators to unite concepts and skills from various disciplines. At most schools, students study subjects in isolation, which can lead to fragmentary knowledge. Students need to see the relationships within and between disciplines. Each subject is a slice of the whole. Connecting the slices leads to synergistic learning and positive interactions among teachers and students. Positive connections are what a Notre Dame education is all about.

Notre Dame already has well established cross-curricular courses in its rigorous curriculum. The school has a focus on STEAM curriculum (Science, Technology, Engineering, Arts and Math). STEAM adds an extra component to the standard STEM courses by including a creative process though the arts as well. Several of ND's classes illustrate this approach. The 3D Design class, for example, incorporates art, architecture, science and technology into daily learning. Mr. Rob Grote, who currently teaches the course, has assigned his seniors the project of creating 3D architectural models scaled to proportionally match a floor layout plan. They can choose any building - real or fantastic. Some are modeling homes in their apartments, while others are designing Christmas buildings with floor plans. One has even chosen to do the Barbie Dream House! After the holiday break, they will actually print them in 3D. The students are excited to see the finished projects (as is the entire ND community).

Other classes that are cross-curricular by design include certain technology courses, such as AP Computer Science A, which teaches students the Java object-oriented programming language, as well as Coding, which incorporates science and math to its technology base.

There are some subjects, however, that require students to specifically focus on the course specific material, but that does not prevent a creative cross-curricular component. And Ms. Brittany Vella is just the teacher to

create this challenging curriculum. Ms. Vella is a math teacher at ND. She is passionate about her subject and eager to share that passion with her students. Her positive attitude and friendly nature have endeared her to those in her classes, even the ones challenged by her Algebra II course. Her goal for that class is to strengthen the students' algebraic techniques, while developing alternative solution strategies, problem-solving, and algorithms. In order to motivate those daunted by these academic goals, she shows them that by utilizing these skills, they can all be artists as well. Recently Ms. Vella taught the students how to create stained-glass window designs by transforming a series of parent functions. Within their projects, students had to identify a variety of transformations that took place within their functions including translations, reflections, and dilations. They also had to describe certain characteristics of each function, including domain, range, even/odd/neither, average rate of change, etc. Their last step of the project was to graph all functions on a coordinate plane and color in their design! The results were some outstanding and colorful 'stained glass' works of art (and one surprising rendition of Yoda from Star Wars!) Who says math can't be fun?

Ms. Jean Halloran is another faculty member who has the talent of taking her subject matter down a different curricular direction. A seasoned faculty member as well, Ms. Halloran has taught 9th, 10th, 11th and 12th grade English literature classes for many years. She is thrilled to teach her personal passion of British Literature to the sophomore class.

British Literature covers a wide range of authors, some of whose works can be challenging to read and interpret. And Ms. Halloran is a pro at finding innovative ways for her students to grasp the material and find deeper meanings in their works. Recently, the students have been reading Beowulf, an Old English epic poem consisting of 3,182 alliterative lines. It is one of the most important works of Old English literature. In addition to classroom discussion, Ms. Halloran knew that her students could gain greater understanding through a more hands-on approach. She instructed

them to take an artistic approach and gave them a variety of choices to design their own personal interpretations. Through written editorials, cartoon drawings, and other artistic renderings, the students created a variety of powerful reimaginings, revealing interesting, fascinating, and whimsical interpretations.

Just like other disciplines, the Art Department at Notre Dame offers a wide range of courses for the students. Of course, the study of art transcends all disciplines and is cross-curricular by nature. Ms. Elizabeth Davenport, ND's beloved art teacher, reported that her recent assignments have been focused on trying to familiarize the girls with materials in their art kits and get them reacclimated to working from the studio after so many months of making art from home. Their recent assignments have included creating "Texts With a Message" motivated by social issues, as well as designing cover art inspired by famous magazines.

The ND faculty continuously create cross-curricular academic opportunities, either formally in various classes, or purposefully by incorporating other disciplines into specific lessons. These initiatives have provided a breadth and depth of exposure for students, allowing them to maximize their learning by applying it to the world at large. There is no question that the global education the students receive at Notre Dame will enable them to change the world!